July 2016

Statewide Stormwater Management Plan

California Department of Transportation
Division of Environmental Analysis
1120 N Street, Sacramento, CA 95814
www.DOT.CA.Gov/HQ/Env/Stormwater
CTSW-RT-16-316.05.1

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July 20, 2016

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Certification

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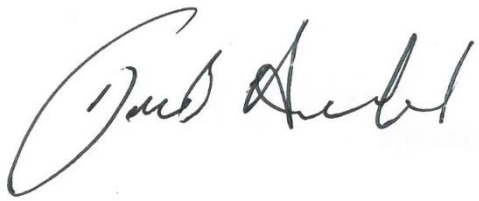

June 21, 2016

David Ambuehl, Acting Chief Environmental Engineer
Division of Environmental Analysis
California Department of Transportation

Date

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Phone (916) 653-8896 (voice), or dial 711 to use a relay service. Visit our website at http://www.dot.ca.gov/hq/env/stormwater.

Table of Contents

Appendices

Figures

Tables

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1 Overview

1.1 Overview of the Stormwater Management Plan

The mission of the California Department of Transportation (Caltrans) is to provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. Caltrans plans, designs, constructs, operates, and maintains roadways and facilities. Caltrans also conducts other activities related to transportation on a statewide basis.

This statewide Stormwater Management Plan (SWMP) has been prepared by Caltrans to describe the program, procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters. The SWMP addresses discharges of stormwater and non-stormwater to waters of the United States (as defined by U.S. EPA) and waters of the state of California (as defined by the Porter-Cologne Act). Submittal of this SWMP complies with Caltrans' requirements under the *National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRS) for State of California Department of Transportation* (Order No. 2012-0011-DWQ), issued by the California State Water Resources Control Board (SWRCB or State Water Board) on September 19, 2012 (SWRCB, 2012) (Caltrans NPDES Permit) and effective July 1, 2013. The Caltrans NPDES Permit was subsequently amended on May 20, 2014 (Order 2014- 0077-DWQ).

1.1.1 Purpose

The SWMP addresses the requirements of the Caltrans NPDES Permit and the *National Pollutant Discharge Elimination System (NPDES) General for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ) (SWRCB, 2009) (Statewide Construction General Permit or Statewide CGP) as amended by Order No. 2010-0014-DWQ. As stipulated in the Caltrans NPDES Permit, this edition of the SWMP incorporates provisions and commitments made in response to the October 26, 2010 *United States Environmental Protection Agency (U.S. EPA) Findings of Violation and Order for Compliance* (U.S. EPA Order) (U.S. EPA, 2010). The U.S. EPA Order is based on U.S. EPA's Audit Report, which was issued and posted on March 1, 2010. A requirement of the U.S. EPA Order was to prepare a revised SWMP addressing the major findings of the U.S. EPA's Audit Report. On September 19, 2013, U.S. EPA terminated the U.S. EPA Order and acknowledged the acceptance of the revised SWMP (dated July 2012).

This SWMP describes Caltrans' program and addresses stormwater pollution control related to Caltrans activities, including planning, design, construction, maintenance, and operation of roadways and facilities. For municipal-type discharges, the SWMP provisions are to control pollutants to the Maximum Extent Practicable (MEP) as required by the federal Clean Water Act (CWA). MEP is the minimum required performance standard for implementation of municipal stormwater management programs to reduce pollutants in stormwater. CWA § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and

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

For construction activities, this SWMP requires implementation of best management practices (BMPs) to reduce or eliminate toxic pollutants and non-conventional pollutants using Best Available Technology Economically Achievable (BAT) and implementation of BMPs to reduce or eliminate conventional pollutants using Best Conventional Pollutant Control Technology (BCT) as required by CWA Sections 301 and 402, and as required by the Statewide CGP. BAT/BCT generally refers to a suite of BMPs, which through experience have been found to be effective in controlling construction site runoff water quality.

The SWMP addresses responsibilities within Caltrans for implementing stormwater management procedures and practices including training, public education, monitoring, program evaluation, and reporting activities. The SWMP addresses Caltrans' stormwater management activities on a statewide basis. It may include other procedures on regional, local, or site-specific concerns.

The SWMP addresses discharges resulting from stormwater (i.e., those discharges originating from precipitation events, including snowmelt). In addition, the SWMP also addresses certain discharges that meet the definition of "non-stormwater discharges," including illicit discharges, authorized non-stormwater discharges, and initial emergency response activities.

1.1.2 Regulatory Background

Federal environmental regulations based on the CWA require the control of pollutants from Municipal Separate Storm Sewer Systems (MS4s), construction sites, and industrial activities. Discharges from such sources were brought under the NPDES permitting process by the 1987 CWA amendments and the subsequent 1990 promulgation of stormwater regulations by U.S. EPA. In California, U.S. EPA has delegated administration of the federal NPDES program to the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs or Regional Water Boards). In addition, the SWRCB and nine RWQCBs have authority to regulate waste discharges to land that may affect water quality.

Under the federal stormwater regulations, portions of Caltrans' properties, facilities, and activities come under the jurisdiction of NPDES stormwater regulations for two primary reasons:

- Caltrans' highways and highway-related properties, facilities and activities are served by extensive storm drain systems, which are often connected to, and are considered comparable to, urban MS4s covered explicitly in the federal stormwater regulations.
- Construction of Caltrans' highways and related facilities often results in soil disturbance of one acre or more, for which specific requirements are prescribed by the federal stormwater regulations and the Statewide CGP.

The *Code of Federal Regulations* (CFR), at 40 CFR 122.26(a)(iii) and (iv) (U.S. EPA, 1998), requires that NPDES stormwater permits be issued for discharges from large, medium, and designated small MS4s. The regulations define the term Municipal Separate Storm Sewer Systems to mean "a conveyance or system of conveyances (including roads with drainage systems, municipal

streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned or operated by a state, city, town, borough, county."

Caltrans, as the owner and operator of an MS4, is subject to an NPDES MS4 permit in those areas of California specified under federal regulation. Caltrans implements a statewide program for its stormwater compliance activities. Federal regulations (40 CFR 122.26) (U.S. EPA, 1998) require discharges of stormwater associated with construction activity, including clearing, grading and excavation activities, to obtain coverage under the Statewide Construction General Permit.

On September 2, 2009, the SWRCB adopted the Statewide Construction General Permit (SWRCB, 2009). This SWMP includes Caltrans' program for complying with the substantive provisions of the Statewide CGP on projects; however, most requirements are met by implementing the Stormwater Pollution Prevention Plans (SWPPPs) prepared for each project.

As statewide stormwater general permits for industrial activities and construction activities are adopted or renewed by the SWRCB, Caltrans will update this SWMP to address statewide general requirements for stormwater and waste discharges to avoid duplicate regulation or parallel programs and consolidate appropriate water quality compliance into one plan.

When performing construction projects that cross Tribal boundaries onto Tribal land, Caltrans will seek coverage under the U.S. EPA's Construction General Permit. In the Lake Tahoe Hydrologic Unit, Caltrans will comply with the General Waste Discharge Requirements and NPDES Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer (Order No. R6T-2011-0019) (Lake Tahoe Construction General Permit) (Lahontan RWQCB, 2011). Caltrans will be responsible for complying with construction stormwater discharge requirements on its projects statewide, whether activities are performed directly by Caltrans staff or by contractors on behalf of Caltrans.

1.1.3 SWMP Applicability

The stormwater conveyance structures that are part of Caltrans' statewide system of transportation corridors, facilities, and related appurtenances, are considered an MS4. SWMP requirements apply to discharges from stormwater conveyances, including catch basins and drain inlets, curbs, gutters, ditches, channels, and storm drains within Caltrans' system. The SWMP applies to discharges consisting of stormwater and non-stormwater resulting from the following:

- Maintenance and operation of State-owned highways, freeways, and roads;
- Maintenance facilities;
- Other facilities within the state right-of-way with activities that have the potential for discharging pollutants;
- Permanent discharges from subsurface dewatering;
- Temporary dewatering; and
- Construction activities.

The discharges addressed by this SWMP flow through municipal stormwater conveyance systems or flow directly to surface water bodies in the State. These surface water bodies include creeks, rivers, reservoirs, lakes, wetlands, saline sinks, lagoons, estuaries, bays, and the Pacific Ocean and tributaries.

This SWMP applies to the oversight of outside agencies and non-Departmental entities' (third parties) activities performed within Caltrans' MS4 system to ensure compliance with stormwater regulations. Non-Department activities include highway construction and road improvement projects, as well as residential use and business operations on leased property. Non-departmental construction activities are discussed in Section 9.

This SWMP also address illicit and illegal discharges to the Caltrans' MS4 by third parties. Section 10 addresses how Caltrans will address illicit and illegal discharges.

1.1.4 Relationship of Caltrans NPDES Permit, SWMP, and Related Caltrans Documents

Figure 1-1 indicates how the SWMP is based on the Caltrans NPDES Permit issued by the SWRCB. The SWMP must be approved by the SWRCB, and as specified in the Caltrans NPDES Permit, it is an enforceable document. Implementation of the SWMP should achieve compliance with the Caltrans NPDES Permit; additional requirements in the Permit shall be implemented to reduce or eliminate pollutants in storm water discharges. Caltrans guidance is referenced in this document, as appropriate, and references are listed in Section 17. These policies, manuals, and related guidance identify the manner of compliance and thus are not enforceable (see Section 13360 of the Water Code).

Copies of the documents currently being used, excluding project-specific documents, are available on the Caltrans website at http://www.dot.ca.gov/hq/env/stormwater/index.htm.

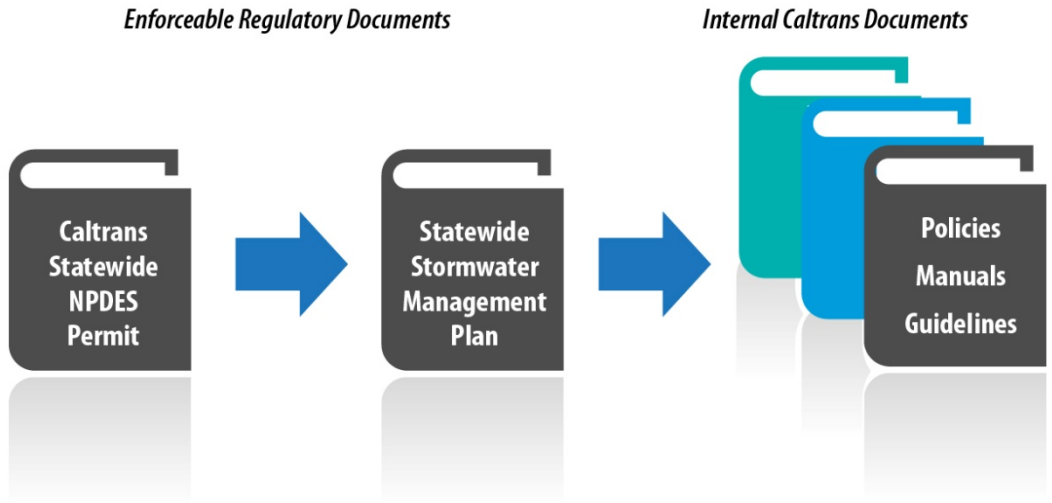

Figure 1-1. Relationship of Caltrans NPDES Permit, SWMP, and Related Caltrans Documents

1.1.5 Permits Addressed by this SWMP

This SWMP addresses the requirements of the Caltrans NPDES Permit, other statewide NPDES permits, and one regional permit as listed in Table 1-1.

Table 1-1. NPDES Permits Addressed by the SWMP

Permit	Discussion
Statewide Storm Water Permit Waste Discharge Requirements for State of California Department of Transportation (Order No. 2012-0011-DWQ amended by Order No. 2014-077-DWQ) (Caltrans NPDES Permit)	The Caltrans NPDES Permit regulates the following discharges: a. Stormwater discharges from all Caltrans-owned MS4s including construction sites with land disturbance less than an acre; b. Stormwater discharges from Caltrans' vehicle maintenance, equipment cleaning operations facilities and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and Certain categories of non-stormwater discharges as listed under Provision B. of the Caltrans NPDES Permit.
Statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Statewide CGP) (Order No. 2009-0009-DWQ amended by 2010-0014-DWQ, and 2012-0006-DWQ) (SWRCB, 2009)	The Statewide Construction General Permit and this SWMP address Caltrans discharges from construction sites, with land disturbance of greater than or equal to one (1) acre.
Lahontan Region General Permit for Stormwater Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer (Order No. R6T-2011-0019) (Lahontan RWQCB, 2011)	Caltrans construction projects within the Lake Tahoe Hydrologic Unit are subject to the Lake Tahoe General Construction Permit; consequently, the specific needs of this area are addressed as described in Section 13 of the SWMP.
Statewide General Permit for Stormwater Discharges Associated with Industrial Activities (IGP) (Order No. 2014-0057-DWQ). (SWRCB)	Industrial activities are not covered under the Caltrans NPDES Permit. Section 7 of this SWMP addresses compliance with the statewide IGP.

1.2 SWMP Organization

This edition of the SWMP is organized into sections based on Caltrans activities. Following is a brief description of each SWMP section:

Section 1. Overview

Provides an overview of the purpose of Caltrans' Stormwater Management Plan and discusses the regulatory background, applicability, relationship of this plan to the Caltrans NPDES Permit, and other permits addressed by the Plan.

Section 2. Management and Organization

Addresses coordination with local municipalities, legal authority, access control, budget, and departmental policy related to stormwater quality management. This section also describes the organizational structure of Caltrans and the functional structure and responsibilities for stormwater management within the organization. Caltrans' stormwater quality assurance program (including enforcement response) is also included.

Section 3. Monitoring and Discharge Characterization Program

Discusses Caltrans' stormwater monitoring and discharge characterization program, including monitoring site selection, results and key findings of past monitoring, and planned activities.

Section 4. BMP Development and Implementation

Describes the overall process involved in developing new or modified BMPs to control stormwater pollution, including how BMPs are proposed and prioritized for development, the approval process, and the integration and implementation of new BMPs into Caltrans' business practices.

Section 5. Project Planning and Design

Describes how BMPs and other Stormwater Program elements are incorporated into transportation projects during the planning and design phases of a project.

Section 6. Construction

Describes how Caltrans reduces the discharge of pollutants from construction sites administered by Caltrans. The section describes plan development and approval responsibilities, construction notifications, and inspection of construction projects.

Section 7. Compliance with the Industrial General Permit

Describes the applicability of the IGP to Caltrans properties and facilities including how Caltrans requires its industrial facility contractors to comply with all requirements of the IGP.

Section 8. Maintenance Program Activities and Facilities Operations

Describes Caltrans' highway maintenance activities that affect stormwater, the BMPs used to reduce the potential for stormwater pollution, and surveillance and inspection activities to ensure water quality is protected to the MEP.

Describes the maintenance facilities Caltrans operates to maintain the highway system and their associated Facility Pollution Prevention Plans (FPPPs). A discussion of how other facilities address stormwater compliance is also included in this section.

Section 9. Non-Departmental Activities

Describes how Caltrans ensures compliance of non-departmental activities, including construction activities by private entities and local agencies that encroach on or are within Caltrans' property, third party facility operations on leased parcels, and other third party activities.

Section 10. Non-Stormwater Activities/Discharges

Addresses discharges other than stormwater as defined by the Caltrans NPDES Permit including accidental spills, illegal connections, illegal dumping, and authorized discharges.

Section 11. Training

Describes the existing training program and plans for future training of Caltrans staff.

Section 12. Public Education and Outreach

Describes the existing framework and plans to communicate with and inform the public about stormwater protection.

Section 13. Region-Specific Activities

Describes location-specific activities undertaken within the various Districts to address regional stormwater requirements. In addition, this section discusses Caltrans' involvement with the implementation of total maximum daily loads (TMDLs).

Section 14. Program Effectiveness Evaluation

Describes Caltrans' plan for compliance with stormwater program evaluation requirements. The section describes Caltrans' construction and maintenance field compliance evaluation activities, and includes a plan for evaluating specific targeted program elements.

Section 15. Measurable Objectives

Describes how Objectives, Activities, and Implementation Tasks will be performed to achieve Caltrans' overall Program Goal.

Section 16. Reporting

Describes how Caltrans will report on applicable elements of the SWMP, including the Annual Report, District Work Plans, proposed SWMP modifications, and non-compliance incidents.

Section 17. References

Provides a list of references cited in the document.

Appendix A. Incident Report Form

SWMP Appendix A corresponds to Caltrans NPDES Permit Attachment I: Incident Report Form, which will be used for reporting incidents to the SWQCB. The information on the form

will be entered into the Stormwater Multi-Application Reporting and Tracking System (SMARTS).

Appendix B. Monitoring Constituent List

SWMP Appendix B corresponds to Caltrans NPDES Permit Attachment II: Monitoring Constituent List (Not Applicable to ASBS Discharges), which identifies monitoring constituents, and their analytical methods, and reporting limits, and units as prescribed by the applicable RWQCB Basin Plan. In addition, Tables A and B are excerpts of the California Ocean Plan dated 2009 that identify the constituents lists for monitoring Areas of Special Biological Significance (ASBS).

Appendix C. ASBS Priority Discharge Locations

SWMP Appendix C corresponds to Caltrans NPDES Permit Attachment III as amended: ASBS Priority Discharge Locations.

Appendix D. TMDL Implementation Requirements

SWMP Appendix D corresponds to Caltrans NPDES Permit Attachment IV: TMDL Implementation Requirements.

Appendix E. Toxicity Reduction Evaluation Workplan

SWMP Appendix E provides a Toxicity Reduction Evaluation (TRE) Workplan.

Appendix F. BMP Descriptions by Function

SWMP Appendix F identifies approved BMPs used by Caltrans for stormwater/water quality.

Appendix G. Acronyms and Abbreviations

SWMP Appendix G corresponds to Caltrans NPDES Permit Attachment VII: Acronyms and Abbreviations, which defines important acronyms and abbreviations used in the SWMP.

Appendix H. Glossary

SWMP Appendix H corresponds to Caltrans NPDES Permit Attachment VIII: Glossary, which defines important terms used in the SWMP.

Appendix I. MS4 Maps

SWMP Appendix I provides statewide and individual District maps showing MS4 Phase I boundaries. The individual District maps also show the RWQCB boundaries.

2 Management and Organization

This section provides an overview of the management and organizational structure of Caltrans, roles and responsibilities of stormwater personnel, a description of the role of the single focal point of Caltrans' Stormwater Program, and a description of the Stormwater Advisory Teams (SWATs). This section also provides a brief overview of the District Work Plans (DWPs) and the function of the District NPDES Coordinator. The section also describes the coordination with local authorities, delegations of authority, policies, budget, legal authority, and access control protocols. This section also describes program oversight and quality assurance for statewide consistency and stormwater compliance.

2.1 Caltrans Organizational Structure

Caltrans is comprised of Headquarters divisions and executive management, located in Sacramento, and twelve Districts located throughout the state. Headquarters responsibility includes executive and policy functions; the twelve Districts plan, design, construct, operate, and maintain the State highway transportation system within each of the District boundaries.

Caltrans uses a matrix organization to provide statewide coordination and resource sharing. This matrix organization is comprised of both traditional line management and functional program management. Traditional line management consists of the twelve District directors and the functional Deputy District Directors (or Regional Managers) within each District (i.e., Planning, Design, Construction, and Maintenance)[1]. Functional program management consists of the Director, the Deputy Directors, the Headquarters Division Chiefs (Environmental Analysis, Design, Construction, Right of Way, Maintenance, Traffic Operations, etc.), and their respective functional counterparts in the Districts (e.g., the functional Deputy District Directors [or Regional Managers]). Figure 2-1 illustrates the relationship between Headquarters and District counterparts.

[1] Some Districts may not have all functional divisions represented (see DWPs for explanation).

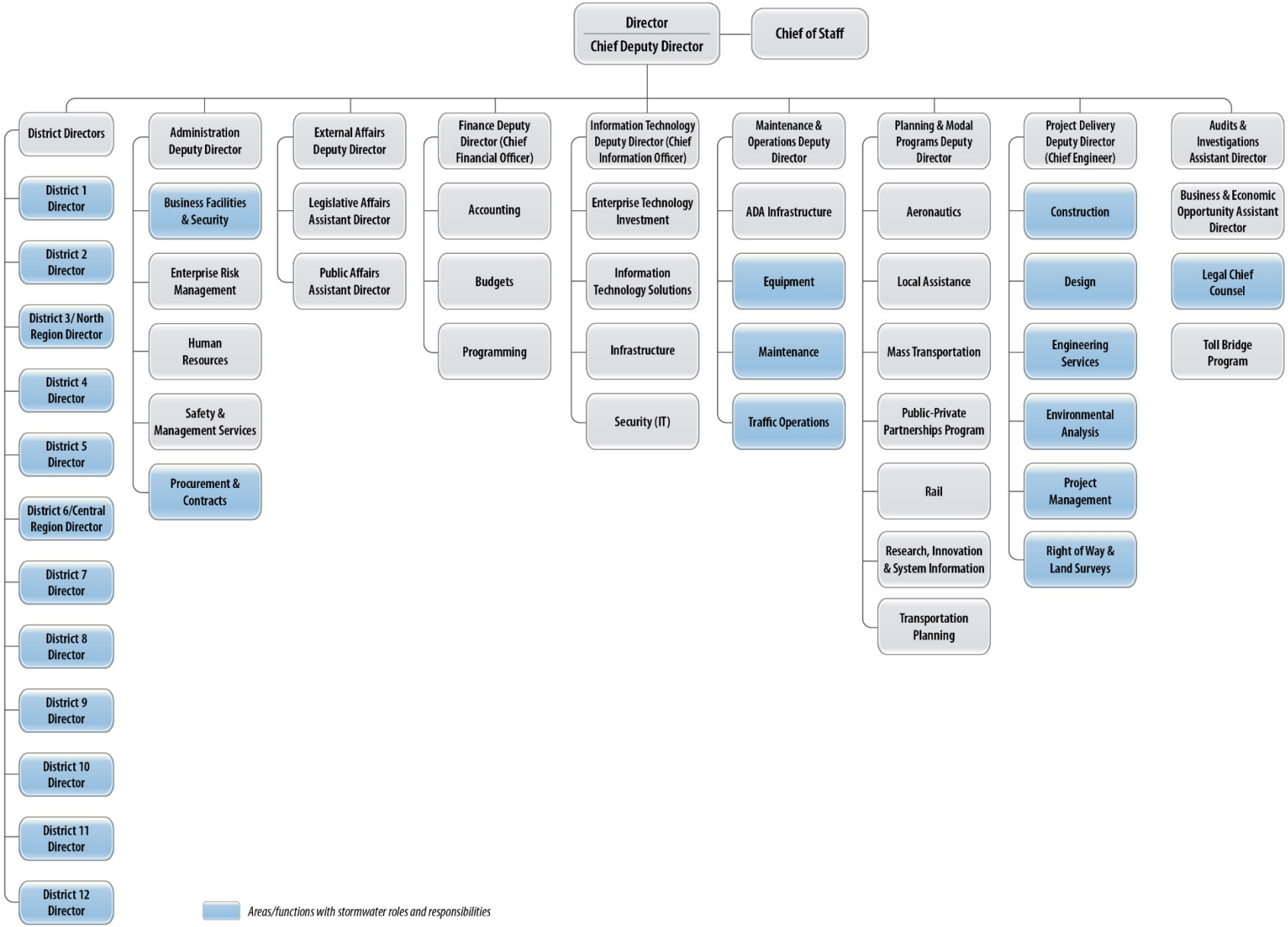

Figure 2-1. Caltrans Organizational Chart

2.2 Stormwater Management Structure and Responsibilities

The Stormwater Management Program affects most divisions and all Districts; however, the level of impact and responsibility varies. Since stormwater protection is related to environmental tasks, the Headquarters Division of Environmental Analysis undertakes stewardship and management responsibilities for the Stormwater Program. However, all Districts and many Headquarters divisions have dedicated staff implementing the program described in this SWMP.

2.2.1 Headquarters

Caltrans' Headquarters develops policy and oversees, monitors, and reports on departmental activities while District personnel have day-to-day responsibility for implementation. The Headquarters staff from the Division of Environmental Analysis manages the Stormwater Program and coordinates program implementation with the Districts and other headquarters divisions.

There are six Headquarter divisions with staff dedicated to address stormwater issues. These divisions include the Divisions of Environmental Analysis, Design, Construction, Maintenance, Right of Way, and Traffic Operations.

Each division is responsible for the following stormwater tasks related to the Division's core activities:

- Develop tools (e.g., specifications, inspection forms, estimating methods, etc.) for incorporating stormwater measures and requirements into activities;
- Develop guidance and manuals for using stormwater tools and educating staff and contractors on stormwater responsibilities, requirements, and activities;
- Develop and conduct training classes in support of guidance and manuals developed for stormwater quality;
- Assist Districts and other Headquarters divisions on stormwater issues;
- Administer and sponsor the division-specific Stormwater Advisory Team (SWAT), and/or provide representation at other division-sponsored SWATs.

Much of this work is accomplished through Architectural and Engineering (A&E) contracts with private engineering firms and research institutes.

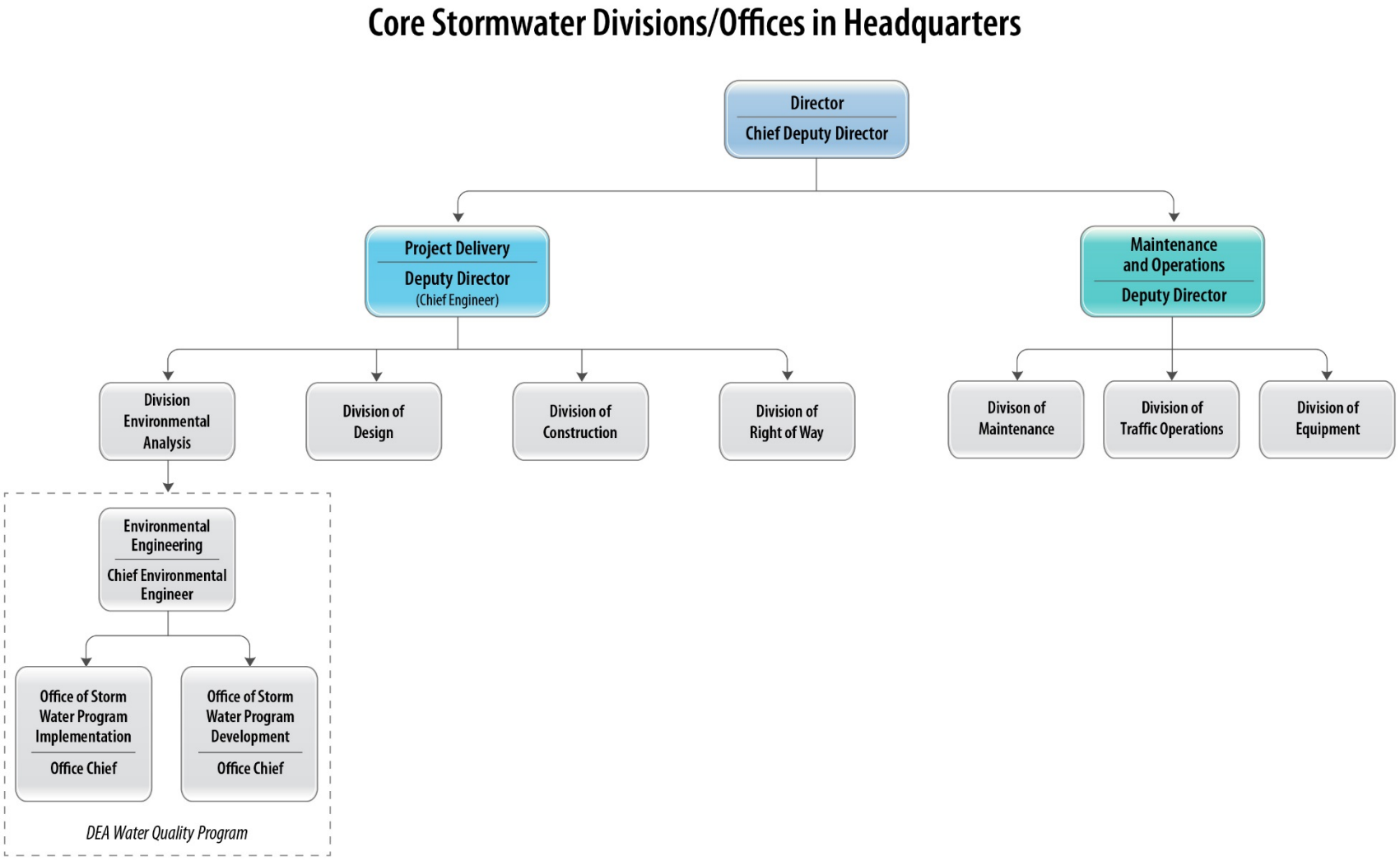

Figure 2-2. Core Stormwater Divisions/Offices in Headquarters

2.2.2 Focal Point – Chief Environmental Engineer

Due to the significant size of Caltrans' Stormwater Program, and to promote statewide consistency, the need for a single focal point was identified and established under a Budget Change Proposal in April 2002. The single focal point is referred to as Caltrans' Chief Environmental Engineer (CEE) and is located within the Division of Environmental Analysis (DEA). The CEE is Caltrans' focal point for advising executive management, local transportation agencies, and other government entities of procedural requirements for complying with the Caltrans NPDES Permit and the SWMP. The CEE promotes coordination between the HQ divisions and twelve Districts to ensure statewide consistency in the implementation of stormwater management policy and procedures. The CEE is responsible for negotiating and resolving issues with external agencies, responding to political inquiries, and assisting Caltrans counsel in responding to litigation related to the Caltrans NPDES Permit and the SWMP.

The CEE is also a liaison to other agencies, including Department of Finance, SWRCB, RWQCBs, California Coastal Commission, Department of Toxic Substances Control, U.S. EPA, California EPA, and Transportation Planning Agencies.

The CEE reports to the Chief of the Headquarters DEA. The CEE supervises staff in the DEA Water Quality Program.

2.2.3 Stormwater Management Program Oversight and Compliance

Caltrans' adopted organizational structure, via line and functional management, ensures that the Caltrans NPDES Permit and the SWMP compliance activities are implemented consistently statewide. Line management positions are responsible for day-to-day overall operations, whereas functional program managers oversee specific program areas. Stormwater program requirements and activities are vested with the functional program elements. The stormwater program is unique in that it must be adaptive to changes in technology, regulations, and requirements, and it operationally relies on feedback from the SWATs, as well as communication from DEA, to ensure program compliance. Stormwater program compliance oversight plays a critical role in implementation due to the dynamic nature of the regulations and the fact that compliance activities are required for all HQ Divisions. The authority to operate with this flexibility is drawn from the highest line and functional management positions (executive management) in the organization. Recognizing this, the Caltrans Water Quality Management Assurance Team (WQMAT) has been established to provide direct communication between the Division of Environmental Analysis, Headquarters functional managers, and District functional managers. The WQMAT provides leadership and focus from Caltrans' executive management (line and functional management positions) to the statewide single focal point (Chief Environmental Engineer) for water quality compliance. This will assure that the goals and directives issued by the Chief Environmental Engineer will be implemented. The specific responsibilities of the WQMAT are as follows:

- Ensure water quality initiatives, policies, and standards reflect Caltrans' environmental stewardship goals, including:

    - Preservation of the state's waters and enhancement of Caltrans' stormwater discharges for the benefit of California's water quality resources;
    - Improving the effectiveness and sustainability of BMPs; and
    - Provide clear direction and priorities on the allocation of all water quality resources for support and capital expenditures for program management, project delivery, maintenance and operations;
- Assure the consistent statewide implementation of stormwater program management, policies, standards, and specifications by:
    - Seamless cross-functional integration of all Caltrans and water quality management activities into day-to-day practices; and
    - Educating department managers, supervisors and staff of the importance of water quality management practices in preservation and enhancement of California's waters;
- Provide a mechanism for establishing training, education, and communication regarding water quality policy, standards, and technical information (See Section 11);
- Provide for a feedback mechanism (District functional managers to the Headquarters equivalent, and District NPDES coordinators through the SWATs to the DEA) to adaptively manage the program and correct program deficiencies;
- Ensure accountability of Resident Engineers (REs) and Maintenance Area Supervisors through delegated authority for compliance with the Caltrans NPDES Permit, Statewide CGP or Lake Tahoe CGP, and the Caltrans Statewide SWMP; and
- Respond and provide action based on resolution of issues discussed by the WQMAT and the Chief Environmental Engineer, and respond to recommendations elevated for resolution through the Stormwater Quality Assurance (Inspection) Program, (see Section 2.8, Stormwater Quality Assurance Program and Section 14, Program Effectiveness Evaluation).

Figure 2-3 illustrates how the organization will collaborate to accomplish the goals and ensure statewide consistency and compliance with the Caltrans NPDES Permit and the SWMP. Current or ongoing collaborations among committees and teams are noted in the shaded areas. The list of advisory/steering committees is provided as an example and it could include other categories or subgroups.

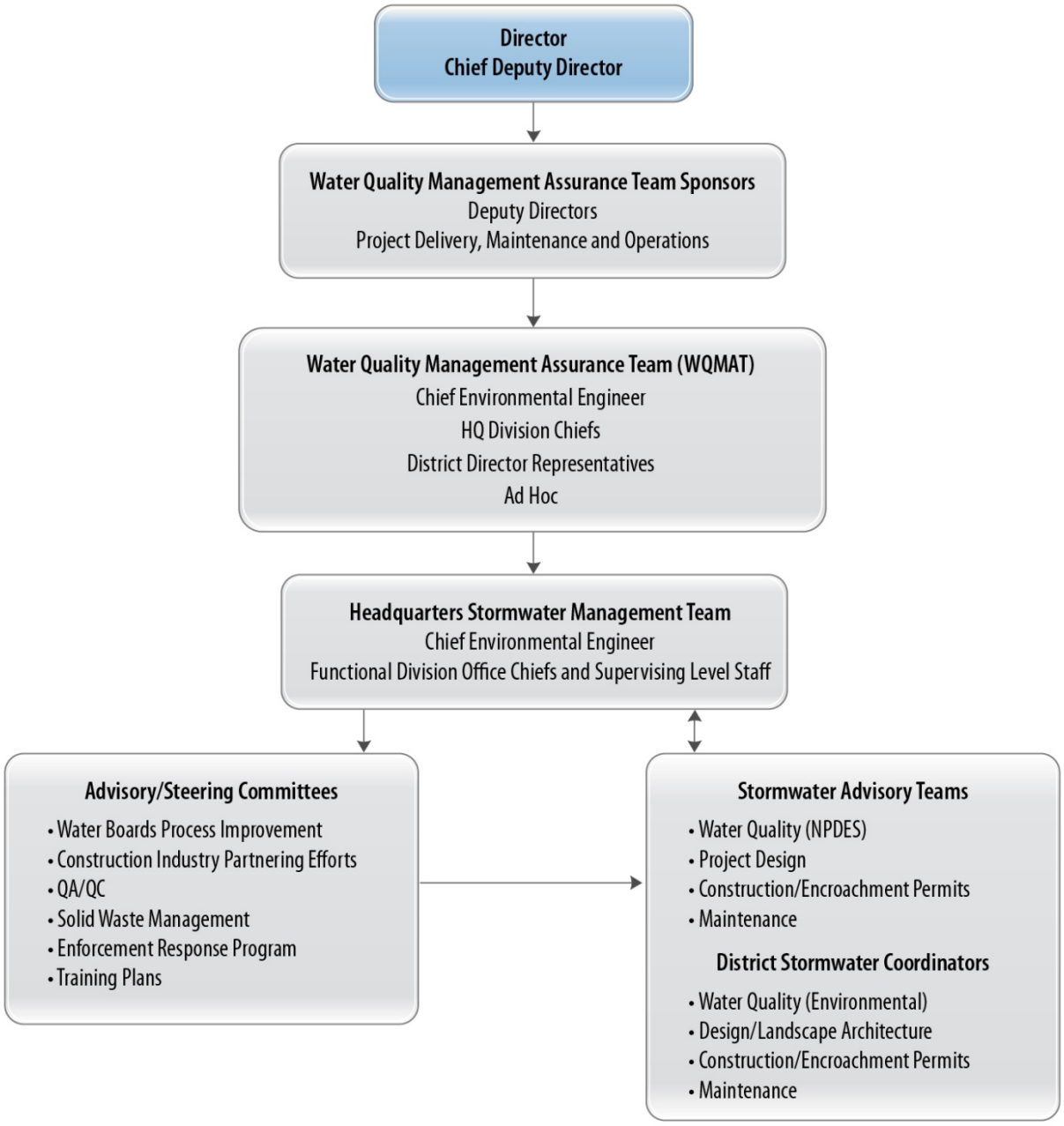

Figure 2-3. Water Quality Management Assurance Team

Under most scenarios, field personnel report to District line management. Therefore, the WQMAT includes District Director representation from throughout the state (north, central, and south) to enforce stormwater program implementation at the District management level.

The DEA Water Quality Program and Headquarters functional units will ensure consistency and accountability by District staff on implementation and full compliance of the SWMP and Caltrans NPDES Permit requirements through oversight, inspections, and enforcement programs

The Headquarters Stormwater Management Team receives feedback from the functional Stormwater Advisory Teams (SWATs) regarding specific issues and programmatic changes that may be needed, including critical findings identified from the Stormwater Quality Assurance Program.

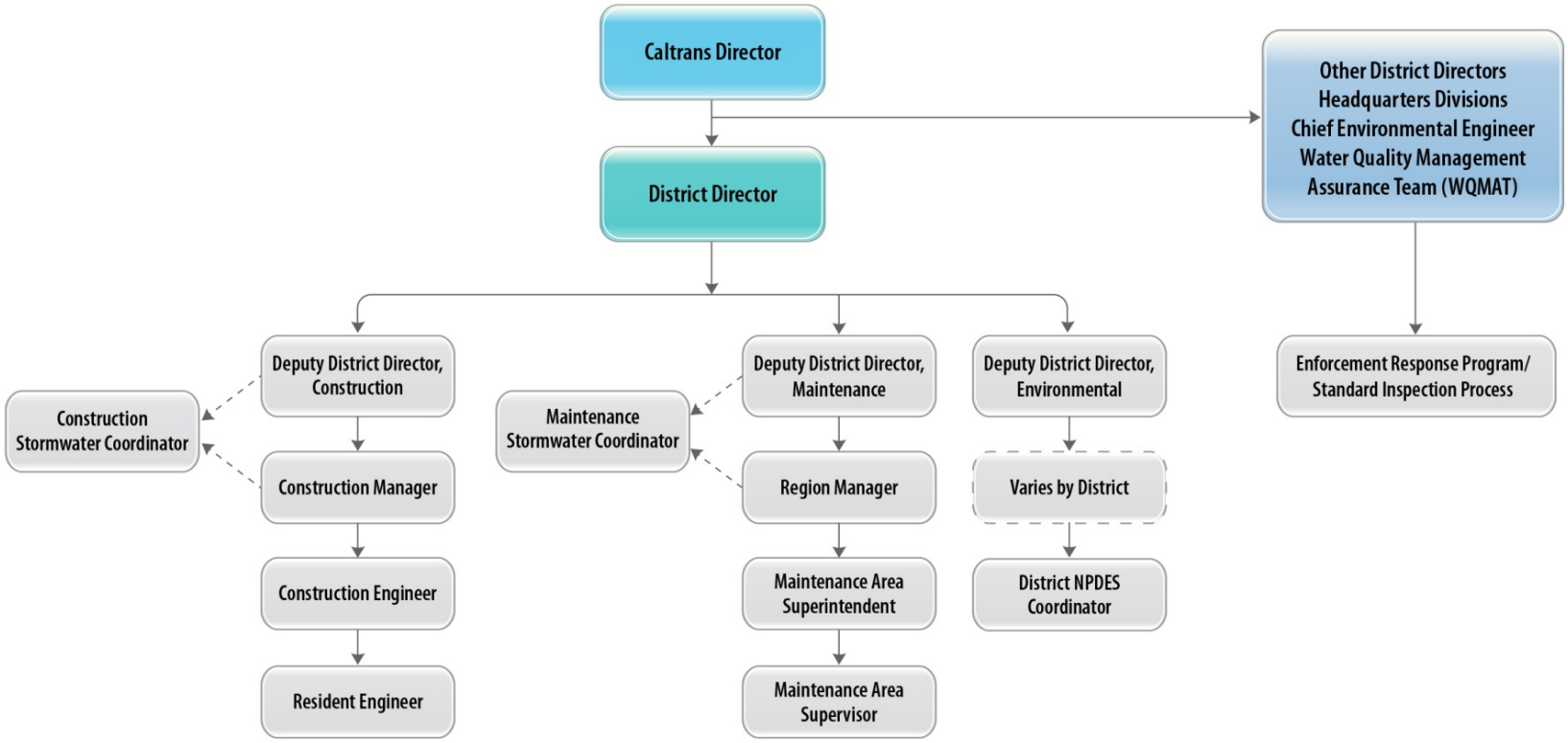

Figure 2-4. Stormwater Quality Assurance Program Typical Lines of Authority

The typical lines of authority for the stormwater quality assurance program are depicted in Figure 2-4. Specifically, the figure shows the line of authority from the Caltrans Director to the construction project Resident Engineer and similarly, the line of authority from the Caltrans Director to the Maintenance Area Supervisor.

2.2.4 Stormwater Advisory Teams

Caltrans has established four, internal statewide Stormwater Advisory Teams (SWATs). The Chair of each SWAT is a functional Office Chief from Headquarters. The purpose of the SWATs is to advise the CEE of technical issues of concern within the program, including those that may arise because of the quality control, quality assurance, and the enforcement response program. Any SWAT recommendation that results in changes to SWMP policies and procedure must be approved by the CEE. The CEE will be responsible for initiating and completing any changes to the SWMP. The CEE will elevate, as needed, any issues (e.g., policy and directives) that may require resolution through the WQMAT. The specific functions of the four SWATs are described as follows:

- The Water Quality SWAT (WQ-SWAT) is comprised of the District NPDES Coordinators and representatives from each of the core Headquarters Divisions. The WQ-SWAT chair is the office chief for the Office of Stormwater Program Implementation in HQ DEA. The WQSWAT's responsibilities include:
    - Reviewing proposed and existing Treatment BMPs, and prioritizes research or studies of Treatment BMPs.
    - Discussing stormwater coordination activities underway or planned with other municipalities, reviewing and recommending public education efforts, sharing technical information, providing advice on compliance issues, and resolving issues of dispute on stormwater.
    - Recommending any changes in the SWMP and other guidance documents on stormwater.
    - Discussing stormwater budget allocations for the Districts and HQ Divisions.
    - Reviewing data and findings from compliance monitoring and evaluation activities, and recommends changes in practices to improve compliance efforts.
- The Project Design SWAT (PD-SWAT) is comprised of District representatives from Design and related functional units and representatives from each of the affected Headquarters Divisions, including the Division of Environmental Analysis (DEA). The PD-SWAT chair is the office chief from the Office of Stormwater Management Design in the Division of Design. The PD-SWAT's responsibilities include:
    - Reviewing proposed and existing BMPs used in the planning and design of projects. BMPs include Construction Site BMPs, design pollution prevention BMPs, and Treatment BMPs.
    - Reviewing and assisting in the development of training classes, guidance documents and improvements to the Stormwater Data Report (SWDR) to implement and document stormwater activities relevant to project design.

- The Construction-Encroachment Permit SWAT (C/EP-SWAT) is comprised of District Construction Stormwater Coordinators and representatives from each of the affected Headquarters Divisions, including DEA. The C/EP-SWAT also includes District Encroachment Permit Stormwater Coordinators and representatives from each of the affected Headquarters Divisions. The Chair of the C/EP-SWAT is the office chief of the Office of Construction Compliance and Training in the Division of Construction. The C/EP-SWAT's responsibilities include:
    - Reviewing proposed and existing Construction Site BMPs.
    - Reviewing and assisting in the development of training classes and guidance documents for implementing stormwater activities relevant to construction activities.
    - Reviewing procedures that may affect encroachment permit projects including Non-programmed Capital construction projects.
- The Maintenance SWAT (M-SWAT) is comprised of District Maintenance Stormwater Coordinators and representatives from each of the affected Headquarters Divisions, including DEA and the Division of Equipment. The Chair of the M-SWAT is the office chief of the Office of Maintenance Stormwater and Environmental Compliance in the Division of Maintenance. The M-SWAT's responsibilities include:
    - Providing any necessary review and/or evaluation of proposed and existing maintenance BMPs.
    - Reviewing and assisting in the development of training classes and guidance documents for implementing stormwater activities described in this SWMP for maintaining highways, bridges, facilities, and other appurtenances related to transportation.

Other Divisions (e.g., Right of Way, Equipment, Engineering Services, etc.) with stormwater responsibilities participate in various SWAT meetings on an as-needed basis.

Any program recommendations and critical issues discussed during SWAT meetings that require resolution and action are discussed with the Headquarters Stormwater Management Team. The CEE, as the statewide single focal point, will discuss as appropriate, any critical stormwater management issues and receive direction from the WQMAT.

2.2.5 Water Quality Program

The Water Quality Program assists the Headquarters functional programs, the Districts and Caltrans' transportation partners in complying with the Permit, SWMP and state and federal environmental laws.

The roles of the Water Quality Program in the Caltrans stormwater program are as follows:

- **Permit Compliance**: Ensure consistent interpretation, implementation, and compliance with the Caltrans NPDES Permit and SWMP; provide guidance and direction necessary to develop strategies for complying with regulations and addressing other mandates on stormwater and waste discharges set forth by federal, state, and local regulatory agencies.

- **Regulatory Coordination**: The Water Quality Program coordinates overall stormwater management program compliance with the SWRCB. In addition, the Water Quality Program assists the Districts in coordinating stormwater compliance with the RWQCBs through the District NPDES Stormwater Coordinator.
- **Development and Updating of Statewide SWMP**: The Water Quality Program coordinates the ongoing development of the SWMP and implementation in conformance with the requirements of the Permit. This includes the coordination planning for statewide compliance and identifying area-specific stormwater management needs with the Districts. The Water Quality Program also updates the SWMP annually as required in the Permit; the updating includes public input.
- **Evaluation and Approval of Treatment BMPs**: The Water Quality Program coordinates the evaluation and approval of the Treatment BMPs identified for inclusion in the SWMP to manage the quality of discharges from stormwater drainage systems associated with Caltrans' facilities. The process for evaluation and approval of BMPs is discussed in more detail in Section 4.2. The Water Quality Program also oversees the evaluation and approval of new stormwater quality management techniques, products and designs. The Water Quality Program coordinates the Water Quality SWAT.
- **Water Quality Research Program**: The Water Quality Program coordinates research activities used to assess potential BMPs and investigate water quality issues.
- **Coordination with Districts and Functional Programs**: In consultation with the functional programs, the Water Quality Program provides general guidance regarding compliance with the Permit. This guidance includes providing information on the Permit requirements, SWMP implementation, stormwater BMPs, compliance schedules, reporting formats, legal authorities, budgeting assistance and other information needed to effectively implement the Permit and SWMP requirements. In addition, the Water Quality Program provides feedback to the Districts and the functional programs regarding the status of the Caltrans' overall compliance with the Permit.
- **Monitoring**: The Water Quality Program conducts monitoring related to stormwater quality management, permit compliance, and to advance the state of knowledge regarding water quality issues and to provide direction for making program improvements.
- **Program Evaluation**: The Water Quality Program coordinates the assessment of the effectiveness of implementing the SWMP, through managing program evaluation tasks, including the management and implementation of activities for measuring the level of compliance.
- **Reporting**: The Water Quality Program coordinates the preparation of the Annual Report and tracking of permit and Total Maximum Daily Load compliance.
- **Training**: The Water Quality Program provides training for current and new employees as well as updates.
- **Public Education and Outreach**: Administer and manage public education and information efforts for improving stormwater quality.

- **Stormwater Resources**: Ensure establishment, accuracy, and adequacy of stormwater resources for each fiscal year; assist with prioritizing and evaluating stormwater resources, activities, and operations.

2.2.6 Maintenance and Operations Stormwater Management Program

The Maintenance and Operations Stormwater Management program includes the Maintenance Division and Equipment Division at both the Headquarters and District levels. Figure 2-5 presents the functional relationships and key positions within the Maintenance and Operations Stormwater Management program.

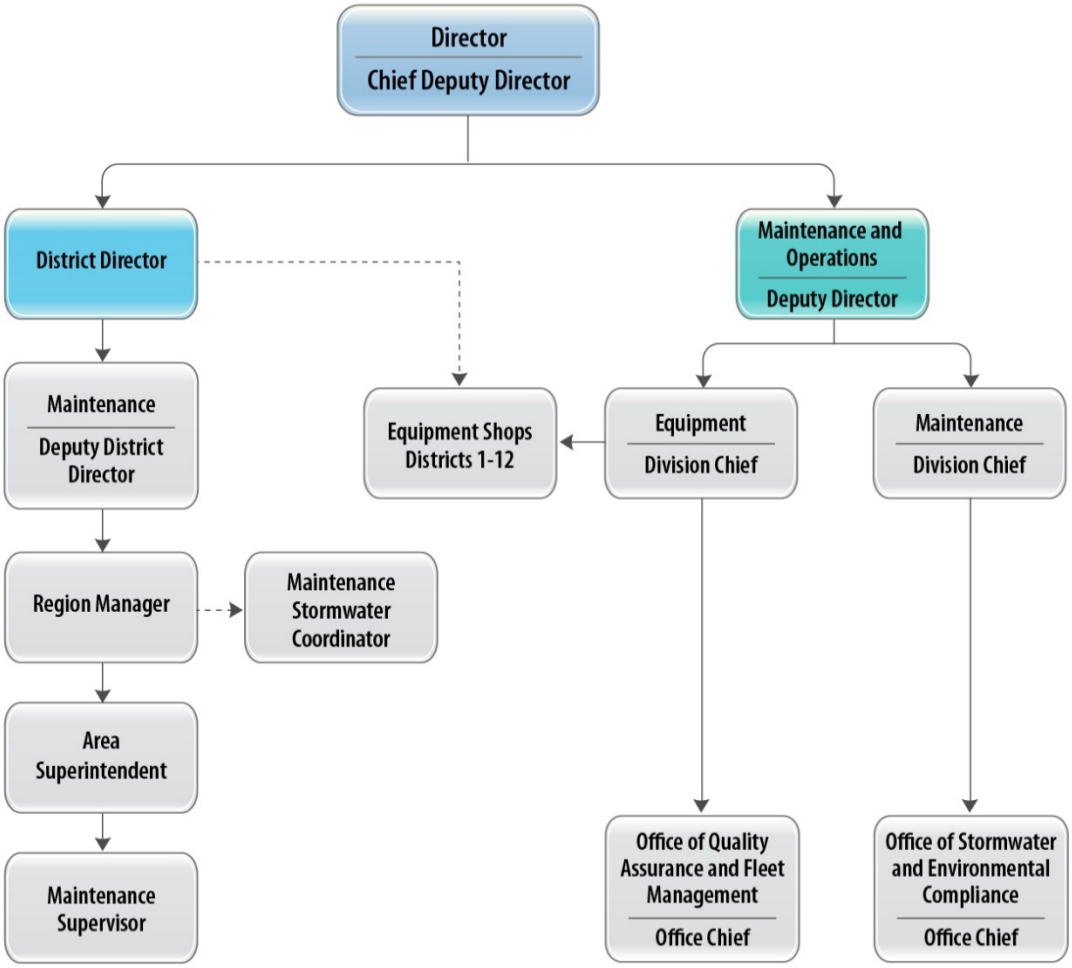

Figure 2-5. Maintenance and Operations Stormwater Management Program Functional Relationships

2.2.6.1 Maintenance Division

The role of the Office of Stormwater and Environmental Compliance in the Division of Maintenance includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Headquarters Maintenance Division provides guidance to the Maintenance Programs in the Districts on water quality management practices associated with Maintenance facilities and activities.
- **Program Evaluation**: The Headquarters Maintenance Division evaluates District implementation of BMPs in managing the stormwater discharges associated with Caltrans' maintenance facilities, highway facilities and activities.
- **Reporting**: The Headquarters Maintenance Division assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to Maintenance facilities and activities.

Key Caltrans Maintenance Division positions and responsibilities include:

- The **Maintenance Division Chief** is responsible for statewide implementation policies and procedures and the personnel and equipment of the Maintenance Division. This includes ensuring compliance with all elements of the SWMP required for implementation by the Maintenance Division.
- **Maintenance Deputy District Directors** are responsible for the implementation of policies, procedures, personnel, and equipment of the District Maintenance Stormwater Management Program within their respective Districts. This includes implementation of elements of the SWMP relevant to maintenance activities such as ensuring that the training program is implemented (per Section 11 of this SWMP) and the maintenance enforcement response program is implemented (per Section 2.8 of this SWMP).
- **Maintenance Managers** direct maintenance activities within regions or programs of the District. Each region is subdivided into maintenance areas. Maintenance Managers provide general supervision to Maintenance Area Superintendents within their region or program.
- **Maintenance Area Superintendents** direct maintenance activities, provide direction to Maintenance Area Supervisors, and are responsible for ensuring maintenance BMPs are implemented in their jurisdictions.
- **Maintenance Area Supervisors** are responsible for supervising the maintenance crew. Supervisors provide on-the-job training for specific crew assignments, including compliance with water quality protection requirements. Specific crew assignments are covered in BMP tailgate reviews prior to the start of scheduled work activities. Supervisors have onsite responsibility for BMP implementation.
- **District Maintenance Stormwater Coordinators** are focal points of contact for the District NPDES Coordinator. They review stormwater programs for elements related to the Division of Maintenance, monitor and evaluate BMP implementation and effectiveness for Maintenance activities, participate in meetings that potentially impact Maintenance, coordinate stormwater training for District Maintenance staff, and collect, compile, analyze, and prepare materials for the District’s maintenance portion of the

Annual Report. District Maintenance Stormwater Coordinators are responsible for ensuring Facility Pollution Prevention Plans (FPPPs) are developed and maintained at each maintenance facility.

2.2.6.2 Equipment Division

The role of the HQ Division of Equipment includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Headquarters Equipment Division provides guidance to the Equipment Shops in the Districts on water quality management practices associated with fleet equipment activities.
- **Program Evaluation**: The Headquarters Equipment Division evaluates District implementation of BMPs in managing the stormwater discharges associated with the operation of Caltrans' equipment facilities.
- **Reporting**: The Headquarters Equipment Division assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to the Division of Equipment's facilities and operations.

Key Caltrans Equipment positions and responsibilities include:

- The **Equipment Division Chief** is responsible for statewide implementation policies and procedures and the personnel and equipment of the Equipment Division. This includes implementation of elements of the SWMP relevant to Equipment Division activities such as ensuring that the training program is implemented (per Section 11 of this SWMP) and the operations enforcement response program is implemented (per Section 2.8 of this SWMP).
- **District Equipment Shop Superintendents** are responsible for the implementation of policies, procedures, personnel, and equipment of the District Equipment Shop. This includes ensuring implementation of the SWMP by the District Equipment Shop.
- The **Statewide Facilities Project Manager** is responsible for ensuring Facility Pollution Prevention Plans (FPPPs) are developed and maintained at Equipment Shops and evaluating BMP implementation and effectiveness for Equipment activities, participating in meetings that potentially impact Equipment, coordinating stormwater training for Equipment staff, and collecting, compiling, analyzing, and preparing materials for the District's maintenance portion of the Annual Report.

2.2.7 Project Delivery Stormwater Management Program

The Project Delivery program includes the Design Divisions, Construction Divisions, the associated functional units in the Right of Way Divisions, and the associated functional units in the Engineering Services Divisions at the Headquarters and District levels. Responsibility matrices showing functional relationships and key positions in the Project Delivery Stormwater Management Program are presented in Figure 2-6.

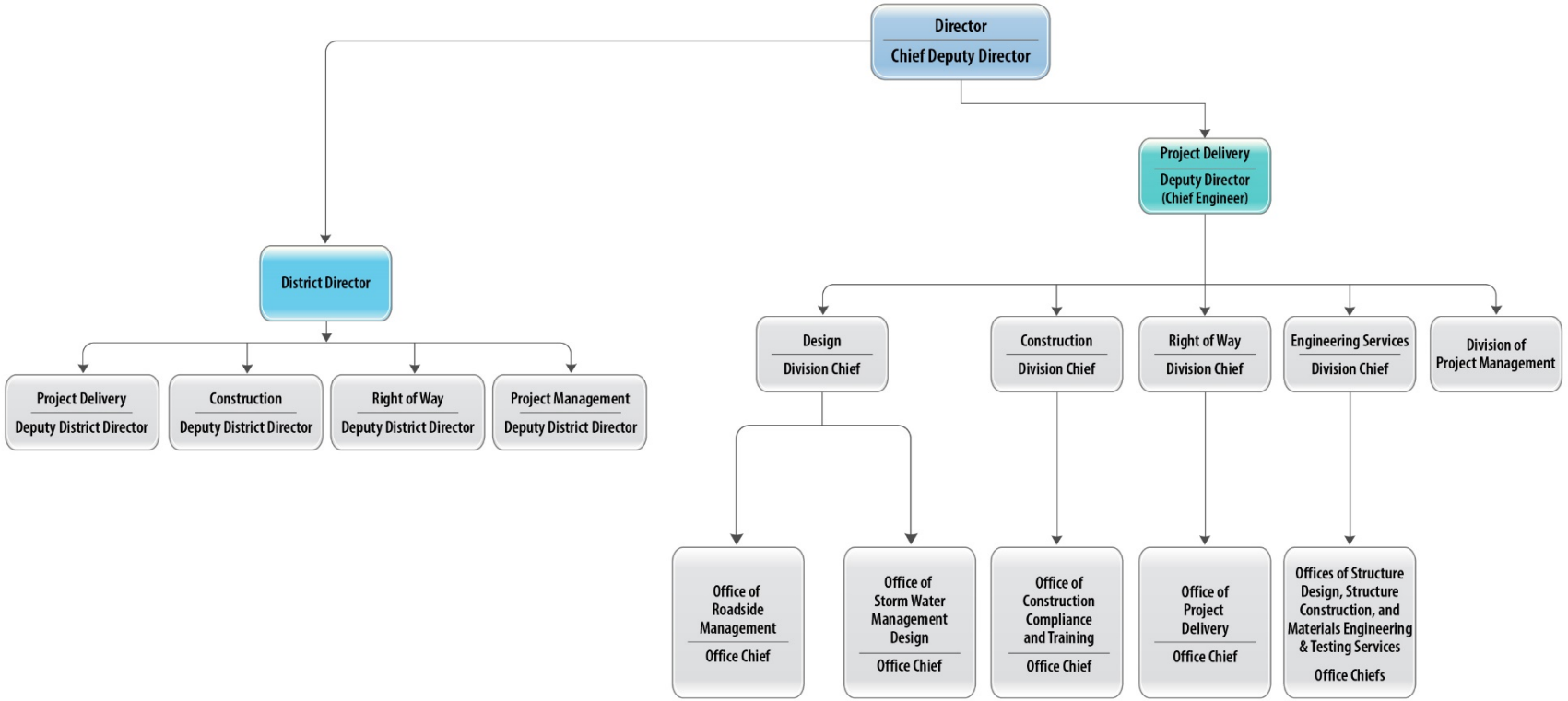

Figure 2-6. Project Delivery Stormwater Management Program Functional Relationships

2.2.7.1 Design Division

The role of Headquarters Office of Stormwater Management Design includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Design Program provides guidance to the District Design Divisions on the implementation of water quality management practices associated with project delivery activities.
- **Program Evaluation**: The HQ Design Division evaluates District incorporation of stormwater quality management features into project delivery activities. Provides continuous improvement by conducting a design compliance monitoring program.
- **Reporting**: The HQ Design Division assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to project delivery activities.

Key Caltrans Design Division positions and responsibilities include:

- **Design Division Chief**: The Design Division chief is responsible for the overall design program, guidance, policies, and procedures on a statewide basis. Responsibilities include the design of stormwater BMPs and other aspects of the stormwater program that effect the Division of Design in the project development process.
- **Design Deputy District Director (or Regional Manager)**: The Design Deputy District Directors (or Regional Managers) are responsible for the implementation of the policies, procedures, and personnel of the Design Program within their respective Districts. This includes ensuring compliance with all elements of the SWMP required to be implemented by the District Design Division.
- **Project Engineer**: The Project Engineer is a Licensed Engineer registered with the State of California. Most Caltrans projects are developed by a Project Engineer. Infrequently, depending upon the project scope, a project may be developed by a Licensed Landscape Architect registered with the State of California. The Project Engineer or Landscape Architect is responsible for the preparation of Project Study Reports and Project Reports during the initial phases of project delivery and the final contract documents during the Plans, Specifications, and Estimates (PS&E) phase of a project. During the development of these documents, the Project Engineer or Landscape Architect will work collaboratively with other professionals (Hydraulics, Landscape Architect, Geotechnical, Environmental, District Stormwater, etc.) to assure that the appropriate designs and evaluations have been completed. In addition, they determine whether a SWPPP or a Water Pollution Control Program (WPCP) is required during construction and incorporate appropriate permanent and temporary BMPs into the contract.

  When required by the NPDES Permit, the Project Engineer or Landscape Architect incorporates Treatment BMPs (when they are considered feasible) into the project plans and specifications. Some projects will also specify temporary BMPs (including contaminated soils management) in the PS&E.

  The Project Engineer or Landscape Architect is responsible for providing information to the Resident Engineer for the purposes of evaluating/approving the SWPPP/WPCP prepared by the contractor. With the assistance of the Design Stormwater Coordinator,

the Project Engineer or Landscape Architect determines the project Risk Level, and develops information to be given to construction staff for the purposes of obtaining the coverage under the Construction General Permit.

- **Design Stormwater Coordinator**: The District/Regional Design Stormwater Coordinator is responsible for providing support to the District NPDES Coordinator and District Design staff throughout all phases of the project planning and design process. The DWP may provide additional description of the roles and responsibilities of the Stormwater Coordinator.

2.2.7.2 Construction Division

The role of the HQ Office of Construction Compliance and Training includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Construction Division provides guidance to the District Construction Divisions on the implementation of water quality management practices associated with Construction activities.
- **Program Evaluation**: The HQ Construction Division evaluates District incorporation of stormwater quality management features into Construction activities.
- **Reporting**: The HQ Construction Division assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to Construction activities.

The key Caltrans Construction positions[2] responsible for implementing stormwater are as follows:

- The **HQ Construction Division Chief** is responsible for statewide implementation of policies and procedures related to the construction of Caltrans projects. This includes ensuring compliance with all elements of the SWMP that require implementation by Construction personnel.
- **Construction Deputy District Director (or Regional Manager)**: The Construction Deputy District Directors (or Regional Managers) are responsible for implementation of policies and procedures, and management of Construction personnel and equipment within their region or district. This includes implementation of elements of the SWMP relevant to construction activities, such as ensuring the training program is implemented (per Section 11 of this SWMP) and the construction enforcement response program is implemented (per Section 2.8 of this SWMP).
- **Resident Engineer (RE)**: The RE is Caltrans' representative charged with administering construction contracts and is responsible for ensuring that stormwater BMPs are implemented, inspected, and maintained on construction sites as specified in the authorized Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP). The RE uses all available assistance and expertise in preventing water pollution. The RE reviews the Contractor-prepared SWPPP/WPCP and, when necessary, notifies the Contractor of any required changes and authorizes the SWPPP/WPCP. The RE is responsible for ensuring the SWPPP along with the Caltrans NPDES Permit Registration

[2] DWPs may describe exceptions to these responsibilities.

Documents (PRDs) are uploaded to the SWRCB's SMARTS website. The RE makes decisions regarding the acceptance of materials furnished and work performed and exercises contractual authority as needed. The RE also ensures the contractor personnel responsible for implementation of stormwater management measures are properly trained and certified, and that they receive training during the course of construction. The RE will also cooperate with construction compliance evaluations (SWMP Section 14.2.2). The RE is responsible for contacting the District Maintenance Stormwater Coordinator to conduct the Construction to Maintenance Treatment BMP Walkthrough.

- The **Construction Engineer** is the RE's first-line supervisor. On larger construction projects, the Construction Engineer may also be designated as the RE (i.e., Senior RE). The Construction Engineer or Senior RE is responsible for daily supervision of Caltrans field staff.
- **Stormwater Inspector**: The RE may assign staff to function as the stormwater inspector. The stormwater inspector assists the RE in carrying out any or all of the inspection tasks and other work of overseeing the Contractor's activities related to water pollution prevention.
- **District Construction Stormwater Coordinator**: Districts have a designated Construction Stormwater Coordinator who implements administrative functions to assist REs. The coordinator is a resource that helps interpret guidance manuals, policies, specifications, permits, and other information that impacts water pollution prevention related decisions. The coordinator assists in the review of water pollution control documents. The coordinator identifies the training needs of District construction staff, administers technical expertise resources, and coordinates with other Caltrans stormwater personnel (e.g., District NPDES Coordinator) within the District or Headquarters. The DWP may provide additional description of the roles and responsibilities of the Stormwater Coordinator.

2.2.7.3 Right of Way Division

The role of the HQ Office of Project Delivery within the Division of Right of Way includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Office of Project Delivery provides guidance to the District Right of Way Divisions on the implementation of water quality management practices associated with planning and design activities.
- **Program Evaluation**: The Office of Project Delivery evaluates District incorporation of stormwater quality management features into Right of Way activities associated with project delivery activities.
- **Reporting**: The Office of Project Delivery assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to project delivery activities.

The HQ Right of Way Division Chief is responsible for statewide implementation of policies and procedures related to Caltrans right of way operations. This includes ensuring compliance with all elements of the SWMP that require implementation by Right of Way personnel.

2.2.8 Encroachment Permits and Non-Departmental Activities

2.2.8.1 Traffic Operations

The role of the HQ Division of Traffic Operations, Office of Encroachment Permits, and Engineering Support includes:

- **Coordination**: In coordination with the DEA Water Quality Program, the Office of Encroachment Permits, and Engineering Support provides support and guidance to the District Encroachment Permit offices on the implementation of water quality management associated with encroachment activities.
- **Reporting**: The Office of Encroachment Permits and Engineering Support assists the DEA Water Quality Program in the preparation of the Annual Report to the SWRCB, as it relates to non-departmental activities.

Key positions within the Encroachment Permits Program responsible for overseeing the Permittee's stormwater Construction Site BMPs on non-departmental projects are as follows:

- **The HQ Division of Traffic Operations, Chief** is responsible for statewide policies and procedures for encroachment permit projects.
- **Deputy District Directors** ensure that District personnel comply with statewide policies and procedures.
- **District Permit Engineer (DPE) (or Senior Encroachment Permit Engineer)**: The DPE authorizes encroachment permit activities and manages personnel. The DPE may revoke a permit if the Permittee or contractor does not comply with the permit conditions. The DPE delegates review and inspection authority to the Permit Writer and Encroachment Permit Inspector, respectively.
- **Encroachment Permit (EP) Writer**: The EP Writer coordinates with the applicant and permit inspector through the entire permitting process: submittal, review, inspection, acceptance, closure, and archiving. The EP Writer also coordinates with other Caltrans functional units to ensure the proposed activity conforms to policies and standards. The permit writer, in coordination with the EPSWC, reviews the project to ensure stormwater compliance, including verification of CGP coverage (WDID number), verification of active certification status of Qualified SWPPP Developer/Qualified SWPPP Practitioner (QSD/QSP), verification of party performing IQA, and issuance and re-issuance of encroachment activities under the U.S. EPA rainfall erosivity waiver.
- **Encroachment Permit Inspector (or Construction Oversight Engineer)**: The EP Inspector is responsible for providing quality assurance and ensuring that the Permittee implements and maintains stormwater BMPs according to the accepted stormwater documents. The EP Inspector documents the annual report elements and, in addition, reports incidents of non-compliance to their DPE (or supervisor), Encroachment Permit Stormwater Coordinator, and NPDES.
- **Encroachment Permit Stormwater Coordinator (EPSWC)**: The EPSWC reviews stormwater documents, conducts routine stormwater compliance field inspections, coordinates Permittee and contractor meetings, and provides training evaluation and

development support to Headquarters Construction. The EPSWC has District-wide stormwater review responsibility for encroachment permit activities. The EPSWC reports incidents of non-compliance to the DPE (or supervisor), District NPDES Coordinator, and EP Inspector. The EPSWC provides guidance to permit writers, inspectors, and the Permittees. The EPSWC is responsible for submitting the Annual Report elements to the District NPDES Coordinator. The DWP may provide additional description of the roles and responsibilities of the EPSWC.

- **Permittee**: The Permittee is the Legally Responsible Person (LRP) and is responsible for reducing discharges from the contractor's activities within the right-of-way as required by the Caltrans NPDES Permit and Statewide CGP. The Permittee ensures that contractor personnel responsible for implementation of stormwater management measures are properly trained and certified, and that they receive training during the course of construction. The Permittee also implements the enforcement response program. The permittee authorizes the contractor, to enter monitoring and reporting findings into SMARTS. The contractor's QSP is responsible for ensuring that stormwater BMPs are implemented, inspected, and maintained as specified in the accepted SWPPP or WPCP.

2.2.8.2 Right of Way

The role of the Division of Right of Way Office of Real Property Services and Office of Railroads and Utilities includes:

- **Coordination**. In coordination with DEA WQ Program, the Offices provide guidance to District Right of Way on the implementation of stormwater quality management practices as it relates to third-party activities.
- **Reporting**. The Offices assist the DEA Water Quality Program in the preparation of the Annual Report as it relates to third party right-of-way activities.

Key District positions responsible for implementing stormwater pollution prevention within the Division of Right of Way are as follows:

- **State Right of Way Utility Coordinator**: The Right of Way Utility Coordinator works with the District Resident Engineer and/or Project Engineer during utility relocation activities.
- **Right of Way Agent:** The ROW Agent is responsible for ensuring that third parties are implementing stormwater BMPs.

Figure 2-7 presents the functional relationships and key positions within the Traffic Operations and Right of Way Divisions for Non-Department activities.

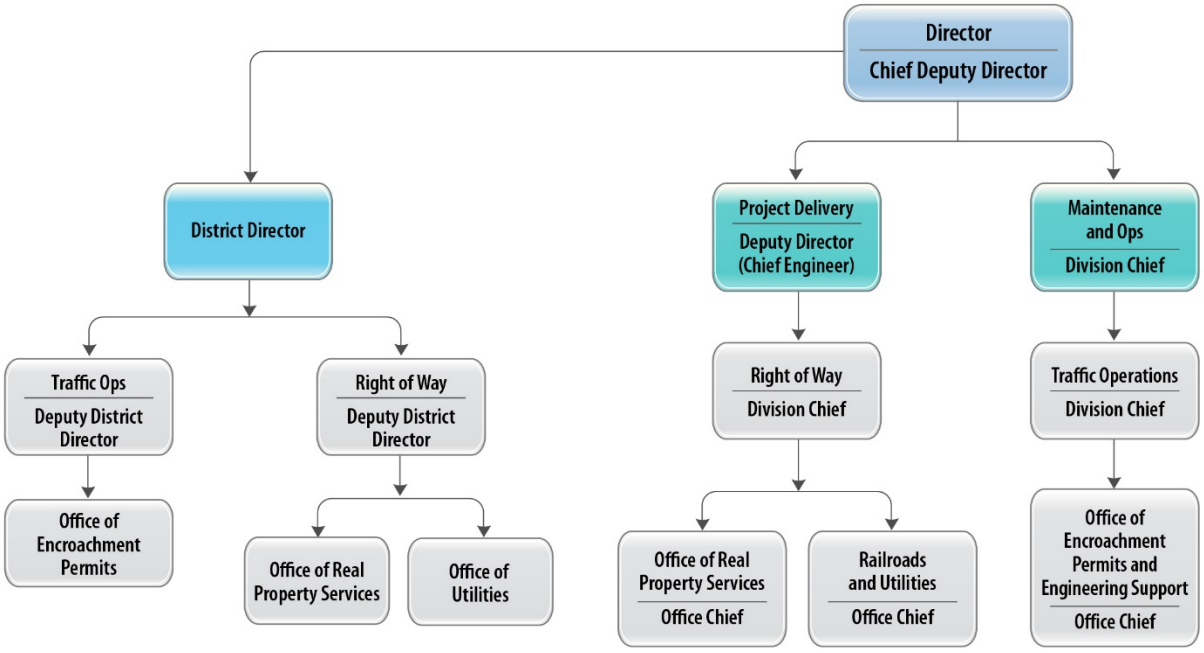

Figure 2-7. Non-Department Stormwater Management Functional Relationships

2.2.9 Districts

The District Office of Encroachment Permits is the primary contact for third parties that require an encroachment permit.

The Districts have the primary responsibility for day-to-day implementation of the SWMP. Responsibility for implementation lies with the District Director and each functional Deputy District Director (or Regional Manager). The Districts are responsible for implementation of the stormwater program consistent with statewide model practices in collaboration with Headquarters Division of Environmental Analysis and other applicable Headquarters Functions consistent with the process as described in Section 2.2 . Each District has flexibility to address regional requirements.

Each District has a designated District NPDES Coordinator who is the lead on stormwater quality issues within a District. The role of each District NPDES Coordinator is to facilitate implementation of the SWMP and the DWP and serve as liaison to the Stormwater Program. District NPDES Coordinator activities include conducting meetings related to stormwater management issues with District staff and with other MS4 permittees to discuss problems and concerns. Liaison activities also include regular communications with representatives of the RWQCB. The District NPDES Coordinators also provide coordination between Caltrans' Headquarters functional programs and the Districts.

2.3 Coordination with Local Agencies and Municipal Coordination Plan

Coordination with municipalities on stormwater management responsibilities and ensuring implementation of Caltrans' existing municipal coordination policies is the responsibility of the District Directors.

The objective of Caltrans Municipal Coordination Plan is to enhance or establish communication, coordination, cooperation, and collaboration with other MS4 stormwater management agencies and their programs including establishing agreements with municipalities, flood control departments, or Districts as necessary or appropriate.

Opportunities may be available to partner with other entities/municipalities to implement structural and non-structural best management practices (BMPs). These BMPs may treat combined runoff from Caltrans and non-Caltrans property, or other BMPs that are constructed outside of Caltrans' right-of-way. For opportunities outside of Caltrans' right-of-way, regional conjunctive use solution or sites such as publicly owned, flood control basins and parks, could receive combined flow from Caltrans and local municipal separate storm sewer systems (MS4s). Collaborative measures may be evaluated from both an engineering and economic perspective, and recommendations are provided.

Municipal coordination could offer potential benefits to Caltrans and its partners in the form of cost-savings (e.g., where the overall cost of a constructed BMP can be shared) or valuable trade-offs (where Caltrans can agree to contribute capital funds and a partner will be responsible for operations and maintenance). A collaborative process can also produce other benefits. The willingness of partners to pool funds and develop joint BMPs is likely to result in using available funds more efficiently, as resources within the entire region can be applied to the sites most likely to achieve good results. Regional collaboration allows stakeholders to participate meaningfully but with fair proportionality. Resources are not diverted to resolving disputes between political jurisdictions, and the collaborative relationship creates an opportunity for coordinating other activities, such as monitoring, research, training, education, and seeking grant funds.

The Municipal Coordination Plan will, at a minimum, describe specific steps for establishing communication, coordination, cooperation, and collaboration with other MS4 stormwater management agencies and their programs, including municipalities, flood control departments, or districts as necessary or appropriate.

The municipal coordination tasks may include, but are not limited to the following:

- Development of Memorandum of Agreements (MOAs) as appropriate for stormwater program related tasks or measures that may assist Caltrans in -implementing elements of the NPDES program in a cost-effective manner.
- Routine or case-by-case Caltrans/municipal stormwater management coordination which may include opportunities to collaborate on the following:
    - Notification, via written correspondence, to the municipalities of any illegal connections/illicit discharges (IC/IDs) discovered within Caltrans' right-of-way and associated with a municipality's jurisdiction, including any requirement to report as soon as practicable to the RWQCB.

  - Notification, via written correspondence, of any IC/IDs discovered within the District right-of-way and a municipality's jurisdiction; and
  - Participation in co-permittees meetings to ensure consistent implementation in the region.
- Opportunities to participate in public education, particularly in the areas of stormwater quality issues pertaining to the District's property, facilities, and activities.
- Use of project informational meetings to update local MS4s of new policies, specifications, and manuals applicable to Caltrans projects and the Caltrans stormwater program.
- Continuing to attend TMDL meetings and workshops as needed and coordinating as necessary on TMDLs where Caltrans has been identified as a stakeholder on adopted TMDLs as listed in the Caltrans NPDES Permit.
- Agreements related to operation and maintenance practices as it relates to the Caltrans stormwater program (as needed).
- Implementing watershed initiatives and TMDL regional solutions on a pro-rata basis as appropriate for Caltrans and if consistent with TMDL implementation strategies.

Caltrans will report on the status and progress of interagency coordination activities in the Annual Report.

2.4 Legal Authority

Caltrans maintains adequate legal authority to ensure compliance with the provisions of the Caltrans NPDES Permit and SWMP within the Caltrans right-of-way. The California Streets and Highway Code empowers Caltrans with the authority to conduct operations necessary for the design, construction, and maintenance of state highways. This authority enables Caltrans to: 1) control contribution of pollutants from its properties, facilities, right-of-way and conveyance systems, 2) prohibit IC/IDs, 3) control dumping or disposal of materials other than stormwater, 4) require compliance with the Caltrans NPDES Permit and SWMP and 5) carry out inspections, surveys and monitoring procedures necessary to determine compliance with permit conditions.

2.4.1 Authority to Control Contribution of Pollutants from State Transportation System

According to Section 90 of the Streets and Highways Code, Caltrans "shall have full possession and control of all state highways and all property and rights in property acquired for state highway purposes". The California Streets and Highway Code, Section 23, defines "highway" to include "bridges, culverts, curbs, drains, and all works incidental to highway construction, improvement and maintenance." Under this definition, Caltrans' authority extends to highway water conveyance systems. Caltrans therefore has authority to control discharges to and from its properties, facilities, right-of-way, and water conveyance systems.

If the contribution of pollutants from outside Caltrans right-of-way is unavoidable (beyond the jurisdiction and authority of Caltrans), Caltrans will refer these discharges to the RWQCB for appropriate action. However, there are also practical limitations on the ability of Caltrans to control vehicle emissions, accidents, and other discharges by third party users of the State Highway System.

2.4.2 Applicable Authority

The Streets and Highways codes applicable to Caltrans ability to control discharges to and from the Caltrans right-of-way include the following:

- Section 670(a) (2) of the Streets and Highways Code requires that encroachments onto the State Highway System be issued permits.
- Section 670 (b) finds any person who places an encroachment without a permit or changes or fails to renew their permit is guilty of a misdemeanor.
- Section 660 defines an encroachment to be "any...pipe, pipe line,…object of any kind or character not particularly mentioned in this section...which is in, under, or over any portion of the highway..."
- Section 720 requires that should an encroachment exist, Caltrans may require its removal. Section 721(c) of the Streets and Highways Code allows Caltrans to immediately remove from any state highway any encroachment that consists of refuse.

The state has empowered the California Highway Patrol with the authority to enforce laws applicable to the use of state highways. (California Vehicle Code § 2400) Caltrans relies on the CHP for enforcement of applicable laws pertaining to the State Highway System. In addition, sheriffs and local police departments possess the appropriate legal authority to pursue and take enforcement action against persons causing, or threatening to cause illicit discharges. Caltrans refers illicit dischargers to the CHP or the RWQCB for appropriate action. Caltrans may also refer illicit dischargers to the State Attorney General's office, the local District Attorney's office, or to the local City Attorney's office for criminal prosecution, as appropriate.

2.4.3 Survey, and Monitor Procedures for Compliance

Section 92 of the Streets and Highways Code states that Caltrans "may do any act necessary, convenient or proper for the construction, improvement, maintenance or use of all highways under its jurisdiction, possession or control." As a result, Caltrans has created a Stormwater Program that directly oversees the implementation of stormwater policies and practices in the design, environmental, construction, and maintenance phases of transportation facilities projects. A description of staff roles and responsibilities is included in Section 2.2. Caltrans has authority to carry out inspection, surveillance, and monitoring procedures necessary to determine compliance or non-compliance with permit conditions or policies, and/or procedures set forth within the SWMP.

2.5 Fiscal Resources

In accordance with Caltrans NPDES Permit Provision E.2.b.3)b), Caltrans will submit a Fiscal Analysis annually. At a minimum, the fiscal analysis will show:

- The allocation of funds to the Districts for compliance with this Order;
- The funding for each program element;
- A comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures;
- How the funding has met the goals specified in the SWMP and District workplans; and

- Description of any cost sharing agreements with other responsible parties in implementing the stormwater management program.

Funding for the Stormwater Program is contained within the budget for Caltrans. The dollars for the program come from the State Highway Account.

The primary means for budget justification is the Caltrans NPDES Permit and SWMP. In the rapidly changing regulatory environment of stormwater, the lags inherent in the budget process require Caltrans to phase in and prioritize new requirements in a manner consistent with the available resources. Caltrans will seek to maintain adequate fiscal resources to comply with the Caltrans NPDES Permit within the confines of its core functional requirements set by the statute. This includes resources for the following:

- Implement and maintain all BMPs;
- Implement effective stormwater monitoring program; and
- Retain qualified personnel to manage the stormwater program.

2.6 Budget Analysis

A Stormwater Program budget analysis will be prepared along with the Fiscal Analysis for the fourth year Annual Report (October 1, 2017). The budget analysis will provide projections for future spending in the next permit cycle.

2.7 Caltrans Practices and Policies

Caltrans adopts policies to perform, support, and maintain statewide projects and operations that provide a safe, sustainable, integrated, and efficient transportation system. Caltrans policy is also consistent with its goals, which include protection of the public, workers, and the environment. Policy that impacts resources and operations of the entire department or divisions within Caltrans typically goes through a policy development process.

Once policy has been established, it is conveyed throughout Caltrans by the issuance of either a Director's Policy or a Deputy Directive memorandum. Director's Policy memoranda generally affect divisions within Caltrans' organization and address policy directly relevant to Caltrans' mission and goals. Deputy Directive memoranda typically convey departmental policy that may affect one or all divisions within Caltrans, but are established by the functional division responsible for the policy. Both Director's Policy and Deputy Directive's memoranda discuss applicability and list responsibilities within the organization to the functional level.

Director's Policy memorandum (DP-04) outlines environmental policy and establishes responsibilities among the District and Headquarters functions to ensure environmental compliance. Other policy memoranda emphasize the priority given to protecting the health and safety of Caltrans workers, as well as those using Caltrans' roadways and facilities. Implementation of the SWMP is initiated by directives from headquarters. These directives are developed and communicated through both line management and functional program management as follows:

- **Director:** General directives issued by the Director are communicated to the Deputy Directors and to the District Directors.
- **Headquarters Functional Divisions:** The Headquarters functional Divisions provide focused technical and procedural guidance, directives, and monitoring to the District functional Divisions.

Caltrans will identify practices and policies, if any, that are in conflict with the implementation of the stormwater program.

2.7.1 Delegations of Authority

Persons having signatory authority for the various documents and reports submitted under the requirements of the Caltrans NPDES Permit and SWMP are limited to specific positions. The CEE has authority to certify reports or documents required under the SWMP and Caltrans NPDES Permit.

Positions having authority to certify reports, notifications, or other information required of a District under the Caltrans NPDES Permit are reserved for each District Director and named positions in each DWP. The intent of the DWP is to allow notifications (especially those related to specific projects) to be delegated to the most-direct position of authority (e.g., resident engineer) related to the project. When an NPDES permit (e.g., the Statewide CGP or Lake Tahoe CGP) requires the designation of a Legally Responsible Person (LRP), the DWPs will establish the LRP. For construction projects constructed within the Caltrans right-of-way by third parties, the third party will designate an LRP.

When additional information directly associated with the Caltrans NPDES Permit is requested in writing by the SWRCB or RWQCB management, it is also submitted under these authorities with a certification statement. Responses to information requests not directly associated with the Caltrans NPDES Permit are submitted by the CEE or designee (i.e., direct report); information requests required specifically of a District are submitted by the District NPDES Coordinator or other position identified in the DWP.

2.8 Stormwater Quality Assurance Program

The Caltrans Stormwater Quality Assurance program consists of three elements: (1) Planning and Design Quality Assurance, (2) the Standard Inspection process, and (3) the Enforcement Response Program. The Caltrans Stormwater QA program ensures that:

- Planning and Design quality assurance is conducted for various phases of project delivery to ensure permit requirements are met (see Section 5).
- All construction projects (whether administered by Caltrans staff or by other agencies within Caltrans' right-of-way) meet the applicable NPDES permit requirements (i.e., Statewide CGP, Lake Tahoe CGP, or U.S. EPA CGP, and the Caltrans NPDES Permit).
- All maintenance activities are performed and maintenance facilities are operated in compliance with the Caltrans NPDES Permit provisions.

2.8.1 Standard Inspection Process

Caltrans provides an inspection program that includes:

- training for inspection personnel;
- documentation of field activities;
- a reporting system that can be used to track effectiveness of control measures;
- enforcement procedures (or referral for enforcement) for non-compliance;
- procedures for taking corrective action;
- responsibilities and responsible personnel of all affected functional offices and branches;
- standard operating procedures for documenting inspection findings;
- a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) non-compliance); and
- a system to ensure the timely resolution of all violations of the Caltrans NPDES Permit or the SWMP.

Caltrans delegates adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).

The Standard Inspection process entails three levels of reviews: quality control (QC), quality assurance (QA), and independent quality assurance (IQA) [third party]. The QC process is implemented by the contractor for construction projects; the QC process for maintenance activities and facilities is performed at the field level by the supervisor or by designated personnel responsible for ensuring compliance on a daily basis. The QA process is provided by Caltrans personnel that are not directly responsible for performing the work. The DEA Water Quality Program, under the direction of the CEE, is responsible for implementing the IQA process. IQA reviews are performed to fulfill the Caltrans NPDES Permit's requirement to perform a self-audit of field activities.

The Standard Inspection process for construction projects is depicted in Figure 2-8.

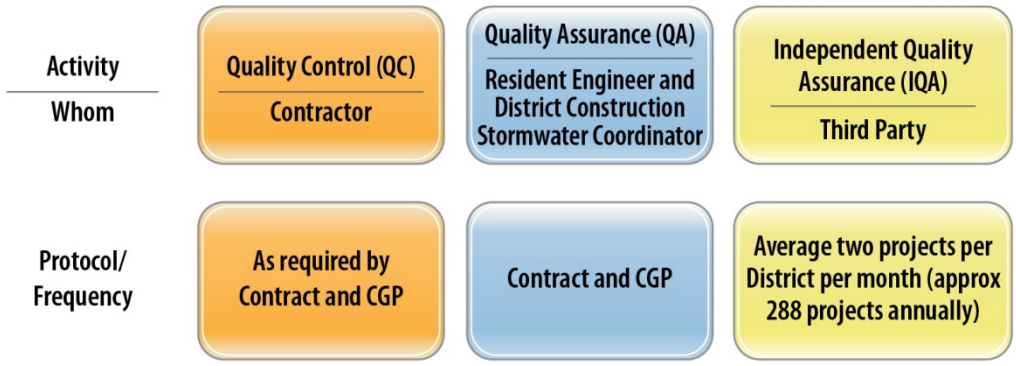

Figure 2-8. Construction Standard Inspection Process

The Standard Inspection process for maintenance activities and maintenance facilities is depicted in Figure 2-9.

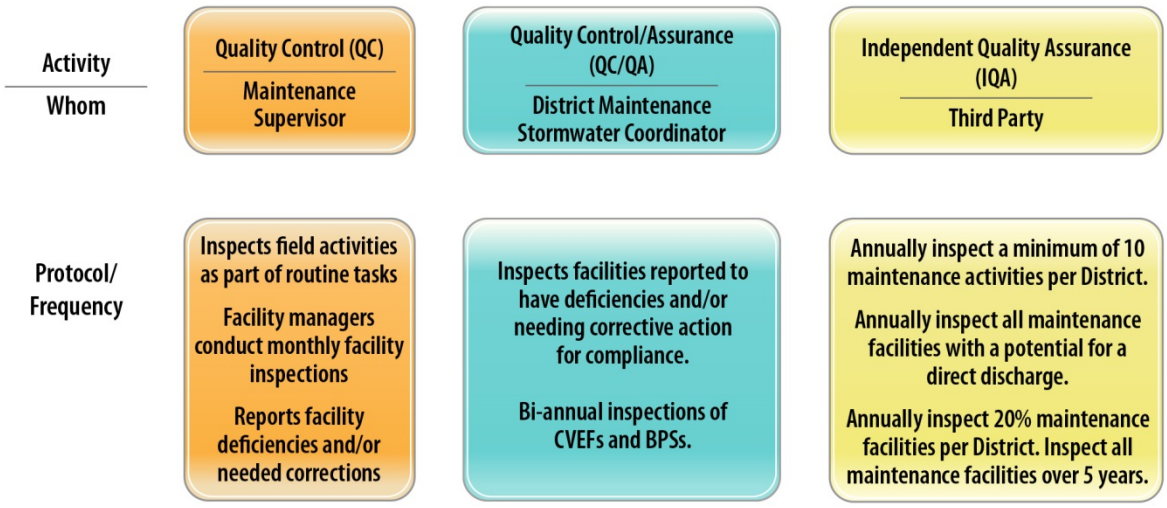

Figure 2-9. Maintenance Standard Inspection Process

Findings from the Standard Inspection process feed back into the Stormwater Advisory Teams (SWATs) for both construction and maintenance. The SWATs are charged, in part, with recommending procedural changes in response to findings from the Standard Inspection process when a systematic deficiency is identified.

2.8.2 Enforcement Response Program Overview

The Enforcement Response Program (ERP) is Caltrans' approach to ensuring adequate implementation of the Caltrans NPDES Permit, the Statewide CGP, and other applicable NPDES permits through progressive enforcement procedures for construction projects, maintenance activities, and maintenance facilities. The ERP establishes a range of escalating enforcement activities to address practices that are contrary to applicable NPDES permits.

Caltrans will identify and resolve compliance issues at the lowest possible level within the organizational hierarchy to ensure that the response is timely and appropriate. The ERP is a methodical escalating approach to compliance issues to ensure that corrective actions are effective.

The ERP process is initiated when site findings or issues are not or cannot be adequately addressed by first line field personnel or a critical finding is identified. A "critical" finding is a direct discharge to surface waters.

When corrective actions implemented at the field level are deemed inadequate or they fail to be implemented, the ERP is initiated. Progressive levels of the ERP will be initiated until it is

deemed that the corrective action(s) implemented are adequate or a prioritized plan to implement a long-term resolution is in place.

The ERP is designed around four levels corresponding to line management positions within Caltrans. This tiered approach is designed so that an appropriate management level is responsible to ensure a satisfactory conclusion for all identified issues and provides a progressive method of escalation for issues that are not resolved at a lower level.

The ERP does not fully define the personnel or contractual enforcement procedures but only provides an overview. The applicable statutes, regulations, contract documents, and associated guidance will be consulted before fully engaging in enforcement procedures.

2.8.3 Construction Site Enforcement Response

Contractual enforcement authority for administering stormwater related actions on a Caltrans construction site is vested with the Resident Engineer (RE). The RE may seek the assistance of Assistant REs, the Structures Representative, District Construction Stormwater Coordinator (DCSWC), and the District NPDES Coordinator to resolve stormwater issues. The Construction Manager, Deputy District Director of Construction, and the District Director are responsible for internally managing the Construction ERP as discussed. The levels of authority between the RE and the Caltrans Director are shown in Figure 2-4.

The ERP process is initiated when initial corrective actions implemented at the project (field) level are deemed inadequate. Progressive levels of the ERP will be initiated until it is deemed that the corrective action(s) implemented are adequate. Decisions made and follow-up reviews performed will be documented.

Level 1 enforcement decisions are typically the responsibility of the Construction Manager, and are administered by the RE. The ERP Level 1 manager is responsible for determining the appropriate corrective actions to be implemented. If nonconformance continues, the ERP manager will escalate the issues to the next ERP Level until conformance is achieved.

Contractual enforcement against the Contractor for nonconformance with stormwater requirements can be taken through verbal and/or written warnings, each supported by the contract documents.

Level 2 enforcement decisions are typically the responsibility of the Deputy District Director, Construction. The RE is responsible for administering the corrective action(s) and having a subsequent inspection performed and inspection results documented.

Inspections that cite a “critical” finding will be immediately elevated to ERP Level 2 and become the responsibility of the Deputy District Director. The Deputy District Director will work with the Construction Manager to quickly resolve the issues, have a subsequent inspection performed, and perform final documentation when corrective actions are deemed sufficient.

The Level 2 action(s) taken by the RE, as directed by the Deputy District Director, can be taken through written sanctions, each supported by the contract documents. Level 2 actions may include the temporary suspension of work until the work that is contributing to or causing

contract nonconformance is corrected, withholding of progress payments for fines and penalties levied against Caltrans for the Contractor's non-compliance, or an administrative deduction.

Level 3 enforcement decisions are typically the responsibility of the District Director. The Level 3 action(s) taken by the RE, as directed by the District Director, may include recommendation to the HQ Division Chief of Construction for termination of control or termination of contract.

Level 4 enforcement actions are typically the responsibility of the Caltrans Director. The Caltrans Director will rely on the advice of the District Director, the CEE, HQ Legal and the WQMAT to assist in determining the appropriate corrective action(s). Additionally, a compliance issue may be elevated to this level if legal action is brought against Caltrans by the State, U.S. EPA or a third party, or if Caltrans brings legal action against any party resulting from an NPDES violation at a construction site. The Director, in consultation with the Chief Counsel, will protect the environment and Caltrans' interests and ensure a satisfactory resolution to the action.

At each level of the ERP, the responsible manager will determine appropriate corrective actions. Corrective actions may be project-specific. Corrective actions may also require programmatic corrections on a statewide basis. Programmatic corrections are handled as discussed in the SWMP Section 2.2.3, Stormwater Management Program Oversight and Compliance, and Section 14, Program Effectiveness Evaluation. Project-specific corrective actions are implemented at the District level. HQ Construction, in coordination with DEA Water Quality Program, is responsible for identifying programmatic corrective actions.

2.8.4 Summary of Construction Enforcement Response Program

The Construction ERP operates as an overlay to the construction Standard Inspection process.

Figure 2-10 shows how the ERP overlays the Standard Inspection process.

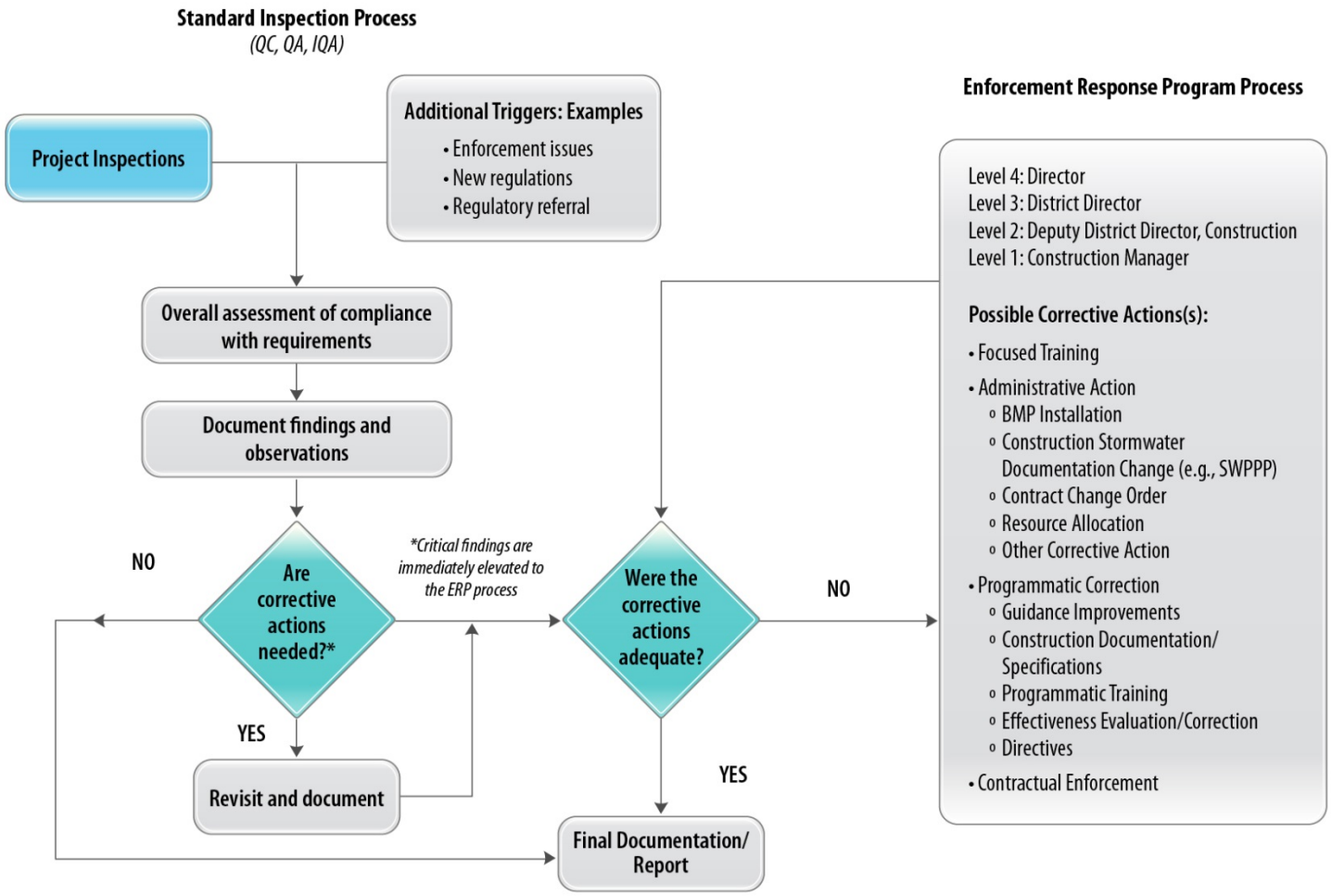

Figure 2-10. Typical Construction Enforcement Response Process

Enforcement response progresses through the levels if satisfactory resolution is not reached at a previous level. Inspections that have "critical" findings result in an immediate elevation to ERP Level 2. Table 2-1 summarizes the responsibilities for the Construction ERP.

Table 2-1. Responsibility Matrix for Construction Stormwater Quality Response Process

	Standard Inspection Process			Enforcement Response Program			
	QC	QA	IQA	Level 1	Level 2	Level 3	Level 4
Caltrans Director						N	R
District Director					N	R	N
Deputy District Director, Construction			N	N	R	N	N
Construction Manager (Supervising TE)		N	N	R	N	N	N
Construction Engineer (Senior TE)		N	N	N	N	N	N
Resident Engineer	N	R	I	I	I	I	I
Caltrans Contractor (WPC manager)	R/I	I*	I*	I*	I*	I*	I*
District Construction Stormwater Coordinator	N/T	R	N	A	A	A	A
DEA Water Quality Program			N/T	N/T	N/T	N/T	N/T
Chief Environmental Engineer			N	N	N	A/N	A/N
NPDES Coordinator				A	A	A	A
IQA Reviewer			R	A	A	A	A

R – Responsible party to manage process and determine corrective action
A – Party to assist responsible party, as needed
N – Notification provided to this party
I – Responsible party to implement corrective action
I* – Responsible to deploy corrective action as directed by the RE
T – Tracking compliance
TE – Transportation Engineer

2.8.5 Maintenance and Operations Site Enforcement Response

Enforcement authority for stormwater related actions at maintenance activities and maintenance facilities lies with line management in the districts. Within their respective district, Deputy District Directors, Maintenance, and District Equipment Shop Superintendents are responsible for the implementation of the policies and procedures of the Maintenance and Operations Stormwater Management Program by their reporting personnel. The levels of authority between the field staff and the Caltrans Director are shown in Figure 2-4.

The ERP process is initiated when initial corrective actions implemented by field staff are deemed not adequate. Progressive levels of the ERP will be initiated when it is deemed that the corrective action(s) implemented are not adequate. At each ERP Level, the designated ERP Level

manager is responsible for determining the appropriate corrective action(s) to be implemented. The ERP Level manager will oftentimes rely on the advice of the DMSWC, District NPDES Coordinator, or an IQA reviewer. It is the responsibility of the ERP Level manager to elevate an issue to the next ERP Level if it cannot be adequately resolved at his/her level. Decisions made and follow-up reviews performed will be documented at each ERP Level.

Level 1 enforcement is typically managed by the Region Manager (Maintenance) or the Equipment Shop Superintendent (Equipment Operations). The Maintenance Area Superintendent is typically responsible for ensuring the corrective action(s) are implemented and having a subsequent review performed and the results documented.

Level 2 enforcement is typically managed by the Deputy District Director for Maintenance. The Region Manager (Maintenance) is typically responsible for ensuring the corrective action(s) are implemented and having a subsequent review performed and the results documented. Inspections that cite a “critical” finding will be immediately elevated to ERP Level 2 and become the responsibility of the ERP Level 2 manager. The ERP Level 2 manager will work to quickly resolve ”critical” findings, have a subsequent review performed, and have the review results documented.

Level 3 enforcement is typically managed by the District Director. The Region Manager (Maintenance) is typically responsible for ensuring the corrective action(s) are implemented and having a subsequent review performed and the results documented.

Level 4 enforcement is typically managed by the Caltrans Director. The Caltrans Director will rely on the advice of the District Director, the CEE, and the WQMAT to assist in determining the appropriate corrective action(s).

A compliance issue will be elevated directly to ERP Level 4 if legal action is brought by the State, EPA, or a third party, or if Caltrans brings legal action against any party because of an NPDES violation at a maintenance activity or maintenance facility site. The Caltrans Director, in consultation with the Chief Counsel, will protect Caltrans’ interests and ensure a satisfactory resolution to the issue.

At each level of the ERP, the responsible ERP manager will determine appropriate corrective actions. Corrective actions may be facility-specific or activity -specific actions. Corrective actions may also require programmatic corrections on a statewide basis, facility-type basis, or specific to an activity performed at numerous locations. Programmatic corrections are handled as discussed in the SWMP Section 2.2.3, Stormwater Management Program Oversight and Compliance, and Section 14, Program Effectiveness Evaluation. Facility-specific or activity-specific corrective actions are implemented at the District level with the assistance of HQ Maintenance as needed. HQ Maintenance, in coordination with DEA Water Quality Program, is responsible identifying programmatic corrective actions for the Division of Maintenance. The Division of Equipment in coordination with DEA Water Quality Program is responsible for identifying programmatic corrective actions for the Division of Equipment.

2.8.6 Summary of Maintenance and Operations Enforcement Response Program

The Maintenance and Operations ERP operates as an overlay to the maintenance activity and maintenance facility Standard Inspection process. Figure 2-11 shows how the ERP overlays the Standard Inspection process.

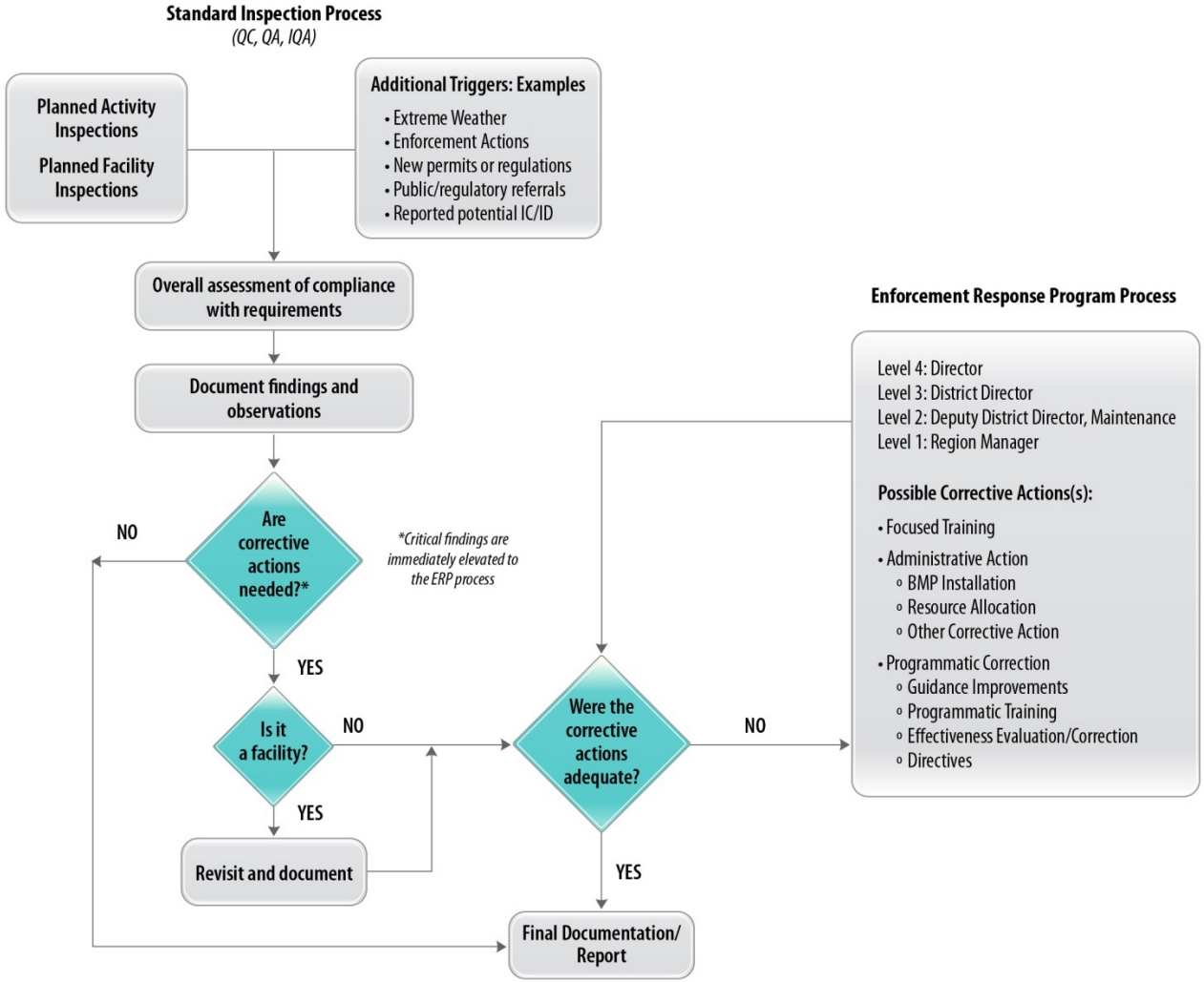

Figure 2-11. Typical Maintenance and Operations Enforcement Response Process

Enforcement response can progress through the levels if satisfactory resolution is not reached at a previous level. Inspections that have "critical" findings result in an immediate elevation to ERP Level 2.

Table 2-2 summarizes the responsibilities for the Maintenance and Operations ERP.

Table 2-2. Typical Responsibility Matrix for Maintenance and Facility Operations Stormwater Quality Response Process

	Standard Inspection Process			Enforcement Response Program			
Responsible Level	**QC**	**QA**	**IQA**	**Level 1**	**Level 2**	**Level 3**	**Level 4**
Caltrans Director						N	R
District Director					N	R	N
Deputy District Director			N	N	R	N	N
Region Manager		N	N	R	N	N	N
Maintenance Area Superintendent	N	N	N	N	N	N	N
Maintenance Area Supervisor/Facility Manager	R	I	I	I	I	I	I
District Maintenance Stormwater Coordinator (DMSWC)	N/T	R	N	A	A	A	A
DEA Water Quality Program			N/T	N/T	N/T	N/T	N/T
Chief Environmental Engineer			N	N	N	A/N	A/N
Headquarters Maintenance Division		N	N	N	N	N	N
NPDES Coordinator				A	A	A	A
IQA Reviewer			R	A	A	A	A

R – Responsible party to manage process and determine corrective action
A – Party to assist responsible party, as needed
N – Notification provided to this party
I – Responsible party to implement corrective action
T – Tracking compliance

2.8.7 Encroachment Permit Enforcement Response Program

Enforcement authority over the revocation of a Caltrans Encroachment Permit lies with line management in the districts. Within each district, the District Director, Deputy District Director, and DPE are responsible for the implementation of the policies and procedures of the Encroachment Permits Program. The contractor's implementation of stormwater requirements lies with the Permittee (or LRP when the project has active coverage under an NPDES permit or Waste Discharge Requirements).

Table 2-3 lists the levels of authority during implementation of the standard permit inspection and ERP process.

During standard permit inspections, the Contractor's QSP is responsible to implement and document corrective action and report corrections to the LRP and the EP Inspector (or Construction Oversight Engineer).

Caltrans initiates the ERP process when initial corrective actions implemented by Contractor's field staff during the standard inspection process are deemed not adequate by the Caltrans EPSWC and / or the EP Inspector. Progressive levels of the ERP will be initiated and continued until it is deemed that the corrective action(s) implemented by the Contractor's QSP are adequate. Decisions made and follow-up reviews performed will be documented by the Contractor's QSP or an independent QSP reviewer not associated with the Contractor as requested at each ERP level.

During Level 1 enforcement, the EP inspector notifies, verbally and in written form, both the Permittee and the Permittee's Contractor-QSP of the non-compliance. The EP Inspector (or Construction Oversight Engineer) may call upon the Permittee or the Permittee's Contractor-QSP to perform a subsequent review and document the results of the corrective actions.

During Level 2 enforcement, the EP inspector notifies, verbally and in written form, both the Permittee and the Permittee's Contractor-QSP of the non-compliance. The Permittee with the assistance of the Permittee's Contractor-QSP is responsible for implementing Level 2 enforcement, which may include temporary suspension of work except stormwater pollution prevention. Upon notification of a second violation, the EP Inspector (or Construction Oversight Engineer) will notify the Permittee and the Permittee's Contractor-QSP that a third violation may result in a permit suspension or revocation.

During Level 3 enforcement, the EP inspector notifies, verbally and in written form, both the Permittee and the Permittee's Contractor-QSP of the temporary suspension of work except stormwater pollution prevention. Upon receipt of work suspension, the Permittee shall hire the services of an Independent Quality Assurance (IQA) QSP to take on the decisions and correction of the non-compliance. The Permittee shall document the delegation of authority in the field to the Permittee's IQA QSP. The Permittee's IQA QSP will notify the Permittee's Contractor, the District NPDES coordinator and the EP Inspector (or Construction Oversight Engineer) of the plan to correct the non-compliance. The DPE, in consultation with the District Director and District NPDES, determines the conditions under which work can continue. Other possible actions include suspension of other current permits, imposing bonding requirements, and removal of encroachments.

Level 4 enforcement actions are typically managed by the Caltrans Director with the assistance of the District Director, the CEE, HQ Legal, and the WQMAT to determine the appropriate corrective action(s). A non-compliance issue may be elevated to this level if legal action is brought against Caltrans by the SWRCB, a RWQCB, U.S. EPA, or a third party, or if Caltrans brings legal action against any party resulting from an NPDES violation at a construction site. The Director, in consultation with the Chief Counsel, will protect the environment and Caltrans' interests and ensure a satisfactory resolution to the action. Under consultation with the Chief

Counsel, Caltrans Headquarters Office of Permits may suspend all permits in that Permittee's name statewide.

Instances of permit non-compliance are reported to the RWQCB within the timeframes stated in Section 16.2.1, Incident Reporting, upon discovery of such instances.

Table 2-3. Responsibility Matrix for the Enforcement of Stormwater Quality Response Process on Encroachment Permits Projects

Responsible Level	Standard Inspection Process			Enforcement Response Program			
	QC	QA	IQA	Level 1	Level 2	Level 3	Level 4
Caltrans Director	-	-	-	-	-	-	R
District Director	-	-	-	-	-	RP	A
Permittee (LRP)	N/T	R/S	R/S	R	R	R	A
Permittee's Contractor	R/I	I	I	I	I	I	I
Permittee's Contractor-QSP	A/TN	I*/T	I*/T	I*/T	I*/T	I*/T	I*/T
District Permit Engineer (DPE)	N	N	N	-	N	N	A*
EP Inspector (or Construction Oversight Engineer or EPSWC)	N	N/T	R/T	N/T	N/T	N/T	N/T
District NPDES Coordinator	-	N	N	-	N/T	N/T	
Maintenance Area Supervisor	-	N	N	N	N	N	N
DEA Water Quality Program	-	N	N	-	N	N	A/N

RP - Responsible for Encroachment Permit revocation decision
A* - Assist District Director with Encroachment Permit revocation
R - Responsible Party to determine corrective action
A – Party to assist responsible party
N – Notification provided to this party
I – Responsible party to implement corrective action
I * - Responsible party to implement corrective action as directed
T – Tracking compliance
TN – Tracking and reporting non-compliance in SMARTS under responsible party

2.9 Incident Reporting – Non-Compliance and Anticipated Non-Compliance

The Caltrans NPDES Permit requires Caltrans to report all known incidents of non-compliance. Non-compliance may be emergency, field, or administrative. Filing and reporting requirements are contained in Section 16.2.

Within each District, the NPDES Coordinator provides non-compliance reporting. The District Work Plan identifies by name the responsible parties for non-compliance reporting for that District. For more information on incident reporting in the Stormwater Multiple Application Report and Tracking System (SMARTS), see Section 16.2.

2.10 Dispute Resolution

In the event of a disagreement between Caltrans and a Regional Water Board over the interpretation of a Caltrans NPDES Permit provision, Caltrans will first attempt to resolve the issue with the Regional Water Board Executive Officer. If a satisfactory resolution is not obtained at the Regional Water Board level, Caltrans may submit the issue in writing to the State Water Board Executive Director or designee for resolution, with a copy to the Regional Water Board Executive Officer. The issue must be submitted to the Executive Director within ten days of any final determination by the Regional Water Board Executive Officer, who will be provided an opportunity to respond.

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3 Monitoring and Discharge Characterization Program

This section describes the Caltrans Stormwater Monitoring and Discharge Characterization Program. An overview of previous monitoring activities is discussed, followed by plans for future discharge characterization, monitoring for pilot BMPs and special studies, laboratory and field procedures, and reporting. The Caltrans NPDES Permit specifies several location specific monitoring and characterization requirements (Caltrans NPDES Permit Attachment V) which are not covered in this section. Refer to Section 13 for details on implementation of the location specific requirements.

3.1 Overview of Previous Monitoring Activities

Caltrans conducted a comprehensive, multi-component stormwater monitoring program during the past permit period that was designed to achieve the following objectives:

- Achieve compliance with the Caltrans NPDES Permit and legal requirements;
- Produce monitoring data that are scientifically credible and representative of runoff from Caltrans' roadways and facilities; and
- Provide information to:
    - Identify constituents of concern;
    - Identify sources of those constituents;
    - Determine if constituents of concern are amenable to reductions through source control or treatment;
    - Evaluate effectiveness of BMPs (see Section 4) and other stormwater program elements; and
    - Optimize future monitoring efforts.

The monitoring program comprised of three principal elements or areas of activity: Discharge Characterization, Runoff Monitoring, and BMP Evaluation. Monitoring was conducted at more than 180 sites statewide. These sites yielded more than 200,000 water quality data points. Monitoring protocols and data management and analysis tools that ensure the scientific validity of the collected data were developed and implemented. Roadway and facilities monitoring by Caltrans as part of the monitoring program included: highways, maintenance stations, park-and-ride lots, rest areas, toll plazas, and vehicle inspection/weigh stations. In addition, monitoring was conducted at construction sites, erosion control sites, Treatment BMP sites, and small-scale pilot studies. Data were statistically analyzed to characterize highway runoff and make recommendations for future monitoring.

Results of these analyses are reported in the Discharge Characterization Study Report (Caltrans, 2003). It is one of the most comprehensive stormwater runoff characterization studies available for transportation facilities. This study was augmented in 2008 to include additional monitoring data.

3.2 Discharge Characterization Monitoring

Caltrans will implement monitoring and discharge characterization activities specified in the Caltrans NPDES Permit. The permit requires monitoring to be prioritized using a two-tiered approach, with first priority (Tier 1) given to Areas of Special Biological Significance (ASBS) protection monitoring and TMDL monitoring, and second priority (Tier 2) given to other monitoring throughout the state. There will be a minimum of 100 active monitoring sites at any one time, consisting of Tier 1, Tiers 1 and 2, or Tier 2.

Tier 1 monitoring consists of all sites for which monitoring is required pursuant to the requirements of the ASBS General Exception, as well as sites in impaired watersheds for which Caltrans has been assigned a waste load allocation (WLA) and monitoring requirements pursuant to an approved TMDL. ASBS Priority Discharge Locations are listed in Appendix C and TMDLs for which Caltrans is a stakeholder are listed in Appendix D, Table D-2.

Tier 2 monitoring consists of all sites where Caltrans has existing stormwater and non-stormwater monitoring data. Tier 2 sites may include locations where Caltrans has conducted characterization monitoring or where monitoring has been conducted for other purposes. Tier 2 monitoring will be initiated whenever the number of Tier 1 monitoring sites falls below 100. Tier 2 sites will be prioritized considering the threat to water quality. Threat to water quality ratings will consider the following:

- Pollutant concentration or load;
- Distance to receiving water;
- Water quality objectives; and
- Any existing impairments in the receiving waters.

As required by the Caltrans NPDES Permit, on February 28, 2014 a draft list of prioritized Tier 2 monitoring sites was submitted to the SWRCB for approval. Tier 2 monitoring will be conducted in order of prioritization as Tier 1 monitoring sites fall below the 100-site threshold.

Figure 3-1 illustrates the elements of the monitoring program as prescribed by the SWRCB.

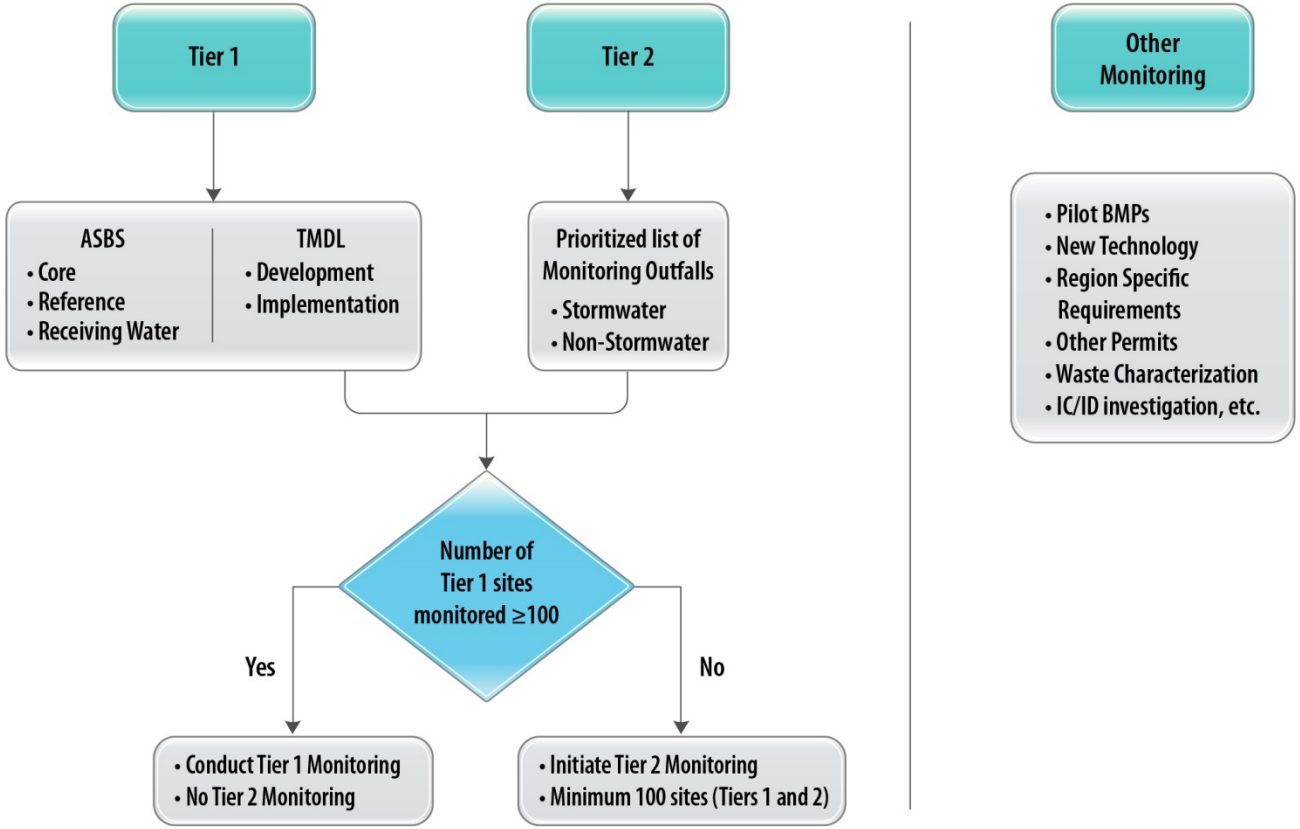

Figure 3-1. Monitoring Overview

3.2.1 Tier 1 Monitoring – Areas of Special Biological Significance

Tier 1 monitoring consists of the following elements:

- ASBS Core Discharge Monitoring;
- ASBS Receiving Water and Reference Area Monitoring; and
- TMDL Compliance Monitoring.

ASBS core discharge monitoring consists of sampling Caltrans stormwater runoff.

Receiving water monitoring consists of sampling ocean water within an ASBS close to the core discharge monitoring locations.

ASBS reference area monitoring refers to sampling certain ocean water areas as prescribed by the SWRCB within the ASBS that it considers to exhibit "natural" water quality.

From 2012 to 2014, the SWRCB conducted reference area monitoring under a grant-funded project. Reference area monitoring for the southern California ASBS region was completed in 2014. Caltrans has elected to participate in the regional integrated monitoring program. When possible Caltrans will participate with regional monitoring groups for conducting reference area monitoring in Central and Northern California ASBS regions as part of the Regional Monitoring Groups (RMGs).

For ASBS core discharge and receiving water monitoring, Caltrans is participating in Regional Monitoring Groups (RMGs) coordinated by the SWRCB (see Table 3-1). Caltrans developed and implemented an ASBS Quality Assurance Project Plan (QAPP) consistent with that of the three RMGs.

Table 3-1. ASBS Regional Monitoring Group Information

Regional Monitoring Group Area	Affiliation	Stakeholders
Southern	Southern California Coastal Research Project	SWRCB, Los Angeles County Flood Control District, Caltrans, City of Malibu, Los Angeles County, City of Newport, City of Laguna Beach, City of San Diego, Scripps Institution of Oceanography, Santa Catalina Island Company, Connelly Pacific, U.S. Navy
Central	City of Pacific Grove	SWRCB, San Francisco Bay RWQCB, Central Coast RWQCB, Caltrans, Monterey Regional Water Pollution Control Agency, City of Carmel-By-The –Sea, Hopkins Marine Station, County of Marin, Monterey Bay Aquarium Foundation, City of Monterey, City of Pacific Grove, Pebble Beach Company, County of San Mateo
Northern	Southern California Coastal Research Project	SWRCB, NCRWQCB, Caltrans, National Park Service, Sea Ranch Association, City of Trinidad, Trinidad Rancheria, Humboldt State University Telonicher Marine Laboratory, Humboldt County Department of Public Works, Humboldt Bay Harbor, Recreation and Conservation District

3.2.2 Tier 1 Monitoring – Total Maximum Daily Loads

Caltrans intends to comply with monitoring requirements listed in Attachment IV of the Caltrans NPDES Permit. The SWRCB amended Attachment IV of the Caltrans NPDES Permit on May 20, 2014, with the intention of streamlining the TMDL monitoring approaches. TMDL monitoring will include constituents listed in SWMP Appendix B (Monitoring Constituent List) and the constituents listed in the TMDL. TMDL monitoring will be coordinated with stakeholder groups, if it is in the interest of Caltrans.

A summary update of monitoring activities for each TMDL and any monitoring needed to demonstrate compliance with an approved TMDL requirement will be included in the annual TMDL Status review Report.

3.2.3 Tier 2 Monitoring

If the number of Tier 1 monitoring sites (ASBS and TMDL sites) falls below 100 sites, then Tier 2 monitoring will be performed at Tier 2-prioritized sites. Caltrans will review all monitored Tier 2 sites for compliance with the permit and applicable Water Quality Standards (WQS). For Tier 2 sites found to pose non-compliance issues, corrective actions will be implemented at the top 15 percent of actively monitored sites on the Tier 2 priority list. Follow-up monitoring will be conducted to confirm the effectiveness of the measures implemented, except where the BMP that is implemented provides full retention of the 85th percentile, 24-hour rain event. Tier 2 monitoring sites will be removed from active monitoring if determined to be in compliance by the SWRCB.

3.2.4 Monitoring For Pilot BMPs and Special Studies

As needed, Caltrans will continue evaluating existing BMPs and investigating new BMPs through pilot studies. Caltrans will submit updates to the *Treatment BMP Technology Report* (Caltrans, 2010) and the Stormwater Monitoring and BMP Development Status Report in the Annual Report.

Caltrans will implement sampling and analysis plans consistent with the requirements of the Caltrans NPDES Permit.

3.3 Monitoring and Discharge Characterization Reporting

The Caltrans NPDES Permit requires Caltrans to report the results of monitoring activities. The following reports are required:

a. Monitoring Results Report (analytical and Toxicity) for Tier 1 and Tier 2 sites
b. Toxicity Reduction Evaluation – when required
c. Compliance Reporting for Municipal and Construction Activities
d. Compliance Reporting for Receiving Water Limitations

Items c) and d) listed above are addressed under Program Effectiveness Evaluation (Section 14.2, Field Activity Compliance Evaluations). They are listed here for the sake of consistency with the organization on the Caltrans NPDES Permit.

3.3.1 Monitoring Results Report

Caltrans will prepare a Monitoring Results Report (MRR) that describes all Tier 1 and Tier 2 monitoring annually for each fiscal year.

The MRR will include the following information:

- Sites in Tier 1 and Tier 2 being actively monitored, and the results of the past fiscal year's monitoring activities including effluent and receiving water quality monitoring.
- Sample values that exceed applicable WQS, including toxicity objectives.
- A summary of sites requiring corrective actions.
- A review of any iterative procedures (where applicable) at sites needing corrective actions.

3.3.2 Toxicity Reduction Evaluation (TRE)

Appendix E, Toxicity Reduction Evaluation Workplan, is attached. The TRE Workplan will be implemented on a site-specific basis if required.

3.3.3 Field and Laboratory Procedures and Data Reporting

All Caltrans monitoring will be performed consistent with the Caltrans' field and analytical laboratory monitoring protocols, guidance, and the requirements of the statewide permit. Caltrans' guidance can be found online at http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/index.htm#wq_handbooks. Water quality data (receiving water and effluent) will be uploaded to the Stormwater Multi-Application Reporting and Tracking System (SMARTS) and conform to "California Environmental Data Exchange Network (CEDEN) Minimum Data Templates" format.

4 BMP Development and Implementation

Caltrans has created a systematic approach to identify, evaluate, approve, and integrate BMPs into Caltrans' operations. This approach is intended to ensure that sound scientific and technological criteria are used to develop new BMPs for implementation on transportation projects and activities. Approved BMPs are cost-effective, efficient, and appropriate for the transportation infrastructure.

This section describes:

- How new or modified BMPs are identified;
- BMP evaluation and approval process;
- Criteria used for evaluating BMPs; and
- BMP Integration into the stormwater program.

Caltrans has been evaluating BMPs for effectiveness in removing pollutants from roadways and facilities since 1996. Findings are published in the *Treatment BMP Technology Report*. This report summarizes the Caltrans BMP identification and evaluation process and has fact sheets presenting several BMP technology categories. The BMP fact sheets are based on a desktop evaluation using standard set of criteria that include design, operations, maintenance, construction, treatment, advantages, and constraints. Caltrans uses the fact sheets as a preliminary screening tool for selection of pilot BMPs when approved BMPs cannot meet project-specific treatment requirements. A field evaluation (pilot testing) may be required to evaluate effectiveness in the Caltrans environment prior to use of a new BMP technology. BMPs selected for pilot testing are not automatically approved for statewide use.

The *Treatment BMP Technology Report* is published when new BMPs are approved for adoption. Annual updates to the Treatment BMP Technology Report will be provided in the Annual Report.

The Stormwater Monitoring and Best Management Practice (BMP) Development Status Report (Status Report) supplements the Annual Report and documents the status of stormwater monitoring and Treatment BMP technology development conducted by the Department. This Status Report provides a summary of the monitoring and applied studies conducted during each fiscal year and plans for the following three years.

The BMP development process has resulted in the approval of a range of Treatment BMPs now available for implementation. Lists of adopted BMPs used for design, construction, maintenance, and facility operations are provided in Sections 5, 6, and 8, respectively.

Figure 4-1 provides an overview of the BMP Identification, Evaluation, and Integration Process.

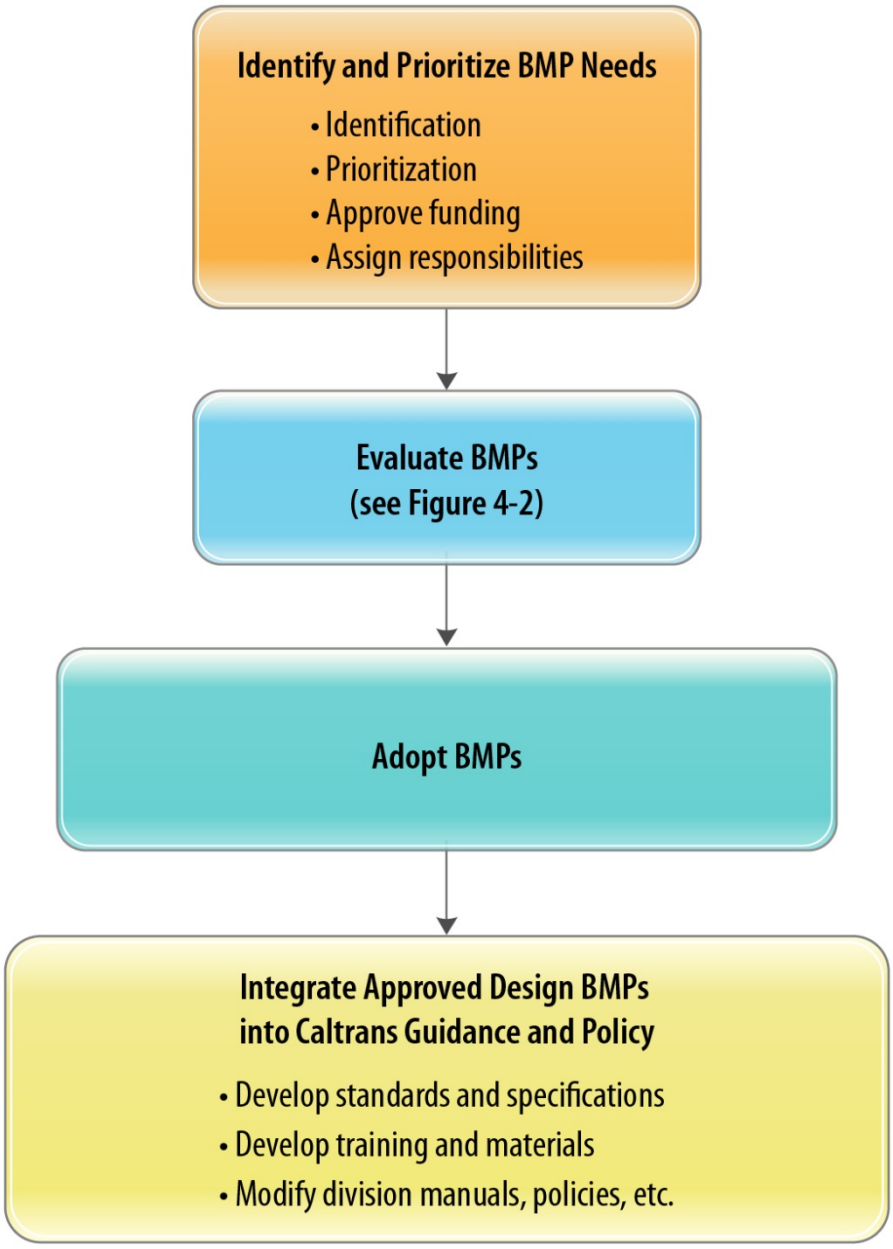

Figure 4-1. Overview of BMP Identification, Evaluation, and Integration Process

4.1 Identification and Prioritization of BMP Development Needs

The BMP development is focused on addressing targeted pollutants identified by runoff characterization. Caltrans identifies and prioritizes BMP development needs based on current or future concerns regarding the following:

- Target Pollutants present in Caltrans' stormwater runoff;
- Adopted TMDLs;
- Additional information needed regarding the feasibility of specific BMPs as identified from ongoing applied studies; and
- BMP performance trends that identify weaknesses.

Sources of ideas for potential new BMPs or modifications to existing approved BMPs include literature searches, past and ongoing monitoring, internally generated concepts from technical brainstorming sessions, feedback from the implementation of approved BMPs and, review of data collected by other transportation or municipal agencies. New or modified BMPs may also be proposed during the project development process.

4.1.1 Identification of pilot BMPs during project development process

Project Engineers may also propose pilot or modified BMPs during the planning and design of a project in consultation and coordination with HQ Division of Environmental Analysis and HQ Division of Design.

Variations to existing BMPs are considered by the HQ Stormwater Management Team to share the knowledge gained throughout the department and to improve future BMP designs or operations.

Some variations to Treatment BMPs may warrant a pilot project to evaluate the effectiveness including operation and maintenance. Treatment BMPs proposed for pilot testing must follow the evaluation processes as explained in Section 4.2.

4.2 Treatment BMP Evaluation Process

A needs assessment will be conducted when new or modified Treatment BMPs are proposed by district project development staff, HQ staff, or submitted by a vendor via the Caltrans New Products Approval Process. Appropriate functional SWATs or their representatives provide input to the needs assessment. The needs assessment process may involve a literature review, evaluation of existing performance data and the operational considerations like maintenance, safety etc.

If the needs assessment determines that additional studies are warranted then a laboratory study/small scale pilot study may be considered. A full-scale field pilot study is generally required if the results of the initial pilot study indicate feasibility of using the BMP in the department's operational environment. Full-scale pilot studies may be performed as part of a capital project or a standalone pilot project.

The results of pilot studies are circulated to all of the functional SWATs (design, maintenance, construction, water quality) for their recommendations. Each SWAT may recommend adoption,

rejection, or further study of the BMP. If the SWATs unanimously recommend adoption of the BMP, the proposal is submitted to the CEE for approval. When the SWAT recommendations are not unanimous, the Water Quality Management Assurance Team (WQMAT) will review the proposal. The Division of Environmental Analysis is responsible for testing and ultimately approving Treatment BMPs for use in Caltrans projects.

Treatment BMP pilot studies should generally demonstrate pollutant removal effectiveness equal to or greater than currently approved BMPs in order to be adopted. If it is decided to reject a pilot BMP that is operational, the CEE, in consultation with the Division of Maintenance, will determine if the BMP needs to be modified for transfer to maintenance inventory, taken into inventory as-is, or decommissioned.

Figure 4-2 illustrates the Treatment BMP evaluation process.

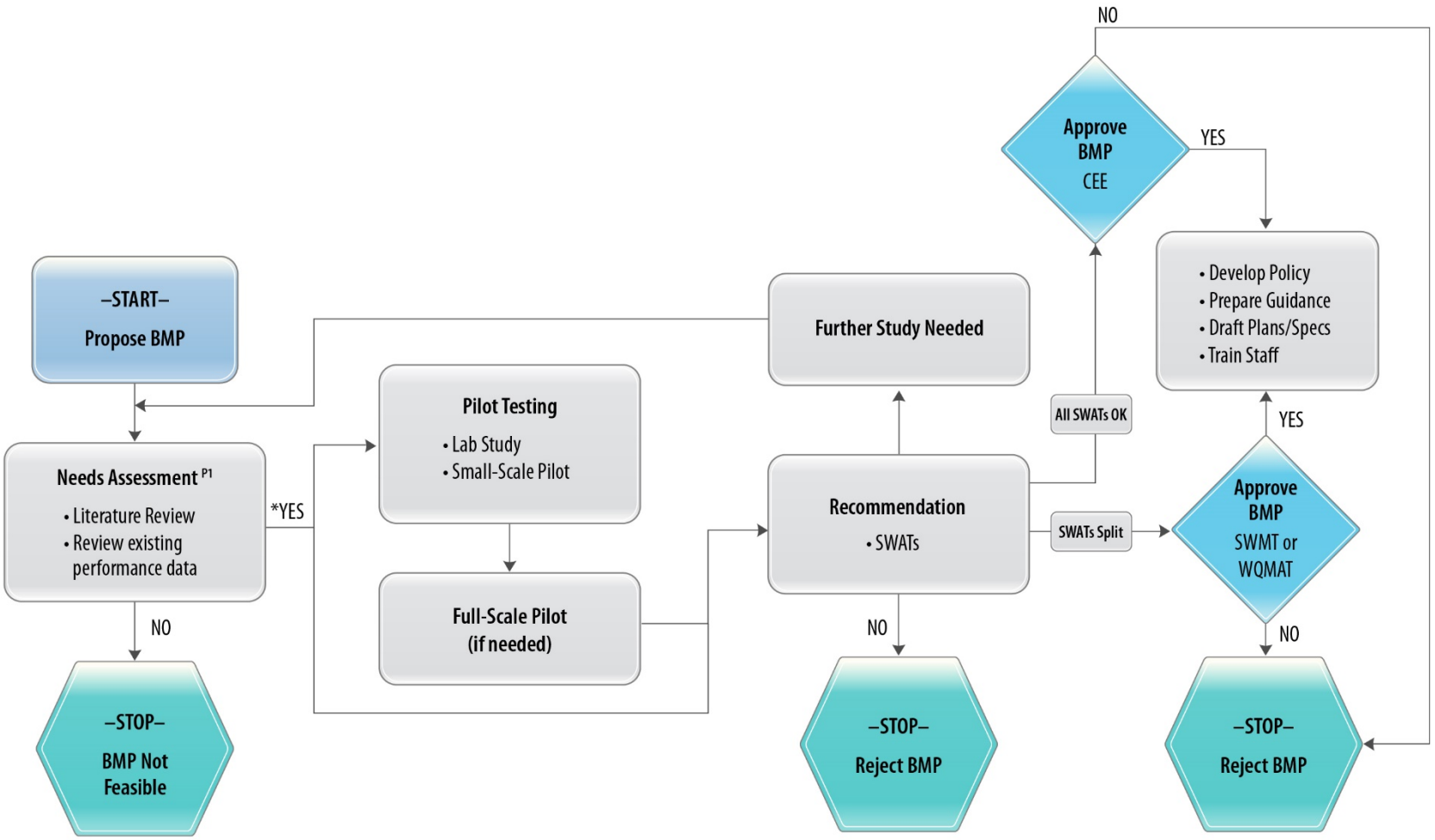

Figure 4-2. Treatment BMP Evaluation Process

* If literature review determines that adequate studies have been completed by others, proceed directly to "Recommendation"

4.2.1 Treatment BMP Evaluation Criteria

In general, Treatment BMPs are evaluated with respect to the following criteria:

a. Feasibility: right of way, design/siting, construction, safety, environmental compliance
b. Operations and maintenance
c. Treatment performance
d. Life-cycle costs

The level of detail for the evaluation process may differ significantly depending upon the complexity of the BMP. The evaluation criteria are explained below.

4.2.1.1 Feasibility

Feasibility evaluation is intended to determine if a potential Treatment BMP would function under conditions encountered at Department roadways and facilities and comply with drainage and safety requirements. Specific criteria are listed in detail below:

1. The BMP will function under one or more climatic, geological, and topographical conditions encountered at Department roadways and facilities. Except for initial installation and vegetation establishment periods, irrigation, or supplemental water should not be required.
2. The BMP will be able to be sited so it complies with the safety requirements of the Caltrans Highway Design Manual.
3. Products that require handling by Caltrans employees must comply with applicable health and safety regulations, and the Office of Health and Safety Services must approve their use.
4. The site, design, and operation of a BMP will not produce any adverse environmental impacts, and comply with applicable environmental regulations.

4.2.1.2 Operation and Maintenance

Treatment BMPs need to be designed and constructed so they can be effectively operated and maintained during its intended design life. Operation and Maintenance criteria are as follows:

1. The BMP will operate passively during storm events. No personnel are required to be on site prior to or during a storm event to initiate operation of the BMP or perform maintenance to keep the BMP operational.
2. Maintenance requirements for a BMP are well understood and defined with respect to scope and frequency. The goal for BMPs is to use field maintenance personnel to perform inspections and maintenance tasks using available equipment and resources where possible.
3. Maintenance personnel or Contractors must be able to perform operations and maintenance (O&M) inspections and tasks safely.
4. Long-term maintenance requirements and costs for the BMP are identified.
5. The Treatment BMP is designed and operated in a manner that does not create a public nuisance or health hazard. Specifically, it is a concern with regard to potential disease vectors, such as mosquitoes. Treatment BMP design and prescribed O&M are adequate

to ensure BMP operation and meet water quality goals, while at the same time reducing potential vector concerns to an acceptable level.

4.2.1.3 Treatment Performance

Treatment performance is evaluated for constituents identified as pollutants of concern when present at levels typical of Caltrans stormwater runoff. Appendix A of the Treatment Technology Report provides specific performance criteria that are used for BMP evaluation.

4.2.1.4 Life-Cycle Cost

For a new Treatment BMP to be added to the PPDG, pollution control benefits must have a reasonable relationship to the life-cycle costs to implement the BMP within Caltrans' transportation infrastructure. Estimated life-cycle costs are compared to the established life-cycle costs of other approved BMPs that target the same constituents in runoff.

4.3 Non-Treatment BMP Evaluation

New or modified Maintenance facility operations BMPs, Maintenance activity BMPs, Construction Site BMPs, and Design Pollution Prevention (DPP) BMPs will be assigned to the respective SWAT for review. Recommendation for adoption will be in consultation with HQ Stormwater Management Team prior to approval.

4.4 Evaluation of Proprietary BMPs

There are limitations on Caltrans use of proprietary products or materials. The FHWA has interpreted Title 23 Section of United States Code 112(a)[3] to require competition not only for the award of the contract, but to also require competition for the various materials and processes involved in the work.

The specification of a particular product may restrict competition as the pool of available products is reduced to the product selected. In some cases, however, the need for a particular product outweighs the need to procure products competitively. 23 CFR 635.411 provides the regulatory authority for FHWA's participation in the cost of a patented or proprietary product.

Caltrans has a process to evaluate proprietary treatment technologies. Information about Caltrans' process for evaluating new products is available on the Caltrans internet (http://www.dot.ca.gov/hq/esc/Translab/NewProducts/index.htm). Caltrans Stormwater Program evaluates the needs for proprietary treatment technologies that are submitted via the new products evaluation process and updates fact sheets in the *Treatment BMP Technology Report* (Caltrans, 2010). Fact sheets are updated on a yearly basis.

[3] "In all cases where the construction is to be performed by the State transportation department or under its supervision, a request for submission of bids shall be made by advertisement unless some other method is approved by the Secretary. The Secretary shall require such plans and specifications and such methods of bidding as shall be effective in securing competition."

There are viable non-proprietary alternatives in the approved list that have been tested and shown to be feasible for highway use. The need for compliance and competition under CFR 23 USC 112 (a) typically outweighs the use of proprietary devices.

4.5 Integration of BMPs into Caltrans Guidance and Policy

Headquarters Divisions integrate approved BMPs into Caltrans' activities by following a systematic process that includes:

1. Development of Standard Plans and Specifications for the inclusion of BMPs into projects so they can be appropriately designed, built, operated, and maintained;
2. Development of guidance containing specific procedures and details for Design, Construction, and Maintenance staff; and
3. Development and implementation of training.

See Sections 5, 6, 8, and 9 for descriptions of how the BMPs are implemented within design, construction, maintenance, right-of-way, and for third party activities.

4.5.1 Vector Control

For any BMP being considered for inclusion as an approved Caltrans BMPs, vector control concerns will be considered.

Caltrans and the California Department of Health Services (CADPH) have worked cooperatively to incorporate appropriate BMP criteria guidance in the Caltrans' processes. CADPH has determined through studies that the following criteria are protective of mosquito borne vectors if these criteria are met for BMPs with standing water:

- Throughout California, water may be retained in urban structural BMPs for up to 96 hours.
- In the Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada >5000 feet with similar alpine climates, water may be retained in structural BMPs as long as necessary between October 1 and April 15. (CADPH Memo, July 17, 2007)

Caltrans no longer approves BMP designs with over 96-hour retention of water unless vector proofing is incorporated into the design (for example, Delaware Media Filters). If BMPs fail during operation and retain water beyond the design criteria of 96 hours, they will be maintained/repaired to perform as designed. If a BMP is designed to retain water beyond 96 hours without vector proofing, it will be coordinated with the local vector control district and reported in Year 2, as required by the Caltrans NPDES Permit (see Section 15, Measurable Objectives).

4.5.2 Biodegradable Materials

When construction site erosion control BMPs are selected for incorporation into projects, Caltrans will use biodegradable materials where feasible.

See Section 5.3.1, Incorporation of Construction Site BMPs into Projects.

4.6 Treatment BMP Tracking, Operation and Maintenance

The Stormwater Portal and the Integrated Maintenance Management System (IMMS) will be used to track Treatment BMPs on a watershed basis. The following Treatment BMP information will be included in the Stormwater Portal:

- Name and location of BMP (including latitude, longitude, county, route and post mile);
- Watershed, RWCQB, and Caltrans District where located;
- Size and capacity;
- Treatment BMP type and description;
- Date the Treatment BMP was accepted by the Division of Maintenance.

The following information will be tracked in IMMS:

- Inspection dates, significant findings, and functioning status of the Treatment BMP; and
- Date corrective actions were taken to return the Treatment BMP to fully functional status as intended (as applicable).

IMMS data will be included in the Stormwater Portal annually.

Long-term operation and maintenance activities are conducted according to Caltrans maintenance guidance. Maintenance of Treatment BMPs will be scheduled and conducted during regular maintenance operations.

If monitoring studies or inspection records indicate that a Post-construction BMP is not effective, Caltrans will develop a strategy to improve the effectiveness or replace the BMP.

Caltrans will inspect stormwater Treatment BMPs as follows:

- All newly installed stormwater Treatment BMPs within 45 days of installation to ensure they have been constructed as designed;
- All installed stormwater Treatment BMPs once every year.

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5 Project Planning and Design

5.1 Overview

This section describes how Caltrans incorporates stormwater management measures into the project planning and design processes. In addition, this section describes the procedures and methodologies used in the selection of Design BMPs and Construction Site BMPs for incorporation into Caltrans projects.

This section describes:

- The overall project planning and design process;
- BMP identification and selection procedures; and
- Program level implementation criteria.

5.2 Project Planning and Design Process

5.2.1 Project Development Process

The project development process spans a period of time that begins with feasibility studies and ends with the completion of construction. The project development process is as follows:

5.2.1.1 Project Planning

PID – Project Initiation Document (PID) phase focuses on identifying and clarifying the specific transportation system problem, and developing project alternatives for a solution. Evaluation of potential stormwater issues (e.g., 303(d) listed water bodies, TMDLs, work within water bodies, etc.) and planning --for permanent BMPs (as needed) begin in the PID phase.

PA/ED – Project Approval/Environmental Document (PA/ED) phase, summarizes the studies of the scope, cost, and overall environmental impact of the alternatives, and refines the design concept and design scope of the project alternatives listed in the PID. The outcome of the PA/ED process is a preferred project alternative and includes recommended stormwater BMPs documented in the Stormwater Data Report for the PA/ED phase.

5.2.1.2 Project Design

PS&E – Plans, Specifications, and Estimates (PS&E) phase. It is during this phase that decisions regarding final BMP design are made and documented in the contract documents and the Stormwater Data Report for the PS&E phase.

5.2.1.3 Construction

Construction – During this phase, the contractor develops and implements a Water Pollution Control Program (WPCP) or Stormwater Pollution Prevention Plan (SWPPP) based on the project specifics and the contractor's methods for constructing the project. The WPCP/SWPPP will include appropriate Construction Site BMPs (see Section 5.3, Construction Site BMPs).

5.3 Construction Site BMPs

5.3.1 Incorporation of Construction Site BMPs into Projects

Caltrans directs the implementation of Construction Site BMPs on every project by including details and specifications into the project's contract documents. Construction Site BMPs are implemented in conformance with the project WPCP or SWPPP.

All erosion control products will utilize biodegradable, wildlife friendly materials wherever feasible. If non-biodegradable products are used for temporary site stabilization, they will be removed when they are no longer needed, but in all cases prior to Construction Contract Acceptance (completed construction activities). If during construction it is found that erosion control netting or products cause entrapment or harm to wildlife, they will be replaced with wildlife friendly products.

To prepare the project to address potential stormwater impacts during construction, the Project Engineer (PE) incorporates Construction Site BMPs into the project planning and design process by using the following:

1. At every phase in the planning and design process, the PE estimates costs for Construction Site BMPs based upon appropriate estimating methodologies.
2. The PE incorporates those Construction Site BMPs into the project plans and specifications that are essential to protect water quality. These Construction Site BMPs include but are not limited to such items as concrete washouts, silt fence, drainage inlet protection, or temporary fencing for the preservation of existing vegetation (see Appendix F, BMP Descriptions by Function). Construction Site BMPs are implemented in accordance with the Contractor's SWPPP or WPCP (see Section 6).
3. The PE determines the estimated quantities and costs for each BMP.
4. The PE calculates the expected stormwater run-on to the project site, and provides that information to the RE prior to construction so appropriate control measures can be implemented to convey concentrated flows around or through the site.
5. For projects covered by the CGP (Statewide or Lake Tahoe), the PE provides some of the project registration documents (PRDs) and sends them to the Construction Division for entering into SMARTS. The project Risk Level is calculated by the PE and confirmed by the Construction Division.

5.4 New Development and Redevelopment Requirements

BMPs are selected and designed to protect water quality to the MEP, minimize life-cycle maintenance costs and resources, provide adequate site access, and to maximize worker and public safety. Design Pollution Prevention, Treatment, and specific Construction Site BMPs are incorporated into the plans and specifications. Construction, operation, and maintenance costs are considered when selecting permanent Design BMPs so adequate cost is projected and enough funding is allocated. These elements are discussed in Sections 6 and 8 respectively.

Project-specific BMP selection is an iterative process that begins with initial project planning activities. As the project progresses into detailed design, the PE revisits the BMP selection

process. The BMP selection and project design proceed together with a detailed analysis of the highway and drainage facilities. New development and redevelopment projects that create any amount of disturbed soil area are required to include the appropriate Design Pollution Prevention BMPs.

New development and redevelopment projects that create 1 acre (highway facility) or 5,000 square feet (non-highway facility) or more of new impervious surface are required to incorporate post construction treatment controls. If a project has no discharge, post construction treatment is not required.

These requirements apply to Caltrans capital construction, non-programmed capital construction (see Section 9.2.1), and encroachment permit construction (See Section 9.2.2).

5.4.1 Principles for Project Design

Caltrans incorporates the following principles for all projects with DSA, as appropriate:

- Conserve Natural areas to the extent feasible, including existing trees, stream buffer areas, vegetation, and soils.
- Minimize the impervious footprint of the project.
- Minimize disturbances to natural drainages.
- Design pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
- Incorporate landscape and soil-based BMPs.
- Use climate appropriate landscaping, that minimizes irrigation and runoff, promotes surface infiltration and minimizes the use of pesticides and fertilizers.
- Design landscapes to comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance[4]. This includes any new (or rehabilitated) planting area provided with permanent irrigation (greater than 2,500 square feet) except for mitigation planting and erosion control projects with temporary irrigation systems.
- Where the California Department of Water Resources Model Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, Caltrans will comply with the local ordinance.

5.4.2 Incorporation of Design Pollution Prevention BMPs into Projects

The PE collaborates with other professionals involved on the project to select the appropriate Design Pollution Prevention (DPP) BMPs. Table 5-1 lists the DPP BMPs that have been approved by Caltrans for project-specific use statewide. These BMPs will be incorporated, as appropriate, into all projects that create a disturbed soil area. All DPP BMPs will be designed to follow the Professional Engineers Act for engineering work and the Landscape Architecture Practice Act for

[4] Any landscape design that consists of new or rehabilitated landscape irrigation within the project limits (greater than 2,500 square feet per AB 1881) will comply with the California Department of Water Resources Model Water Ordinance by estimating water needs by using the following guidance resources: WULCOLS III (Water Use Classifications of Landscape Species); MAWA (Maximum Allowable Water Allowance) and ETWU (Estimated Total Water Use)

landscape work. For summary descriptions of the approved Design Prevention BMPs, see Appendix F, BMP Descriptions by Function.

Table 5-1. Design Pollution Prevention BMPs

Consideration of Downstream Effects Related to Potentially Increased Flow
• Peak Flow Attenuation Devices
• Reduction of Paved Surface (i.e., increase pervious area)
• Soil Modification
• Energy Dissipation Devices
Preservation of Existing Vegetation
Concentrated Flow Conveyance Systems
• Ditches, Berms, Dikes and Swales
• Overside Drains, Downdrains, Paved Spillways
• Channel Linings
• Flared Culvert End Sections
• Outlet Protection/Velocity Dissipation Devices
Slope/Surface Protection Systems
• Vegetated Surfaces
• Benching/Terracing, Slope Rounding, Reduce Gradients
• Hard Surfaces

Design Pollution Prevention BMPs may also be used to satisfy post-construction treatment control requirements if they are sized to control the volume of runoff from the 85th percentile 24-hour storm event (or a portion of the volume) and may be used as a flow through treatment devices where appropriately sized for peak flows and velocities[5]. Highway drainage, flood analysis, and safety must be considered when design pollution prevention BMPs are used.

5.4.3 Incorporation of Treatment BMPs into Projects

During the project planning and design process, the PE collaborates with other professionals involved in the project to select and incorporate Treatment BMPs to protect water quality by reducing pollutants in the discharge to the MEP for all projects subject to the Caltrans NPDES Permit, and which meet the following criteria:

[5] The Lahontan RWQCB has included specific BMP sizing requirements in the NPDES permit, which shall be required in those areas.

Table 5-2. Threshold for Implementation of Treatment BMPs into Caltrans Projects[4]

Project Category	Threshold – Net Additional Impervious Area[3]
Non- Highway Facilities (Rest Areas and Vista Points, Park and Ride Lots, Maintenance and support facilities)	5,000 square feet
Highways[1, 2]	43,560 square feet (1 acre)

[1] Pedestrian/bike path projects do not require Treatment BMPs.
[2] Emergency projects are exempt from Treatment BMPs based on the immediate need to provide service and protection for the public.
[3] Routine maintenance activities are not required to incorporate Treatment BMPs. (see Section 5.4.3.5 below)
[4] Projects that do not discharge to a surface water body are not required to implement treatment.

The approved Treatment BMPs listed in Table 5-3 are considered fiscally reasonable and technically feasible when project site conditions support their use. Caltrans has tested and determined these BMPs to be constructible, maintainable, and effective at removing pollutants in the discharge to the MEP, provided the appropriate siting and design criteria are satisfied. Vector control design is included in accordance with California Department of Health Services and the Caltrans NPDES Permit's requirements and has been included in the Caltrans design guidance for each BMP type, as appropriate. All Treatment BMPs will be designed to follow the Professional Engineers Act for engineering work and the Landscape Architecture Practice Act for landscape work. For a description of the approved BMPs, see Appendix F (BMP Descriptions by Function).

Table 5-3. Approved Treatment BMPs[1]

Treatment BMP – Infiltrate (Caltrans LID/Soil Based BMPs)
Biofiltration: Strips/Swales
Infiltration Devices
Detention Devices (earthen)
Media filters earthen
Wet Basin
Treatment BMP – Capture and Treat
Multi-Chamber Treatment Trains
Media filters (vault type)
Dry Weather Flow Diversion
Detention Devices (lined)
Gross Solids Removal Devices
Traction Sand Traps

[1] BMP lists and categories are dynamic. New and modified BMPs will be identified in the Annual Report.

The Treatment BMPs listed in Table 5-3 will be implemented in a prioritized order subject to site constraints, and sized to accommodate the stormwater runoff volumes and rates specified in the Caltrans NPDES Permit. Treatment BMPs will be implemented with the following priority, subject to site-specific technical feasibility:

1. Infiltrate the design stormwater runoff volume
2. Infiltrate a portion of the stormwater runoff volume and treat the remaining with flow through devices.
3. Capture and treat the stormwater runoff.

The requirement of "Infiltrate, harvest and reuse, and evapotranspire the stormwater runoff" will be accomplished through the implementation of applicable LID/Soil Based BMPs.

Special consideration is required in areas subject to a TMDL (see Appendix D). As such, the prioritized selection criteria listed above may not apply for the following:

- Caltrans projects subject to TMDL requirements
- Caltrans stand-alone projects to construct Treatment BMPs to meet region specific pollution control requirements (see Section 13).

BMPs will be sized to treat the volume from the 85th percentile 24-hour storm event (design event). In the event the entire runoff volume from the water quality design event cannot be retained on site, the excess volume may be treated by Low Impact Development (LID) based flow through treatment devices[6]. Otherwise, the excess volume will be treated using conventional volume based or flow based treatment devices.

Project Engineers should implement approved Treatment BMPs; however, if project conditions prohibit the use of approved BMPs, then District staff may propose incorporating a non-approved BMP as a pilot project (see Section 4.2).

Caltrans non-highway facility improvement projects will vary in size and function, so modified or non-approved BMPs may be appropriate on a case-by-case basis to meet the post construction treatment requirements. Until additional approved Treatment BMPs are developed that are appropriate for non-highways facilities, project engineers should first consider using the approved BMPs or variations of those BMPs to meet potentially reduced size contributing drainage areas. After these have been considered, the project engineer can propose non-approved BMPs, as a pilot project, using the process described in Section 4.

5.4.3.1 ---Sizing Treatment BMPs

The volume of water required to be treated by the Caltrans NPDES Permit is referred to as the Water Quality Volume (WQV) and is defined as the 85th percentile 24-hour storm event[7]. This depth is multiplied by the redevelopment impervious area to calculate the WQV.

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[6] The Lahontan RWQCB has included specific BMP sizing requirements in the NPDES permit, which shall be required in those areas.

[7] The Lahontan RWQCB has included specific BMP sizing requirements in the NPDES permit, which shall be required in those areas.

For locations where the entire water quality volume cannot be infiltrated, this "excess volume" should be treated by LID based flow-through treatment devices. Where LID based flow-through treatment is not feasible, other volume and flow based BMPs will be considered.

To appropriately size the flow through device after the initial WQV is infiltrated, Caltrans will develop a flow based design criteria, to treat the excess volume. Caltrans, the SWRCB, and the nine RWQCBs worked cooperatively to establish rainfall intensities to be used to compute Water Quality Flow (WQFs). The agreed upon rainfall intensities for each region are provided in Table 5-4 and will be used to design the flow-based BMPs that are designated to treat the WQF.

Table 5-4. Rainfall Intensities used for BMP Design using WQF

Region	Counties/Area	Intensity
Region 1 (North Coast)	Siskiyou and Modoc	0.22 in/hr
Region 1	Trinity, Mendocino, Glenn and Lake	0.27 in/hr
Region 1	Del Norte, Humboldt, Marin and Sonoma	0.36 in/hr
Region 2 (San Francisco)	Entire Region	0.20 in/hr
Region 3 (Central Coast)	Santa Cruz, San Mateo	0.22 in/hr
Region 3	Santa Clara	0.20 in/hr
Region 3	San Benito, Monterey and San Luis Obispo	0.18 in/hr
Region 3	Santa Barbara County and Ventura	0.26 in/hr
Region 4 (Los Angeles)	Entire region	0.20 in/hr
Region 5 (Central Valley)	Lassen and Modoc	0.16 in/hr
Region 5	North of Sacramento and Amador (inclusive); All Areas Below 1,000 feet elevation	0.16 in/hr
Region 5	South of Sacramento and Amador; Below 2,000 feet elevation	0.16 in/hr
Region 5	West side of the Coast Ranges	0.16 in/hr
Region 5	North Sierra Nevadas; 1,000 ft – 4,000 feet elevation	0.20 in/hr
Region 5	South Sierra Nevadas; 2,000 ft – 4,000 feet elevation	0.20 in/hr
Region 5	Sierra Nevadas; All Areas above 4,000 feet elevation	0.24 in/hr
Region 6 (Lahontan)	Inyo and south; Pervious surface areas within the Mammoth Creek watershed	0.16 in/hr
Region 6	Truckee River, East and West Forks Carson River, Mammoth Creek, and Lake Tahoe (Location Specific)	See SWMP Section 13.4
Region 6	All other areas	0.20 in/hr
Region 7 (Colorado River)	Entire region	0.16 in/hr
Region 8 (Santa Ana River)	Entire region	0.20 in/hr
Region 9 (San Diego)	Entire region	0.20 in/hr

5.4.3.2 Waiver

Projects that have been determined to have a minimal effect on water quality by the RWQCB Executive Officer may have the treatment requirements waived. Caltrans will submit a technical

report to the RWQCB explaining why the project has minimal effect on water quality and request the consideration of the waiver by the appropriate Executive Officer.

5.4.3.3 Scope of Design Criteria Applicability for Redevelopment Projects

Table 5-5 describes the assessment of sizing criteria for treatment requirements of redevelopment projects that have an approved Project Initiation Document dated on or after July 1, 2013:

Table 5-5. Impervious Area Threshold and Post Construction Treatment Requirements

Project Type (Threshold)	Redevelopment Scope of Design Criteria Applicability	Minimum Post Construction Treatment Requirements
Highway Facilities (1 acre or more of redevelopment) **&** **Non-Highway Facilities** (5,000 SF or more of redevelopment)	**Increase in impervious area** (new impervious area) **≤ 50 %** of Total Post-Project impervious area within project limits	***Hydraulically Separable Flows*** Treat only the new impervious area
		Hydraulically Inseparable Flows Treat the redeveloped area and as much of the hydraulically inseparable flow as feasible. [1] OR Identify treatment opportunities equivalent to the untreated portion of the redeveloped area at an Alternative Compliance Site.
	Increase in impervious area (new impervious area) **> 50 %** of Total Post-Project impervious area within project limits	Treat the entire impervious area within the project limits, OR Identify treatment opportunities equivalent to the untreated portion of the entire impervious area at an Alternative Compliance Site.

[1] Any treatment above and beyond the redeveloped area of the hydraulically inseparable flow within the project area or right-of-way can be applied towards either Alternative Compliance treatment credit for another project or TMDL Compliance Unit (CU) credit, where applicable. The SWRCB Executive Director or his designee may approve, on a case-by-case basis, Alternative Compliance treatment credit or TMDL CU credit for post-construction treatment provided within the project limit for runoff originating from areas outside the project limit or right-of-way.

New Impervious Area equals the total post-project impervious area within the project limits minus the pre-project impervious area.
Alternative Compliance Site is a BMP location outside the project limits.
Redeveloped Area is the new impervious area plus, where applicable, existing impervious area where impervious materials were removed and the underlying soil or previous subgrade were exposed.
Hydraulically Inseparable Flows will be addressed by treating as much of the impervious drainage area contributing stormwater runoff to the BMP as feasible.

5.4.3.4 Bypass or Diversion around Treatment BMPs

If it is not possible to hydraulically separate the redeveloped area flows from the existing impervious area, then the treatment system will be designed to treat as much of the hydraulically inseparable flow as feasible, and will bypass or divert any excess around the treatment device. The bypass or diversion of flows is generally accomplished with flow splitters and overflow weirs or risers for the end of pipe treatment devices.

It is not typically feasible to separate flows in "LID type flow through devices," as it would conflict with the general design principles of these types of BMPs. Bio-filtration strips and swales are designed to infiltrate the WQV and/or treat the WQF, and should also be designed to carry larger flood flows without causing erosion.

5.4.3.5 Alternative Compliance

If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department will prepare a proposal for alternative compliance for approval by the Regional Water Board Executive Officer or his designee until a statewide process is approved by the Executive Director of the State Water Board. The proposal will include documentation supporting the determination of infeasibility. Alternative compliance may be achieved outside Project Limits within the Department's ROW, including within another Department project. Alternative compliance to be achieved outside Project Limits will include provisions for the long-term maintenance of such treatment facilities.

Regional Water Board will have 45 calendar days to deny the alternative compliance proposal upon submission of the proposal with complete justification of infeasibility. No timely response from Regional Water Board will be deemed acceptance of the proposed alternative compliance project.

5.4.3.6 Routine Maintenance

As defined by U.S. EPA and the Caltrans NPDES Permit, routine maintenance are those activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Caltrans NPDES Permit further defines routine maintenance as the replacement of the structural section, but not when the activity exposes the underlying soil or pervious subgrade.

As defined in the Caltrans Highway Design Manual (HDM) and Project Development Procedures Manual (PDPM), the road surface and base are not part of the subgrade (see Figure 5-1). As such, those portions of a redevelopment project that remove the road surface and base down to the pervious subgrade and/or underlying soil would not be considered routine maintenance. Furthermore, the area of the road surface being removed down to the pervious subgrade would be included when evaluating for post construction Treatment BMP requirements.

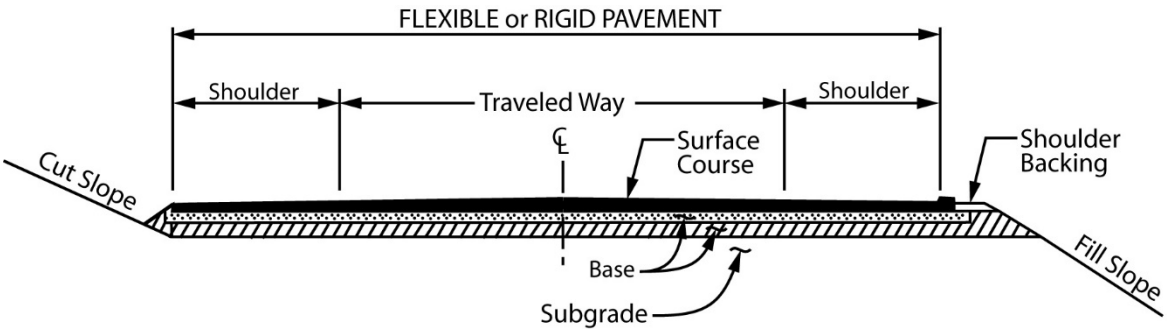

Figure 5-1. Basic Roadway Pavement Layers

Projects such as cold planing, overlays, slab replacements, and other routine maintenance activities do not require Treatment BMPs. Additionally, overlay projects that only require the placement of a thin layer of material on top of the existing shoulder backing would be considered routine maintenance and not subject to treatment requirements, nor should it be considered disturbed soil area. However, if the shoulder backing material is removed down to the erodible soil during the replacement, then this area would be considered to be disturbed soil area.

5.5 Hydromodification Requirements

Caltrans will ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Refer to Table 5-6 for hydromodification criteria and requirements. Caltrans will use the 13 step risk-based approach contained in the Federal Highway Publication “Assessing Stream Channel Stability at Bridges in Physiographic Regions (FHWA, 2006)” to assess lateral and vertical stability.

Caltrans will also analyze the stability of highway structures at stream crossings because failures can occur due to natural and anthropogenic causes. While these causes may or may not have a correlation with the proposed Caltrans activity, a failure could result in a release of sediment and create other water quality impacts. Caltrans will use a risk-based approach based on the fact that Caltrans facilities (roadways) cross almost every stream in California, but comprise a very small percentage of the drainage area. With limited resources or control of upstream activities, the Department will focus on stabilizing its crossing as the most effective means in addressing changes in stream flows. Additionally, Caltrans will address its own discharges through the incorporation of design pollution prevention and Treatment BMPs that are required as part of the post construction treatment requirements of the Caltrans NPDES Permit (see Section 5.4.3).

Table 5-6. Hydromodification Criteria for Design

Net new Impervious area	Hydromodification Criteria for Design	Requirements
0-5,000 square feet	None	
5,000 square feet < 1 acre	Design Pollution Prevention BMPs as appropriate	Incorporate as appropriate
1 acre or greater and outside Threshold drainage area	Design Pollution Prevention BMPs and Treatment BMPs as appropriate	Infiltration or treatment of 85th percentile 24-hour storm event.
1 acre or greater net new impervious surface and is within a threshold drainage area	Design Pollution Prevention BMPs, Treatment BMPs, and "rapid assessment of all stream crossings"	If rapid assessment determines good or excellent, then hydromodification analysis of stream complete. (Note that highway structures should be checked.)
1 acre or greater net new impervious surface and is within a threshold drainage area	Design Pollution Prevention BMPs, Treatment BMPs, and "rapid assessment of all stream crossings"	If rapid assessment determines fair or poor rapid assessment analysis, then an appropriate Level 2 analysis will be conducted.
1 acre or greater net new impervious surface and is within a threshold drainage area	Design Pollution Prevention BMPs, Treatment BMPs, and "rapid assessment of all stream crossings"	If the appropriate Level 2 analysis indicates that there is highway structural stability issues at the stream crossing, then an appropriate Level 3 analysis should be conducted to protect the structure and bed and bank erosion.

After completion of the 13 step rapid assessment, Caltrans will consider the following:

For projects that determine a stream crossing is poor or fair; appropriate Level 2 analysis (HEC 20 (FHWA 2012) or suitable equivalent)) will be completed. Appropriate Level 2 also may also include portions of a Level 1 analysis because the required rapid assessment is quasi Level 1 assessment and may need more data inputs depending on the site. Additionally there may be instances where a stable stream may have an unstable structure that needs repair to protect water quality. For these cases, the methodologies in the HDM for drainage design will be followed.

If the results of the appropriate Level 2 and Level 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options may be implemented. These include but not limited to in-stream and floodplain enhancement/restoration, fish barrier removal as identified in the report required under Article 3.5 of the Streets and Highways Code, regional flow control, off-site BMPs, and, if necessary,

project re-design. It should be recognized that in-stream projects require extensive permitting by other agencies and property not controlled by Caltrans and these additional requirements may make the overall project infeasible due to additional costs for design and construction from the added requirements and conditions.

5.5.1 Appropriate Level 2 Analysis Scenarios

5.5.1.1 Stable Stream and Failing Structure

Stream crossing through a small culvert that has a corroded invert. The stream is considered stable, but the failing structure requires repair to prevent the erosion of fill and sediment discharge. In this case, the appropriate Level 2 analysis will be to design a repair to the culvert using the HDM criteria. A full HEC 20 Level 2 analysis is not required in this case.

5.5.1.2 Stable Structure Unstable Stream

Stream crossing though a robust bridge on a braided desert stream with flashy behavior. The stream is naturally unstable using the rapid assessment method, but the new bridge structure is designed to withstand the migration of the stream. The appropriate Level 2 analysis for this scenario would be to describe how the existing bridge has been designed to withstand the lateral and/or vertical movement of the unstable stream.

5.5.2 Appropriate Level of Analysis

The appropriate level of analysis and methodology should be determined by a licensed engineer with experience with highway structures, hydraulics methodology (HEC 20 (FHWA 2012) or suitable equivalent), and hydrology. The analysis for a small culvert replacement will be much less than for the replacement of a bridge on an unstable stream that threatens the structure. The rapid assessment (FHWA 2006) does not have to be completed by an engineer, but it must be conducted under the responsible charge of a licensed engineer.

5.5.3 When to Conduct a Rapid Assessment

Caltrans will conduct rapid assessment only when there is a highway crossing over a water of the U.S. within the project limits and the project has over one acre of net new impervious surface. The Caltrans NPDES Permit mentions other appropriate inspections programs, such as the federally mandated bridge inspection program that may be referenced to document the stability of a stream crossing. Caltrans also has a statewide culvert inspection program that look at culverts conditions and the condition of inlets and outlets.

5.5.3.1 Bridges

The federal highways bridge inspection program includes determination of scour at bridges and the stability of the structure; these may be equivalent inspections of the bridge crossing to determine if hydromodification is an issue with the stability of the structure.

5.5.3.2 Culverts

The Caltrans culvert inspection program may be an appropriate evaluation to determine the stability of a crossing structure (pipes & culverts) and any deficiencies need repair.

5.5.3.3 Threshold Drainage Area

Highway or non-highway projects that add one acre or more of new impervious surface with any impervious portion of the project located within a threshold drainage area must conduct a rapid assessment of stream stability at each stream crossing. If the stream crossing is a bridge, a follow up rapid assessment of stream stability can be coordinated with the federally mandated bridge inspection process, if the inspection is available.

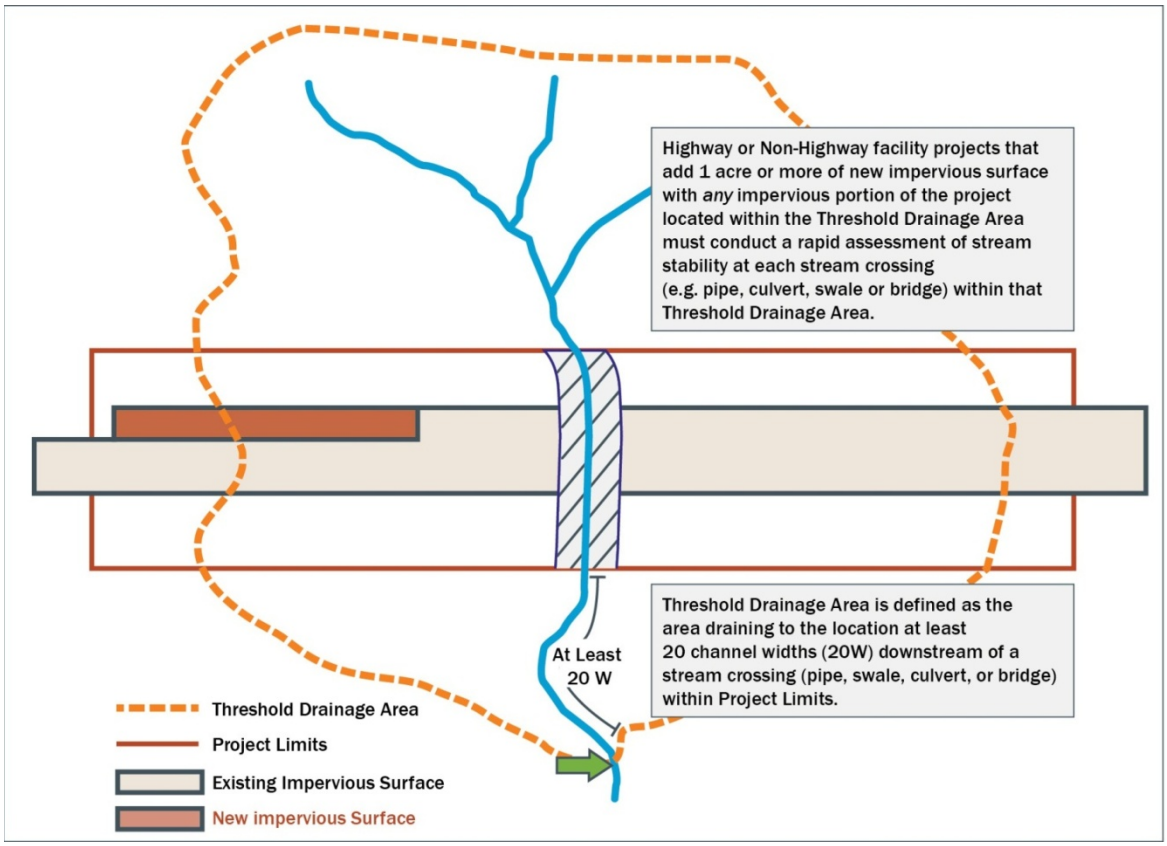

Figure 5-2. Threshold Drainage Area

The net new impervious is cumulative for areas within a project, within the same watershed. For example, if there is a project parallel to a Water of the U.S. and numerous small stream crossings, each small stream crossing should be analyzed with the rapid assessment if the total net new impervious area is more than 1 acre, as well as the design pollution prevention and Treatment BMP requirements. This would apply for a safety curve correction project in the same watershed. However, for projects that are scattered throughout a district in multiple watersheds with each

location less than an acre, then the hydromodification requirements may not be appropriate. An example is a maintenance pullout project located in multiple counties, but combined in one set of plans for contract administration purposes.

If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of excellent or good), Caltrans must determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. Caltrans should follow the Level 2 and 3 analysis guidelines contained in HEC-20 (FHWA, 2001) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary, Level 3) analyses indicate that there is no risk to existing or proposed highway structures, the Project Engineer will document the findings.

5.6 Other Considerations

5.6.1 Coordination and Communication with Other Agencies

The project development process includes coordination and communication with affected MS4 permittee(s), local agencies, and regulatory agencies (i.e., RWQCB) as appropriate. These entities have an opportunity to review and comment on project specific related stormwater issues during the environmental review and permitting process, during public hearings, and via special interest regulatory boards or commissions. In addition to project specific coordination, the Districts also discuss stormwater related issues on a broader level by participating in watershed groups, municipal water quality teams, and through the completion of public education activities.

Caltrans is not required to follow local MS4 permit requirements as part of post construction requirements, but is required to follow the legal requirements regarding discharges from its own facilities to MS4 systems, such as violating water quality standards (per Caltrans NPDES Permit Section E.2.b).

5.6.2 Encroachment Permit Projects Treatment Requirements

Projects within the Caltrans right-of-way that are proposed by other agencies should follow the same requirements as Caltrans (see Section 9).

5.6.3 Stream Crossing Design Guidelines to Maintain Natural Stream Processes and Fish Passage

Caltrans maintains the “Fish Passage Design for Road Crossings” (Caltrans, 2009) guidance document to be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Salmonid Stream Habitat Restoration Manual (California Department of Fish and Game, 2010) and National Marine Fisheries Service guidance (NMFS, 2001). The document was reviewed for consistency in 2013. In the Year 2 Annual Report, Caltrans will submit a report detailing the review of the guidance and the status of implementation of the road crossing guidelines.

For applicable projects, if it is infeasible to meet any of the guidelines specified in the "Fish Passage Design for Road Crossings," Caltrans will prepare written documentation justifying the determination of infeasibility, and provide it to the RWQCB for approval.

Per Article 3.5 of the Streets and Highways Code, Caltrans is required to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage to the State Legislature by October 31 of each year. Caltrans will submit a copy of this report to the SWRCB.

Fish passage projects are based on drainage design (hydraulics and hydrology) and will only be designed by a licensed engineer in responsible charge and in accordance with the design guidelines listed above.

5.6.4 Legal Requirements outside the Caltrans NPDES Permit

Caltrans' SWMP addresses stormwater discharges from its highways, properties, activities, and facilities throughout the State, as required by the Caltrans NPDES Permit. However, RWQCBs or other agencies may require separate permits or may have additional region-specific requirements. Caltrans will obtain any consultation, permit, license, or certification as required by federal and state laws and regulations for its projects. The following is a list of permits that may include additional requirements.

1. Army Corps of Engineers (ACOE) 404: The ACOEs issues permits for work with wetlands and waters of the U.S. There are prescriptive BMPs used to comply with the permits to protect waters of the U.S. and wetlands.
2. RWQCB 401 certification: Under Section 401 of the CWA, an applicant for an ACOE section 404 permit must also obtain a certification from the RWQCBs that the discharge will comply with the state's water quality standards. In general, it is expected that the certification conditions would not be duplicative of requirements covered in CWA Section 402 included in the Caltrans NPDES Permit and this SWMP, but will instead add any necessary requirements where special project and site conditions require unique BMP applications to protect water quality as determined in the environmental document, or where exempted or conditionally exempted non-storm water discharges may violate water quality standards.
3. California Department of Fish and Wildlife Section 1602 Stream Alteration Agreement: These agreements are required for any work within a water of the U.S. or state surface waters. Maintenance activities would have to follow any MOU Caltrans has with California Fish and Wildlife.

Biological opinions are required from NOAA fisheries and/or Department of Fish and Wildlife Service for work impacting federally listed species.

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6 Construction

6.1 Overview

This section describes how Caltrans addresses its construction activities to reduce the discharge of pollutants from construction sites administered by Caltrans. The goal of Caltrans is to protect water quality at all times during the construction process. This section describes plans for meeting the requirements of the Statewide Construction General Permit, the Lake Tahoe Construction General Permit (Lake Tahoe CGP), U.S. EPAs Construction General Permit, and the Caltrans NPDES Permit. These procedures and directions ensure pollutant discharges from construction sites administered by Caltrans are:

- Reduced, prevented, or eliminated by either BCT or BAT when covered by the Statewide CGP, Lake Tahoe CGP, or U.S. EPA's CGP; or
- Reduced to the MEP when covered by the Caltrans NPDES Permit (Provision E.2.f.2).

This section is organized to:

- Describe NPDES permit coverage requirements for construction activities administered by Caltrans
- Generally describe the relevant positions and responsibilities for managing construction activities relating to stormwater and contractor obligations for complying with stormwater requirements
- Describe the common administrative activities relevant to stormwater during project construction
- Broadly describe the inspection protocols used by Caltrans to ensure that BMPs are properly implemented and maintained
- Identify the Construction Site BMPs used by Caltrans
- Describe how Caltrans manages construction projects involving lead-contaminated soils
- Describe how Caltrans complies with Regional Water Quality Control Board requirements for managing pavement grindings
- Describe non-compliance reporting requirements

6.2 Permit Coverage for Construction Projects

All Caltrans-administered construction projects are covered by one or more of the four NPDES permits described below.

1. The Statewide CGP (General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Permit Order 2009-0009-DWQ, as amended by Order 2010-0014-DWQ, which was amended by Order 2012-0006-DWQ) generally applies to projects that disturb one or more acres of soil or projects that disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

2. General Waste Discharge Requirements and NPDES Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer (Order No. R6T-2011-0019)(Lake Tahoe CGP):
    a. Construction sites that disturb one or more acres of land surface or that are part of a common plan of development or sale that disturbs more than one acre of land surface.
    b. Construction activity includes demolition that disturbs the land, clearing, grading, excavation, and other land disturbance activities.
    c. Compliance with numeric effluent limitations is required for various constituents including pH and turbidity and soil disturbance is prohibited between October 15 and May 1 of the following year.
3. The U.S. EPA CGP is applicable when construction projects cross into federal or Tribal land under the following conditions:
    a. Construction project will disturb one or more acres of land, or will disturb less than one acre of land but is part of a common plan of development or sale that will ultimately disturb one or more acres of land.
    b. Includes requirements for BMP installation and maintenance, natural buffers to streams, discharge controls, restrictions on chemical treatment, and water quality requirements.
4. Construction projects that are not subject to the Statewide CGP, the Lake Tahoe CGP, or the U.S. EPA CGP are covered under the Caltrans NPDES Permit requirements to implement Construction Site BMPs to reduce the discharge of pollutants to the MEP.

6.3 Stormwater Management

Each District has a Construction Division that administers construction projects. In addition, as shown in Table 9-1, the division provides oversight of certain construction operations conducted by third parties under an encroachment permit (see Section 9) or cooperative agreements (typically with local transportation authorities). Section 2 describes the Stormwater Management key Construction position roles and responsibilities.

As required by the State's Public Contract Code, Caltrans hires contractors to perform highway construction work. Caltrans contract Standard Specifications require the Contractor to manage its work activities in a way that reduces the discharge of pollutants to surface waters, groundwater, and municipal separate storm sewer systems. Additionally, the contract Standard Specifications for water pollution control requires the Contractor to monitor and inspect water pollution control practices at the job site.

6.4 Administration Activities

Administrative activities related to stormwater management address both technical issues and specific Caltrans NPDES Permit and CGP (Statewide and Lake Tahoe) requirements. These administrative activities are described below.

6.4.1 Pre-Construction Activities

Activities prior to groundbreaking on construction projects may include:

- Ensuring that proper notifications and PRDs have been filed with the SWRCB (in SMARTS) and RWQCB;
- Meeting with the appropriate environmental and stormwater personnel;
- Reviewing the contract requirements for water pollution control; and
- Conducting a pre-construction meeting with the Contractor to discuss required stormwater measures and requirements. Depending on the project's size and complexity, an additional pre-construction conference may be conducted exclusively for discussing stormwater control issues.

6.4.2 Submittal, Review and Authorization of SWPPPs or WPCPs

A SWPPP or WPCP is an implementation plan for addressing temporary impacts of construction activities upon stormwater run-off. The SWPPP or WPCP contains project specific information related to the construction; the basic content of the SWPPP or WPCP is the description of the Construction Site BMPs to be deployed at the project site.

SWPPPs prepared under the Statewide CGP and Lake Tahoe CGP and authorized by the Resident Engineers must be submitted through SMARTS as part of the required PRDs. SWPPPs prepared for the U.S. EPA CGP do not have to be submitted with the NOI nor through SMARTS, but must be prepared in advance of submitting the NOI.

The Contractor submits a SWPPP or WPCP completed in accordance with the contract specifications to the RE for review and authorization. If revisions are required, the Contractor submits a revised SWPPP or WPCP. The time frames for SWPPP or WPCP submittal, review, and re-submittal are specified in the contract documents.

6.4.3 SWPPP Amendments or WPCP Amendments during Construction

During construction, changes in conditions of the site may occur that affect the ability of the Contractor to implement the SWPPP or WPCP as initially authorized or the ability of the previously authorized SWPPP or WPCP to meet the objectives for water pollution control. The Contractor submits an amendment to the SWPPP or WPCP to the RE for review and authorization. The RE will review the Contractor's proposed SWPPP or WPCP amendment for completeness and conformance with the revised conditions and give written authorization to the Contractor if the amendment is acceptable.

6.4.4 Construction Project Annual Report

The Contractor prepares a construction project Annual Report each year. The Resident Engineer ensures that the Annual Report is electronically submitted by September 1 of each year to the SWRCB for all projects enrolled in SMARTS for more than one continuous three-month period[8]. The construction project Annual Report serves to annually certify project compliance. Management of documentation and thorough record keeping are required to ensure compliance with reporting requirements. The construction project Annual Report must include documentation to support that the monitoring objectives and qualified training have been met.

[8] Lake Tahoe CGP requires reporting by November 30 of each year.

An electronic or paper copy of each construction project Annual Report will be kept by Caltrans for a period of three years after project completion.

6.4.5 Project Completion

Before accepting the contract (i.e., releasing the Contractor of any further obligations), the RE must do the following:

- Determine that all unpaved or non-structural surfaces (i.e., open soils) are stabilized in conformance with the contract and meets the CGP (Statewide and Lake Tahoe) final stabilization requirements;
- Require the contractor to remove Construction Site BMPs that are not a part of permanent BMPs; and
- Conduct a final walk-through with the appropriate Division of Maintenance personnel per the process described in the Construction Manual.

When projects with a SWPPP have been determined to be complete, the RE or authorized designee will submit a Notice of Termination (NOT) through SMARTS. If the project has been active for more than one continuous three-month period, the SWRCB requires submission of a construction project Annual Report with the NOT through SMARTS[9].

6.5 Inspection

Caltrans' staff and the Contractor's staff perform stormwater inspections on construction sites. These inspections are crucial for ensuring the Construction Site BMPs are properly maintained and functional. The inspections may reveal that additional BMPs are needed or that existing BMPs can be removed; however, site integrity for stormwater pollution prevention must be maintained. In addition, inspections can help in the planning of BMPs for activities not yet implemented, and can help in the formulation of amendments to the SWPPP or WPCP. To ensure installation and construction in accordance with approved plans, all newly installed stormwater Treatment BMPs will be inspected within 45 days or before contract acceptance.

6.5.1 Contractor Inspections

Caltrans requires its Contractors to be responsible for inspecting the site. To ensure the proper implementation and functioning of Construction Site BMPs, the Contractor is to regularly inspect and maintain them[10]. Visual monitoring/ inspection will occur as follows:

- Prior to a forecasted storm event;
- At least once each 24-hour intervals during any extended storm events;
- After each qualifying rain event;
- Routine weekly site inspection for Construction Site BMP maintenance;
- Daily visual inspections; and
- Quarterly non-stormwater inspections.

[9] Lake Tahoe CGP defines the reporting period as October 16 of the previous year through October 15 of the current year.

[10] Lake Tahoe CGP Section IX.D specifies inspection and BMP maintenance requirements for construction projects.

6.5.2 Caltrans Reviews

Caltrans performs quality assurance reviews for construction activities related to stormwater pollution prevention. Section 2.8 describes Caltrans Stormwater Quality Assurance Program.

6.6 Construction Site BMPs

The strategy for implementing Construction Site BMPs at a construction site must consider drainage flow paths, climate, soil conditions, and the type of construction activity to be performed. A construction SWPPP or WPCP is a comprehensive plan that meets the following objectives:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity, are controlled;
- Where not otherwise required to be under a RWQCB permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the BAT/BCT standard (SWPPP projects) or MEP (WPCP projects);
- Calculations and design details as well as BMP controls for site run-on are complete and correct;
- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed; and
- Handling run-on by complete diversion around the construction site, or directing the run-on through the project in a manner that does not add pollutants resulting from contact with the project.
- Successful implementation of Construction Site BMPs for erosion and sediment control, non-stormwater discharges, and waste management is dependent upon the inspection, monitoring, and maintenance practices of the BMPs to ensure functionality and longevity. When defining a strategy to implement temporary erosion and sediment control at a construction site, the strategy must consider drainage flow paths (conveyances and topography), climate, soil conditions, and the type of construction activities anticipated. The Statewide CGP specifies minimum Construction Site BMPs based on the Risk Level of the project. The Construction Site BMPs in Appendix F (BMP Descriptions by Function) are consistent with the minimum BMP requirements in the Statewide CGP. Projects subject to the Lake Tahoe CGP or U.S. EPA CGP must additionally verify that the minimum BMP requirements of those permits are satisfied.

6.6.1 Specific Commitments

Appendix F (BMP Descriptions by Function) describes Construction Site BMPs that Caltrans will implement, as appropriate, on construction sites. The selected Construction Site BMPs are chosen to reduce or eliminate pollutants in stormwater discharges.

The individual BMPs designated in Appendix F as being applicable to a typical construction activity may not necessarily be appropriate for all projects involving the noted activity. There are instances where project and site conditions require deviation from the noted BMPs described in

Appendix F. However, the BMPs shown in Appendix F are typical of those implemented on a project-specific basis.

Project and site conditions may allow implementation of other innovative approaches to construction pollution management in addition to those set forth in Appendix F. Caltrans will continue to encourage experimentation and innovation on deploying such measures to minimize pollution; however, the innovative measure must be used in specific applications. Information gathered from the use of innovative measures is analyzed and reported in the Annual Report. Through feedback stemming from these efforts, Caltrans expects that the Construction Site BMPs identified herein will continue to evolve and improve in its effectiveness in managing the quality of stormwater discharges.

6.7 Use of Lead-Contaminated Soils

For construction projects where Caltrans has received a Department of Toxic Substances Control (DTSC) variance for the reuse of "lead-contaminated soils," Caltrans will notify the RWQCB in writing at least 30 days prior to contract advertisement to allow the RWQCB to determine if there is a need for the development of a Waste Discharge Requirement. "Lead contaminated soil(s)" are defined in the variance received from DTSC.

6.8 Pavement Grindings

Caltrans will comply with the requirements of the Regional Water Boards and the Department of Fish and Wildlife, as well as with all state and local regulations, including Titles 22 and 27 of the California Code of Regulations, for the management of pavement grindings generated by Caltrans activities or for Caltrans projects.

Unless superseded by a RWQCB requirement, Caltrans has a Memorandum of Understanding (MOU) with the Department of Fish and Wildlife on the use of asphalt pavement grindings. Section 110.11, Conservation of Materials and Energy, of the Highway Design Manual lists the elements of the MOU.

Per Section 5650 of the State's Fish and Wildlife Code, it is unlawful to deposit pavement grinding into the Waters of the State[11].

6.8.1 Region-specific Requirements for Pavement Grindings

The North Coast RWQCB established their expectation and requirements for the reuse of asphalt concrete (AC) and Portland Cement Concrete (PCC) pavement grindings in a memorandum to the Caltrans Districts 1, 2, and 4 Directors dated January 5, 2010. Per this memorandum, the North Coast RWQCB will require characterization of the grindings on a case-by-case basis and only permit reuse if the characterization study indicates that the material

[11] Unless expressly authorized pursuant to, and in compliance with, the terms and conditions of a waste discharge requirement pursuant to Section 13263 of the Water Code, or a waiver issued pursuant to subdivision (a) of Section 13269 of the Water Code issued by the SWRCB or a RWQCB after a public hearing, or that is expressly authorized pursuant to, and in compliance with, the terms and conditions of a federal permit for which the SWRCB or a RWQCB has, after a public hearing, issued a water quality certification pursuant to Section 13160 of the Water Code.

does not have the potential to degrade water quality. Upon determination that the material does not have the potential to degrade water quality, Caltrans must submit an Engineers Report/Plan for On-site Reuse to the North Coast RWQCB. Caltrans staff must allow at least 60 days' lead-time for adequate review and processing by the North Coast RWQCB. Caltrans staff is to refer to the memorandum from the North Coast RWQCB for specific details regarding their requirements.

The San Francisco Bay RWQCB established their expectation and requirements for the reuse of asphalt concrete and PCC pavement grindings in a memorandum to the Caltrans District 4 Construction Stormwater Coordinator dated February 8, 2007. Per the San Francisco Bay RWQCB, the reuse of AC and PCC as road base is acceptable without characterization as long as the material is encapsulated under an AC/PCC roadway, which is relatively impervious to infiltration. Additionally, the material must be placed at least five feet above the seasonal high water ground elevation. Reuse of AC or PCC grindings as yard cover at the surface of contractor work yards or in embankments where the material is exposed at the surface must be reviewed on a case-by-case basis. Additionally, the San Francisco Bay RWQCB may require proof that the placement of AC or PCC grindings will not result in the degradation of water quality (both beneficial uses and numerical limits).

6.9 Non-Compliance Reporting

Section 16 describes non-compliance reporting requirements.

6.10 Project Completion

On the day that project work is completed in accordance with all the requirements of the Standard Specifications, special provisions, plans, and approved contract change orders, a notification is sent to the District construction office recommending acceptance of the contract. The Deputy District Director of Construction or authorized designee issues the "Contract Acceptance" form to the contractor. The same procedure is followed for the acceptance of emergency contracts.

When projects with a SWPPP are complete and meet the final stabilization requirements of the Statewide CGP or Lake Tahoe CGP, the RE or authorized designee will submit a Notice of Termination (NOT) through SMARTS.

Projects with a WPCP are complete when the project is stabilized to the MEP and the "Contract Acceptance" is issued by the Deputy District Director of Construction or authorized designee.

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7 Compliance with the Industrial General Permit

7.1 Overview

The General Permit for Storm Water Discharges Associated with Industrial Activities (Order 2014-0057-DWQ), otherwise known as the Industrial General Permit (IGP) is an NPDES permit that regulates discharges associated with 9 broad categories of industrial activities as provided in Attachment A to the Order. The IGP requires the implementation of management measures that will achieve the performance standard of BAT and BCT. The IGP also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce, prevent, or eliminate stormwater pollution are described below.

This section is organized to:

- Describe IGP coverage requirements for construction activities administered by Caltrans under the Caltrans NPDES Permit,
- Describe Caltrans procedures for IGP compliance for its activities subject to the IGP, and
- Describe Caltrans requirements for lessees of Caltrans property that conduct activities that are subject to the IGP.

7.2 IGP Compliance for Caltrans Construction Projects

The Caltrans NPDES Permit does not cover industrial activities at facilities subject to coverage under the IGP. However, for projects not requiring coverage under the CGP or Lake Tahoe CGP and in certain construction-related situations, coverage under the IGP will be necessary. For these situations, Caltrans contracts include language requiring the Contractor operating the facility to apply for and operate under the IGP. The contract language also requires the Contractor to implement BMPs as required under the IGP. Caltrans verifies that proper coverage has been obtained prior to issuing a Notice to Proceed to the contractor. These situations include industrial operations (e.g., batch plants[12]) located within project limits regardless of whether the facility is within or outside of Caltrans' right-of-way and outside Caltrans' right-of-way but within project limits. Compliance with the specifics of the IGP is the responsibility of the Contractor.

7.3 IGP Compliance for Caltrans Activities

In general, Caltrans' stormwater discharges are regulated by the Caltrans NPDES Permit and it is not necessary to apply for coverage under the IGP. When Caltrans reviews its FPPPs or when new facilities are constructed, an evaluation will be performed to determine if any industrial

[12] A batch plant is typically a mixing plant for concrete or asphalt established by contractors to facilitate the construction of a project.

activities are conducted that are subject to the IGP. If it is determined that industrial activities covered by the IGP are conducted, Caltrans will file for coverage under the IGP for that facility.

7.4 IGP Compliance for Non-Departmental Activities

Some non-departmental activities performed on Caltrans property may be subject to the IGP. Third parties operating under an encroachment permit are required to be in full compliance with the Caltrans NPDES Permit. The Caltrans NPDES Permit states that industrial activities are not covered under it and must be covered under the IGP (Caltrans NPDES Permit Provision E.2.g).

It is the Permittee's responsibility to determine if its activities require coverage under the IGP.

The Division of Right of Way will evaluate the determination made by the permittee if its activities require IGP coverage. Lessees whose activities are subject to coverage under the IGP are required to register in SMARTS and provide the WDID number to the Department. It is the permittee's responsibility to meet all applicable requirements of the IGP.

Notice of Non-Applicability (NONA): Facilities otherwise subject to the IGP but for which a valid NONA has been certified and submitted via SMARTS by the permittee are not covered under the IGP. Permittees who are claiming "No Discharge" through the NONA will meet all the eligibility requirements of the IGP.

8 Maintenance Program Activities and Facilities Operations

8.1 Overview

Activities related to ongoing maintenance and repair of the State's transportation system, including the maintenance of existing Treatment BMPs and activities conducted at maintenance and highway facilities, (e.g., maintenance stations, rest areas, warehouses, etc.) that have the potential to discharge pollutants in stormwater runoff are addressed through the application of BMPs. Furthermore, regular inspections of maintenance and highway facilities are performed to ensure that proper measures are implemented. Any Caltrans District or division that performs maintenance-related activities or functions will follow the BMPs as described within this section.

This section describes:

- An overview of the Maintenance and Operations Stormwater Management Program, which is the mechanism for incorporating maintenance BMPs ensuring that they are implemented;
- Inspections of maintenance operations to ensure Maintenance BMPs are properly implemented to reduce the potential for stormwater pollution;
- BMPs required as part of the ongoing repair and maintenance activities for existing transportation facilities within state highway right-of-way;
- Vegetation Management;
- Slope Stabilization;
- Landslide Management Activities;
- Storm Drainage Systems Maintenance;
- Waste Management;
- Maintenance of Treatment BMPs;
- Management of Division of Maintenance facilities that may impact stormwater quality. Management of all other facilities is described in Section 8.3;
- BMPs that are part of the ongoing effort to reduce discharges of pollutants contained in stormwater to the extent feasible, and to prevent pollutants from being present in authorized non-stormwater discharges; and
- The inspection program used to ensure that maintenance BMPs are implemented and maintained.

8.2 Stormwater Management – Highways

The Headquarters Division of Maintenance and District Maintenance Programs are responsible for maintaining Caltrans' highways and appurtenances, including appropriate maintenance and Treatment BMPs to protect water quality.

Caltrans inventories the following information to assist with the planning of maintenance activities related to water quality:

- Slopes Prone to Erosion Inventory
- Storm drain systems
- Treatment BMPs
- IC/ID
- Maintenance facility and activity inspections
- Facilities Pollution Prevention Plans (FPPPs)
- Training

8.2.1 Inspection and Surveillance of Highways

During the course of their roadside activities, Maintenance Supervisors and staff continuously make observations of the highway right-of way to identify potential stormwater concerns, such as roadway flooding, damage to slopes, and damaged BMPs. When conditions warrant implementation or repair of BMPs, the Maintenance Supervisor undertakes actions in accordance with the requirements identified in Section 8.2.3 In addition, Maintenance Supervisors continuously make observations regarding the specific Maintenance BMPs implemented by staff for the type of activity being performed. If appropriate, additional BMPs are implemented to enhance water quality protection.

Accidental Spills, IC/IDs, and Illegal Dumping are discussed in Section 10 of this SWMP.

8.2.2 Trash and Litter Removal

Caltrans will report on trash and litter removal activities. Activities include, but are not limited to, storm drain maintenance, road sweeping, public education, and the Adopt-A-Highway program. Caltrans will report and assess current and future activities and will include estimated annual volumes of trash and litter removed. Estimates will be submitted as part of the Annual Report in a summary format by District. Prior years' data will be included to facilitate an analysis of trends.

8.2.3 Maintenance BMP Requirements

Maintenance performs activities that could adversely impact stormwater and receiving water quality if not performed with the appropriate maintenance BMPs. Maintenance BMPs are implemented in a manner to reduce or eliminate the potential for pollutants to be discharged to the MEP. Potential pollutants from Caltrans' maintenance activities include petroleum products, sediment, trash and debris, metals, caustic and acidic substances, nutrients, solvents, paint, herbicides, and other materials. Many of these potential pollutants can be prevented from being discharged via stormwater drainage systems by selecting and implementing BMPs appropriate for the activity and task being conducted.

Maintenance activities are grouped into "families" based on crew assignment (e.g., asphalt paving is in the 'A' Family; Flexible Pavement). These families and associated activities are summarized in Table 8-1. Maintenance activities are scheduled to minimize impacts to water

quality. However, conditions do exist that require some activities to be conducted during wet weather such as emergency slide repair or spill cleanup.

The stormwater maintenance guidance provides detailed descriptions of maintenance BMPs and addresses implementation of BMPs during maintenance activities. The maintenance guidance provides a systematic process for selecting appropriate BMPs at the start of a new activity within another family or within the same family. Maintenance BMPs are listed in Table 8-2 and summary descriptions of all BMPs are found in Appendix F. BMP Descriptions by Function. The maintenance guidance provides general and specific BMP options for each specific activity listed in the Maintenance Family. The Headquarters Division of Maintenance and District Maintenance Programs (referred to herein as Maintenance) are responsible for the care and upkeep of state highways.

Table 8-1. Maintenance Families and Related Activities[1]

Family		Related Activities
A	Flexible Pavement	Maintenance and repair of surface, base, and paved shoulders on all highways with Asphaltic Concrete surfacing.
B	Rigid Pavement	Maintenance and repair of surface, base, and paved shoulders on all highways with Portland Cement Concrete surfacing.
C	Slopes/Drains/Vegetation	Unsurfaced area grading, lateral support repair, replacement, and cleaning of ditches, and culverts. Also included are fence repairs, non-landscaped vegetation management, and repairs and replacement of retaining walls, dikes, and curbs, sidewalks, cattle guards, and other structures.
D	Litter/Debris/Graffiti	All work concerning roadbed and roadside cleanup operations to maintain highway safety and aesthetics.
E	Landscaping	Maintenance and replacement of all vegetative material planted within the highway right-of-way, including watering, fertilizing, plant replacement, weed control, and miscellaneous work.
F	Stormwater	Maintenance stormwater work, including training, meetings, drains and drainage, roadside stabilization, erosion control, stockpile management, BMP implementation, illicit discharges, maintenance of Treatment BMPs, and contractor management.
G	Service Facilities	Maintenance of service facilities, which includes safety roadside rest areas, vista points, park-and-ride lots, and weigh stations.
H	Bridges	All work performed on structures that provide for passage of highway traffic over, through, or under obstacles and that are assigned bridge numbers by the Office of Structures Maintenance. Work under this family consists of bridge repair, maintenance, painting, and cleaning, including electro-mechanical equipment. Any work covered by an approved Bridge Report.
J	Other Structures	Maintenance, repair, and cleaning of pumping plants, tunnels, tubes, ferries, and docks or slips.

Family		Related Activities
K	Electrical	All maintenance performed on highway electrical facilities used for control of traffic signal systems, highway, sign lighting systems, and all other related electrical systems.
M	Traffic Guidance	All work necessary to replace and maintain roadway markings on the traveled way. Maintenance and replacement of signs placed on state highways for warning, regulating, and guiding traffic. This family also includes the repair, replacement, and cleaning of guideposts or markers, guardrail and median barriers, and energy dissipaters.
R	Snow/Ice Control	All work in connection with snow removal, drift prevention, and maintenance of snow fences, snow poles, and skid chain fabrication and repair. Maintenance and control of chain control locations and appurtenant signs and gates. Truck haul of snow, opening drains covered by snow and ice, and spring opening of roads closed for the winter. Mechanical and hand sanding and the use of deicing agents are also included.
S	Storm/Major Damage	Patrol activities, as well as repair of both minor and major damage caused by storms or other extraordinary events, such as earthquakes, slides, fires, tidal waves, etc.
T	Support	Repairs, building and ground maintenance, electrical and janitorial activities at District and regional offices. Receiving and issuing of materials and hazardous waste storage, tracking and disposal.

[1] BMP lists and categories are dynamic. New and modified BMPs will be identified in the Annual Report.

Table 8-2. Maintenance BMPs[1]

BMPs		BMPs
Scheduling and Planning		Material Delivery and Storage
Sediment Control - Silt Fence - Sandbag or Gravel Bag Barrier - Straw Bale Barrier - Fiber Rolls - Check Dam - Sediment Trap		Material Use
		Vehicle and Equipment Operations - Vehicle and Equipment Cleaning - Vehicle and Equipment Fueling - Vehicle and Equipment Maintenance
		Paving Operations Procedures
Storm Drain Inlet Protection		Stockpile Management
Concentrated Flow Conveyance BMPs - Overside/Slope Drains - Ditches, Berms, Dikes, and Swales - Temporary Diversion Ditches		Water Conservation Practices
		Potable Water/Irrigation
		Storm Drain Stenciling
		Safer Alternative Products
Soil Stabilization - Compaction		Drainage Facilities - Baseline Stormwater Drainage Facilities Inspection and Cleaning - Enhanced Storm Drain Inlet Inspection and

BMPs		BMPs
- Wood Mulch - Hydraulic Mulch - Hydroseeding/Handseeding - Soil Binders - Straw Mulch - Geotextiles - Riprap		Cleaning Program - Illicit Discharge Detection, Reporting, and Removal - Illegal Spill Discharge Control
Preservation of Existing Vegetation		Treatment System Maintenance - Vegetated Treatment Systems (Biofiltration Swales and Strips) - Infiltration Basins - Detention Devices/Traction Sand Trap Devices - Multi-Chambered Treatment Trains - Wet Basins - Media Filters
Clear-water Diversions		
Work in a Water Body		
Wind Erosion Control		
Sediment Tracking Control - Stabilized Activity Entrance/Exit - Tire Inspection and Sediment Removal		Litter and Debris Removal - Litter and Debris - Anti-Litter Signs
		Chemical Vegetation Control
Waste Management - Spill Prevention and Control - Solid Waste Management - Hazardous Waste Management - Contaminated Soil Management - Sanitary/Septic Waste Management - Liquid Waste Management - Concrete Waste Management		Vegetated Slope Inspection
		Snow Removal and De-Icing Agents
		Stormwater Dewatering Operations (Temporary Pumping Operations)
		Sweeping and Vacuuming
		Maintenance Facility Housekeeping Practices

[1] BMP lists and categories are dynamic. New and modified BMPs will be identified in the Annual Report.

A Maintenance Supervisor is required to conduct regular BMP tailgate meetings a minimum of every ten working days or prior to each new work activity assignment (i.e., switch between family activities as shown in Table 8.1). The Maintenance Supervisors review with staff the applicable BMPs for the work assignment.

The Division of Maintenance supports innovation in the use of BMPs to minimize the discharge of pollutants. Feedback from the implementation of innovative measures is elevated for consideration of these BMPs into Caltrans' PPDG. The BMP development process is described in Section 4.

8.2.4 Vegetation Management BMP Requirements

Caltrans maintains vegetation on roadsides in a manner compatible with the surrounding environment, safe highway use, and aesthetics. The vegetation must be controlled to reduce the risk of roadside fires, maintain sight distance, provide safety, and discourage and/or eliminate noxious and invasive weeds. Activities conducted under the Vegetation Control Program include chemical weed control, mechanical weed control, manual weed control, controlled fires (thermal), mulching (cultural), structural treatments, biological control, and tree and shrub

pruning and removal. Removal of vegetation is generally restricted to a narrow band adjacent to shoulder edges, which is necessary to provide sight distance, protect highway appurtenances such as guardrails and signs, and reduce the threat of fires from disabled vehicles (undercarriage contact) and discarded cigars and cigarettes. Vegetation management practices are designed to provide a safe roadway free from obstructions for the travelling public and keep clear views of safety devices along the roadside.

Caltrans uses integrated vegetation management principles, including manual, mechanical, chemical, cultural, structural, thermal, and biological to

- Enhance the establishment of appropriate native and adapted vegetation;
- Maximize vegetative cover where feasible and appropriate;
- Apply vegetation control products in a manner to reduce or eliminate pollutant runoff;
- Minimize nutrient runoff by applying nutrients according to established application guidelines;
- Maintain the proper functioning of vegetative Treatment BMPs;
- Conserve or recycle water for irrigation;
- Minimize or eliminate potential erosion and/or sediment loading;
- Minimize the application of chemicals by reducing the need for application of fertilizers and herbicides by using native species and using integrated vegetation management methods for controlling of exotic species; and
- Apply pesticides in accordance with federal/state regulations and product label directions.

Prior to any chemical applications, site-specific conditions are assessed to prevent discharges to the MS4. These include precipitation potential, proximity to water bodies, mobility of the chemical, application methods, fate, and transport, and the effects of using combinations of chemicals. Caltrans implements the following BMPs prior to and during any pesticides applications:

1. Adherence to the Caltrans Maintenance Manual Chapter C2 Vegetation Control, requirements from the Department of Pesticide Regulation, and information in the pesticide manufacturer's label.
2. Application of pesticides to hard surfaces such as roadways or sidewalks is avoided whenever possible. Where pesticides must be applied to hard surfaces, care and the appropriate application technology is used to help restrict pesticide application to the target area.
3. Pesticides are not applied directly to the storm drain system.

As required by California Code of Regulations (Title 3. Food and Agriculture), the Districts submit monthly pesticide use reports to the Department of Pesticide Regulations (DPR). DPR and County Agricultural Commissioners have agreed to accept the updated monthly pesticide use reports provided to DPR in lieu of the Caltrans NPDES Permit's requirements; however, if County Agricultural Commissioners request reporting of violations within 10 business days, Caltrans will comply with their request.

The data includes information about the quantity of pesticides used for vegetation management during the reporting period by District, type of pesticides, month of application, and violations of pesticide applications. These reports are compiled by the DPR and are available online through the California Pesticide Information Portal (CalPIP) at http://calpip.cdpr.ca.gov. County Agricultural Commissioners as well as the public can access these reports and see violations of pesticide application. In addition, the following information will be included in the Annual Report as per Caltrans NPDES Permit requirements:

- A summary of Caltrans' chemical use including the quantity of chemicals used during the reporting period by name, type, District, and by month.
- An assessment of long-term trends in pesticide usage including a table presenting yearly District pesticides totals by chemical type.
- A comparison of statewide pesticide use with Caltrans' active ingredient reduction goals.
- An analysis of the effectiveness of implementation of vegetation control BMPs. The analysis will include discussion of improvements to BMP implementation being used or proposed. If no improvements are proposed, an explanation will be included.
- Justification for any increases in the usage of pesticides, and fertilizers.
- A report on the number and percentage of employees who apply pesticides, who have been trained in the Caltrans Annual Pesticide Worker Safety Training, and certified as a pesticide applicator.
- Training materials, if requested by the SWRCB.
- All employees and contractors responsible for pesticide application take part in a comprehensive training program to ensure a proper understanding of integrated management principles, including proper application of chemicals. The training program for Caltrans staff is described in Section 11 of this SWMP.

8.2.5 Slopes Prone to Erosion and Sediment Discharge

Caltrans has established a program to periodically inspect roadside slopes. Road segments identified as prone to erosion and sediment discharge are prioritized for stabilization. Inspections may be performed by maintenance managers, superintendents, supervisors, landscape specialists, maintenance stormwater coordinators, lead workers, and other maintenance personnel. These inspections are conducted along roadsides once during an established 5-year schedule. Roadsides found to be of significant concern are inspected on a more frequent basis depending on site conditions. In addition, all newly completed slopes resulting from construction projects are inspected on a more frequent basis up to one year after project completion.

Caltrans records inspection findings and identifies recommended repairs. Slides and slip-outs encountered during routine surveillance and inspections are evaluated for repair. Recommendations are developed for site-specific remedial measures to maintain slope and soil stability. Remedial measures can range from minor grading or seeding to installation of major slope stabilization systems. A summary of the inspections conducted by each District is submitted with the Annual Report.

The Districts will prioritize stabilization efforts for those slopes most prone to erosion. Prioritization of stabilization efforts is not intended to supersede efforts required for ensuring safety or the preservation of the State's transportation system.

The Division of Maintenance, in collaboration with Division of Environmental Analysis, will maintain a database that will contain an inventory of geo-referenced data identifying road segments that are prone to erosion and sediment discharge to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments will be maintained in the District Work Plans. Stabilization activities will be reported in the Annual Report (see Section 16.3). The database will also contain information regarding slope stabilization inspection and repair activities of these slopes prone to sediment discharge. District staff will review the database on an annual basis to ascertain the total number of road segments receiving slope stabilization in a District.

Based upon review of the slopes by District staff, remedial measures are developed. Solutions range from minor grading or seeding to installation of major slope stabilization systems. Minor slope failures (those within the Division of Maintenance budget and operational capability) are incorporated into the District Maintenance schedule for repairs. Contracted services are utilized for major slope stabilization projects.

8.2.6 Landslide Management Activities

The Landslide Management Plan (approved August 26, 2014) includes BMPs applicable to construction and maintenance work associated with landslide related activities including burn sites. The Plan addresses all forms of mass wasting such as slumps, mudflows, and rock falls. This Plan was submitted in October 2013 with the Annual Report.

8.2.7 Storm Drainage System Maintenance

Potential trash and debris pollutant loadings are eliminated and/or reduced through storm drain inlet cleaning activities. Caltrans is continuing to conduct further research to assess the stormwater quality benefits of drain inlet cleaning.

8.2.8 Baseline Stormwater Drainage Facilities Inspection and Cleaning Program

District personnel inspect stormwater drainage systems and assess the need for cleaning or clearing. Caltrans inspects all urban[13] drainage inlets and catch basins a minimum of once per year and remove all waste and debris when it has accumulated to a depth of 50 percent of the inlet or catch basin capacity. This does not preclude a supervisor's judgment to clean with less accumulated material present for highway safety and preservation.

Waste and debris, including sweeper and vacuum truck waste, will be managed and reported (Maintenance reports on number of instances not on cubic feet of material removed for drain

[13] The term "urban" shall mean located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area).

cleaning) in accordance with all applicable laws and regulations, including California Code Regulations Title 27, Division 2, Subdivision 1.

The Division of Environmental Analysis, in collaboration with other Divisions that use and contribute supplemental data, will develop and maintain a Storm Drain System Inventory. This database will contain geo-referenced data that identifies the location of all storm drain inlets, outfalls, and tributary areas to inlets within urban areas and the following additional areas:

- Critical drainage inlets (as identified by the SWRCB and Caltrans) that discharge directly to an Area of Special Biological Significance (ASBS).
- Critical drainage inlets adjacent to an ASBS (as identified by the SWRCB and Caltrans) that discharge to Waters of the State or Waters of the United States.
- Drainage inlets within areas prone to erosion that are within 200 feet of a sediment-impaired 303(d) water body.

Caltrans will prioritize the cleaning of storm drains based on the following criteria:

- Priority 1: Drainage inlets on highway segments in areas prone to erosion that are within sediment impaired watersheds or ASBS;
- Priority 2: Drainage inlets on highway segments in sediment impaired watersheds or ASBS;
- Priority 3: Drainage inlets on highway segments in areas prone to erosion

District maps and databases have been developed identifying areas prone to erosion and Environmentally Sensitive Areas.

Drainage inlets that do not meet one or more of the above criteria will be assigned lower priorities for cleaning than those drain inlets that do meet one or more of the above criteria. Type of drainage facility (e.g., self-cleaning drop inlets, catch basins, trash screen, etc.) will also be considered when prioritizing a drain for cleaning. These criteria are not intended to supersede efforts required for ensuring safety or the preservation of the State's transportation system.

8.2.9 Storm Drain System Maintenance Waste Management

Generated wastes from storm drainage system maintenance are disposed of in accordance with applicable federal and state waste management and disposal regulations. Details of Caltrans' waste handling procedures for storm drainage system maintenance will be documented in Caltrans' Waste Management Plan. This Plan was submitted to the SWRCB within one year of the effective date of the Caltrans NPDES Permit. The Plan includes:

- An inventory of waste storage, transfer, and disposal sites;
- Estimated annual volumes of material; (Maintenance reports on number of instances not on cubic feet of material removed for drain cleaning)
- The source of waste and the physical/chemical characterization of the waste; and
- Existing or planned waste management practices for each waste and facility type.

Waste characterization is not required on a site-by-site basis, but may be evaluated programmatically based on the highway environment, land uses, climate, and eco-region.

Waste and debris, including sweeper and vacuum truck waste, will be managed and reported in accordance with all applicable laws and regulations, including California Code of Regulations Title 27, Division 2, Subdivision 1.

8.2.10 Maintenance of Treatment BMPs

The Construction Stormwater Program will coordinate with the Maintenance and Operations Stormwater Management Program to facilitate transfer of Treatment BMPs to the Division of Maintenance.

Long-term operation and maintenance activities are maintained according to Caltrans maintenance guidance. Maintenance records for Treatment BMPs will be tracked by the Division of Maintenance. Currently, Caltrans does not install proprietary devices as Treatment BMPs. If Caltrans does install a proprietary device as a Treatment BMP, the manufacturer's recommendation for maintenance will be followed. Caltrans will inspect, monitor, and track Treatment BMPs. See Section 4.6 for additional information regarding BMP Tracking requirements including tracking of maintenance records.

8.2.11 Pavement Grindings

Caltrans will comply with the requirements of the RWQCBs, the Department of Fish and Wildlife, and all state and local regulations, including Titles 22 and 27 of the California Code of Regulations, for the management of pavement grindings generated by Caltrans activities or for Caltrans projects. See Section 6.8 for details.

8.3 Stormwater Management – Facilities Operations

Most facilities are managed by the Headquarters Division of Maintenance and District Maintenance Programs. Such facilities include, but are not limited to, maintenance stations/yards, equipment storage areas, and storage facilities. In addition, other Department Divisions may operate fixed facilities addressed in this section. For example, the Equipment Division maintains Caltrans fleet vehicles and the Procurement Division operates warehouses that may include totally enclosed material storage areas. Types and definitions of Caltrans facilities are provided in the glossary.

For facilities under the Maintenance Division, the positions listed in Section 2.2.5 are responsible for implementing the Stormwater Management Program within the Districts. For facilities managed by other Divisions (e.g., the Division of Administration), the Building Manager is typically responsible for stormwater compliance at the facility.

8.3.1 Facility Pollution Prevention Plans (FPPP)

The Facility Pollution Prevention Plan describes the activities conducted at a facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in stormwater runoff from the facility. A copy of the Caltrans NPDES Permit is to be included with each FPPP.

Caltrans will develop an inventory of all of its maintenance facilities. Caltrans will describe the activities at each facility along with the BMPs to be implemented. For maintenance facilities, the inventory will include the following information:

- Description of the maintenance facility (including types of BMPs implemented).
- Geo-referenced location of the maintenance facility.
- Pollutants associated with the activities carried out at the facility.
- The date the maintenance facility's FPPP was certified and signed.

Additionally, non-maintenance facilities are evaluated to determine which require site specific FPPPs. Caltrans has established a two-pronged effort to address its facilities. First, there are specific facilities that warrant special attention due to their activities and potential to discharge pollutants to the stormwater drainage system or directly to surface water and include all maintenance facilities. For these facilities, Caltrans has prepared Facility Pollution Prevention Plans (FPPPs) that will be updated due to any of the following reasons:

- There is a change in design, construction, operation, or site features that may affect the discharge of pollutants to surface water, groundwater, or a MS4;
- If found in violation of any condition of the Permit, or;
- As required by the SWRCB, RWQCB or EPA.

Caltrans has developed FPPP templates that address the following:

- Facility Information
- Facility Activities
- Pollutant Source Identification
- Control Measures
- Inspection
- Non-Compliance Reporting

The second effort is for facilities not required to develop FPPPs. These facilities are required to control discharge of pollutants through implementation of appropriate source BMPs, but documented inspections and monitoring are not required. However, if Caltrans or a RWQCB determines that a non-maintenance facility may discharge pollutants to the stormwater drainage system or directly to surface waters, Caltrans will prepare an FPPP for that facility.

8.3.2 Facilities Subject to FPPPs

Facility Pollution Prevention Plans (FPPPs) are developed for the following facility types owned or operated by Caltrans or located within the Caltrans right-of-way:

- maintenance yards/stations;
- material storage facilities/permanent stockpile locations;
- equipment storage facilities;
- equipment repair and assembly facilities;
- safety roadside rest areas;
- border protection stations (agricultural inspections stations);
- commercial vehicle enforcement facilities (weigh stations);

- decant storage or disposal locations; and
- permanent solid and liquid waste management sites.

This includes all maintenance facilities. Material storage sites, waste management and disposal sites, and equipment storage sites associated with construction projects do not require FPPPs but are subject to the requirements of the construction contract and the Construction General Permit as applicable.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations will implement the applicable best management practices determined by the Maintenance and Operations Stormwater Program. Any stockpile location in continuous use for more than one year is deemed permanent and a Facility Pollution Prevention Plan is required.

The supervisor responsible for compliance with an FPPP, along with the name of MS4(s) and/or water body(s) receiving stormwater discharge from each permanent facility, are documented in the individual FPPPs. Each FPPP describes the activities conducted at the facility, the BMPs to be implemented to reduce the discharge of pollutants in stormwater runoff from the facility, and the facility inspection requirements. Inspection requirements ensure that BMPs are implemented and maintained as required. Generic FPPP elements can be used for activities that are performed at more than one facility; however, each facility must be evaluated separately and provided with appropriate site-specific BMPs. Each FPPP is to include the following:

- all potential pollutants at a given facility;
- specific BMP(s) selected to control each pollutant source;
- a facility site map showing selected BMPs for implementation;
- name of the water body (including distance to the water body) or MS4 receiving stormwater discharges from the facility, person responsible for preparation of the FPPP
- person responsible for implementing the FPPP; and
- date the FPPP was last revised and certified.

Caltrans will perform periodic evaluations of all non-maintenance facilities, excluding leased properties, for discharge of pollutants. Regional Water Boards have the authority to require the submittal of an FPPP and to require changes in the implementation of the provisions of an FPPP. Where discharge of pollutants is identified by Caltrans or a Regional Water Board, a site specific FPPP will be prepared if required.

8.3.3 Facility Inspections

The purpose of the inspection program is to

- identify areas that contribute to, or have potential to contribute pollutants to a discharge of stormwater or authorized non-stormwater associated with the facility activities; and
- determine whether control practices identified in the FPPPs to reduce or eliminate pollutant loadings are adequate, properly implemented, and properly maintained, or whether additional control practices are needed.

The criteria used to evaluate the BMPs during an inspection are defined in the latest Maintenance and Operations Stormwater Program guidance and described in the FPPP implemented for the facility.

Facility managers or supervisor-level employees, will inspect maintenance facilities used by Caltrans staff in the performance of their activities monthly to monitor the implementation and adequacy of site BMPs as specified in the site's FPPP. A report that includes the date of the inspection, the name of the inspector, observations, and recommended corrective actions will be prepared by the facility manager. The District Maintenance Stormwater Coordinator will be notified through a forwarded copy of the inspection report if deficiencies related to compliance with the location's FPPP or potential Caltrans NPDES Permit violations are found. The District Maintenance Stormwater Coordinator will schedule a follow-up inspection with the facility manager to ensure any necessary corrective actions have been completed and/or to determine if additional resources are needed to complete corrective actions. All follow-up inspections and corrective actions taken will be documented by the facility manager and included as part of the initial inspection report.

Commercial Vehicle Enforcement Facilities (CVEFs) and Border Protection Stations (BPSs) are operated within the Caltrans right-of-way by other State departments[14]. CVEFs and BPSs will be inspected by District Maintenance Stormwater Coordinators twice annually for BMP implementation and NPDES compliance. The District Maintenance Stormwater Coordinator will prepare the inspection report including the date of the inspection, the name of the inspector, observations, recommended corrective actions, follow-up inspections, and corrective actions implemented. All follow-up inspections and corrective actions taken will be documented by the District Maintenance Stormwater Coordinator and included as part of the initial inspection report. A copy of the report will be kept on-site as an attachment to the FPPP.

Any illicit discharge inspection and cleanup will follow procedures specified in Section 10.

Observed instances of non-compliance will be reported in accordance with the procedures provided in Section 14 and per the Enforcement Response Program.

All inspection records will be maintained for a period of 3 years.

FPPP development/maintenance and maintenance facility inspection and reporting are used to comply with the Caltrans NPDES Permit, SWMP, Caltrans Maintenance Program guidance documents, and the Maintenance and Operations Stormwater Management Program.

Training programs for maintenance activities and requirements are described in Section 11.

[14] See Section 9.4, Activities Managed Through Leases and Other Agreements

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9 Non-Departmental Activities

9.1 Overview

Caltrans has an oversight responsibility to ensure that all activities performed on Caltrans right-of-way are in conformance with other sections of this SWMP, the Caltrans NPDES Permit, the Lake Tahoe Construction General Permit, the Statewide Industrial General Permit, and the Statewide Construction General Permit. This section describes the practices used by Caltrans to manage stormwater activities of non-departmental entities (third parties) within the right-of-way. Caltrans manages these activities primarily through the issuance of encroachment permits and other agreements. Often, more than one Division within Caltrans is involved in the stormwater management of non-Departmental activities. The potential for significant impacts to the safety and operation of the State Highway System determines the level of oversight responsibility by each Division. This section includes:

- Activities Requiring Encroachment Permits
- Capital Construction Projects Administered by Others
- Encroachment Permit Construction Projects
- Non-Construction Encroachment Activities
- Encroachment Permits Stormwater Management
- Activities Requiring Leases and Other Agreements

9.2 Activities Requiring Encroachment Permits

All entities, except for the following, must obtain an encroachment permit before conducting any activity within, under, or over the Caltrans right-of-way:

- Contractors under contract with Caltrans and operating within their contract limits,
- Consultants under contract with Caltrans, and
- Local agencies with a delegation of a maintenance agreement operating within their jurisdictional boundaries and within the scope of their maintenance responsibilities.

Depending on the funding and scope of the encroachment activity, the Caltrans Encroachment Permit may require cooperative agreements or highway improvement agreements with the project or facility sponsors.

For projects that disturb one or more acres of soil, Caltrans requires the third party entity to file the Notice of Intent and seek coverage under the SWRCB's CGP or Lake Tahoe CGP, as applicable, before issuing an encroachment permit for any construction activity either partially or completely within Caltrans' right-of-way. Caltrans oversight and inspection of non-departmental projects is limited to the portion of the project within Caltrans right-of-way. Encroachment permit projects requiring Treatment BMPs generally follow the same requirements as Caltrans projects (see Section 5.4.3.).

Non-Departmental construction projects are divided into two categories: Non-Programmed Capital and encroachment permit construction projects. Oversight responsibility for non-

departmental construction projects is summarized in Table 9-1. Caltrans also issues encroachment permits for non-construction activities (see Section 9.2.3). Generally, encroachment permits are issued to the project sponsor upon completion of the design prior to obtaining the WDID number. The permit has a no-work clause, meaning the contractor cannot begin any activity until the WDID number and the contractor's double permit (DP) are obtained. This allows the local entity or developer to use the permit to obtain funding and provide better information to contractors bidding on the project. The contractor is required to apply for the DP and provide the SWPPP and WDID number prior to issuance of the DP and any work being performed.

9.2.1 Capital Construction Projects Administered by Others

Projects that require either a cooperative agreement between Caltrans and a local government, or a highway improvement agreement between Caltrans and a private entity are identified as capital construction projects administered by others. These projects are partially or solely funded by a local or private entity. These agreements require District Design and Construction oversight. Stormwater procedures for all capital construction projects administered by others are performed in accordance with this section and Sections 5 and 6 of this SWMP. In addition, these projects are considered for construction compliance evaluation monitoring in accordance with Section 14.2.

9.2.2 Encroachment Permit Construction Projects

Encroachment Permit projects are generally smaller in scope, under $1 million, and most have minimal impact on the highway system. The District Encroachment Permit office is responsible for design oversight of these projects, but does rely upon assistance from Design, Maintenance, and Right of Way Divisions. Caltrans guidance may specify requirements such as temporary Construction Site, Design Pollution Prevention, or Treatment BMPs to ensure water pollution control is provided within the project. Encroachment Permit construction projects are administered in accordance with Section 406 of the Caltrans Encroachment Permits Manual.

Table 9-1: Responsibility and Oversight for Non-Departmental Construction Projects

Type of Project	District Division				Third Party
	Design	Right of Way	Construction	Permit Office	
Capital Construction Projects Administered by Others	Verifies NOI[1] Reviews project for Design and Treatment BMPs[2]		Establish SMARTS Profile for the purposes of the CGP (CEM-2006), submits PRDs and NOI Reviews SWPPP & Inspects site Issues NOT[3]	Issues an Administrative Encroachment Permit	Prepares SWPPP per Caltrans Guidelines Files NOI Files NOT Files Construction Annual Report
Encroachment Permit Construction & Linear Construction Underground / Overhead (LUP)	None[5]		None[4]	Verifies NOI[1]& Reviews SWPPP[5] Issues the Encroachment Permit & Inspects project[4]	Prepares SWPPP per CGP or Lake Tahoe CGP Files NOI Files NOT Files Construction Annual Report
Utility Relocation under Encroachment Permit	None[5]	Verifies Stormwater Documents (SWD)	Verifies NOI[1], Inspects the SWPPP & Verifies NOT[3]	Issues an Administrative Encroachment Permit	Establish SMARTS profile for the purposes of the CGP, Inspects site Files NOI & NOT
Air Space Improvement	None[5]	Provides SWD to appropriate DARC[6] Members for approval	Establish SMARTS Profile for the purposes of the CGP (CEM-2006), submits PRDs and NOI Reviews SWPPP & Inspects site, Issues NOT[3]	Issues an Administrative Encroachment Permit	Prepares SWPPP per CGP or Lake Tahoe CGP Files Construction Annual Report

[1] NOI or other applicable notification submitted and WDID issued to Permittee for construction stormwater activities that disturb one or more acres of soil.
[2] Design BMPs constructed within ROW will adhere to Caltrans SWMP requirements. Third party is responsible for compliance with local MS4 permit requirements for Treatment BMPs outside of Caltrans ROW.
[3] NOT or other applicable notification submitted and approved by RWQCB for construction stormwater activities.
[4] For more complex Encroachment Permit construction projects, the Permit Office may refer SWPPP review and inspection to the District Construction Office.
[5] For more complex Encroachment Permit construction projects, the Permit Office may refer Design BMP review to the District Design Office.
[6] District Airspace Review Committee.

9.2.3 Non-Construction Encroachment Projects

Caltrans also issues encroachment permits for non-construction activities, such as Adopt-A-Highway, special events (e.g., parades, sporting events, banners, snow chain installers, commercial signs, land surveys, monitoring wells, filming, traffic control, and utility maintenance or aerial crossings). Based on Caltrans guidance, the District Permit Office may specify BMP implementation requirements based on an assessment of the need for additional stormwater BMPs. Additional BMPs and/or provisions will be required as a condition of the encroachment permit where necessary. If the permit applicant proposes to perform an industrial activity subject to coverage under the Industrial General Permit, the applicant will be required to obtain coverage before receiving an encroachment permit.

9.2.4 Access to Agricultural Dischargers

Caltrans will provide access to agricultural dischargers as requested to provide reasonable support to the monitoring activities of agricultural dischargers whose runoff enters the Caltrans MS4. Reasonable support includes facilitating monitoring activities, providing necessary access to monitoring sites, and cooperating with monitoring efforts as needed. Caltrans activity does not include actively conducting monitoring or providing funding. Caltrans will require agricultural dischargers to obtain encroachment permits according to established procedures to be allowed safe access to Caltrans right-of-way. Caltrans will allow access and follow encroachment procedures in establishing sites and conducting monitoring activities, and may deny access at sites that may restrict traffic flow or pose a danger to any party.

9.3 Acquired Properties for Transportation Projects

Prior to construction of a transportation project, acquired properties may be cleared, demolished, or relocated. This demolition is performed by contractors who are required to comply with the Caltrans NPDES Permit and the substantive provisions of the CGP.

For Caltrans projects, the Division of Right of Way administers properties associated with the development of transportation projects. The Division of Right of Way acquires, maintains, and leases suitable properties to public and private third parties. The Division of Right of Way reviews these properties for compliance with water quality management practices.

9.4 Activities Managed through Leases and Other Agreements

The Division of Right of Way manages both properties being held for future highway construction and excess lands until they are sold. The Division of Right of Way also manages leased properties located within the operating Right of Way (i.e., “airspace” property). Individuals or agencies that wish to use these properties must sign a lease or other agreement. These agreements specify standard terms and conditions with which tenants are required to comply, including compliance with stormwater requirements.

Properties held for future construction (undeveloped corridors) and excess lands may have residential and non-residential tenants. Maintenance of residential properties is performed by the tenants or Caltrans’ contractors. All Caltrans properties under lease agreement are managed

consistent with local MS4s, the Caltrans NPDES Permit, the Lake Tahoe Construction General Permit, the Statewide Industrial General Permit, the Statewide Construction General Permit, and the SWMP, where applicable. It is accomplished by requiring tenants, via written agreement, to comply with laws and local ordinances, including those pertaining to stormwater. The Division of Right of Way will ensure that tenants are notified of MS4 and/or SWMP requirements where applicable. Standardized forms used for new leases and rental agreements include such language. Caltrans is limited in its ability to unilaterally revise existing leases. However, as current leases expire, renewals and new leases will include appropriate stormwater compliance language.

Non-residential leases may include commercial, industrial, agricultural, recreational, and other uses. Maintenance of leased non-residential property is the responsibility of the Caltrans lessee. The lessee is also required to comply with laws and ordinances.

Vacant properties outside the operating right of way (such as those held for future construction and excess lands) are maintained by contractors. Unleased properties within the operating right of way (such as vacant airspace properties) are maintained by District Maintenance.

The Division of Right of Way provides information about BMPs contained in Caltrans' Stormwater guidance manuals and other available resources to its lessees. Selection of specific BMPs to be implemented is the responsibility of the tenant and subject to approval of Caltrans, although Caltrans may require certain minimum BMPs in its lease.

Facilities managed by other state and federal agencies (Commercial Vehicle Inspection Facilities, Border Protection Stations, federal border patrol stations, etc.), and maintenance activities performed by local government entities are also under written agreement to perform their activities consistent with the Caltrans NPDES Permit, this SWMP and/or local agency's MS4 permit. These facilities will be reviewed for FPPP need.

9.5 Utility Relocation Activities

Utility companies (or utility contractors) are issued an administrative encroachment permit to perform utility relocation activities. Utility contractors are required to adhere to Caltrans stormwater management requirements, comply with the Statewide CGP or Lake Tahoe CGP requirements as necessary, and implement BMPs to prevent water pollution. Caltrans assigns a utility relocation engineer to coordinate and inspect the utility relocation work. The utility relocation engineer reviews all documents related to the utility relocation work including the utility contractors plan to prevent water pollution. When utility relocation work is performed by a utility company during a construction project, the construction project's RE is the utility relocation engineer.

9.6 Pavement Grindings

Caltrans will require third parties to comply with the requirements of the RWQCBs, the Department of Fish and Wildlife, and all state and local regulations for the management of pavement grindings generated by non-Departmental activities within the Caltrans right-of-way. See Section 6.8 for details.

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10 Non-Stormwater Activities/Discharges

10.1 Overview

An additional purpose for the Caltrans stormwater management program is to effectively prohibit non-stormwater discharges to the MS4 and to reduce to the MEP pollution caused by wastes associated with non-stormwater discharges. These discharges include accidental spills, substances from IC/IDs, and illegal dumping. They are considered "illicit" discharges. Illicit discharges are effectively prohibited unless they are authorized by a separate NPDES permit or are conditionally exempt. Other discharges, such as those that are necessary to protect the public, or those that pose no threat to water quality, are considered authorized non-stormwater discharges.

The section addresses:

- Procedures for prohibiting illicit discharges and connections, spill response, cleanup of spills, reporting, and follow-up;
- Plans for monitoring and controlling illicit discharges, including accidental spills, IC/IDs, and illegal dumping;
- Management of authorized non-stormwater discharges; and
- Emergency Operations.

10.2 Accidental Spills

Accidental spills are illicit discharges resulting from one-time deposits of materials or wastes onto roadways or the right-of-way, which could threaten water quality by potential discharge to water conveyances. Caltrans notifies the appropriate agencies of reported or discovered spills consistent with applicable California Emergency Management Agency (CalEMA) procedures in California Water Code Sections 13271 and 13272.

10.2.1 Highway Spills

Generally, the responsible party (transporter, etc.) is required by state law to report any spill that threatens public health or the environment. When spills are discovered on Caltrans right-of-way, properly credentialed personnel are mobilized to assess the situation. The agency with jurisdiction assumes authority as the incident commander, generally the California Highway Patrol. These spills are illicit discharges resulting from one-time deposits of materials or wastes. Caltrans is the lead in charge of the cleanup activity unless directed otherwise by the incident commander. All spilled materials are managed to protect public safety and the environment, including water quality. Caltrans coordinates with local health agencies and other local, state and federal agencies (e.g., Department of Fish and Wildlife, Coast Guard, RWQCB, etc.) as appropriate to determine the approach and level of cleanup needed. Depending on the circumstances of the spill, this coordination is made directly or through the CalEMA.

10.2.1.1 Authority

Caltrans has the authority to maintain the State Highway System, which includes emergency response to highway spills (Streets and Highway Code, Sections 91 and 92). Emergency highway spill (spill) clean-up operations are initiated when the spill causes an immediate threat to life, the environment, or property, and impacts the travel way. When the spill exceeds the capabilities of Caltrans forces, contractors are called to perform clean-up activities.

10.2.2 Cleanup Activities

Caltrans' District Hazardous Materials Manager within District Maintenance is in charge of the spill cleanup activity unless directed otherwise by the incident commander (e.g., CHP for highways, etc.). Caltrans has trained in-house and contract hazardous response staff with the responsibility to manage and cleanup spills to protect public safety and the environment. Caltrans coordinates with local, state, and federal agencies (e.g., County Environmental Health, County Agriculture, Department of Fish and Wildlife, Coast Guard, RWQCB, etc.) as appropriate to determine the approach and level of cleanup needed. Depending on the circumstances or significance of the spill, this coordination is made directly or through the CalEMA. Each District prepares and implements a District Hazardous Spill Contingency Plan on an annual basis for describing the details of the above activities.

10.2.3 Construction Projects

Accidental spills occurring on a construction project are reported by the Resident Engineer to the District Hazardous Waste Coordinator, the District NPDES Coordinator, and/or the District HazMat Manager as appropriate. Upon notification, the District Hazardous Waste Coordinator will assess the situation and will take appropriate action(s). Spills are reported and cleanup activities are conducted as outlined in Section 10.2.

10.3 Illegal Connection/Illicit Discharge and Illegal Dumping

Illegal connections are prohibited as they may carry unauthorized drainage, wastewater, or other illicit discharges to Caltrans' storm drain system from adjacent properties. These connections may carry pollutants into the storm drain system. Illegal connections may be intentional or may be unknown to the property owner. Caltrans has authority over its property, investigates, and resolves illegal connections discovered within the right-of-way. Resolution may include elimination of the connection, proper permitting, or other appropriate actions.

Illegal dumping is a discharge characterized by one or multiple occasions of intentional dumping of trash, debris, or other wastes on state highways or facilities. Such activity is prohibited by state and local laws and is enforced by the California Highway Patrol or local law enforcement agencies. Caltrans relies primarily upon the CHP for investigation, surveillance, and apprehension of suspects believed to have illegally dumped wastes within the highway system and other Caltrans facilities.

District Maintenance staff, the District NPDES Coordinator , and other appropriate stakeholders will investigate and resolve reports of suspected Illegal Connections and Illicit Discharges

(IC/IDs). The procedures for discovering, investigating, reporting, and resolving IC/IDs are summarized below.

Discovery:

Caltrans field personnel, as part of their routine inspection or maintenance activities, will examine work areas for the existence of suspected IC/IDs.

The public may report suspected IC/IDs to Caltrans. Caltrans staff and the public will rely upon a readily available web-based reporting system available from Caltrans' internet home page, www.dot.ca.gov (via a Maintenance Service Request) and District phone numbers for reporting of suspected IC/IDs. Caltrans will also provide outreach to inform the public that the web link for reporting suspected IC/IDs is available. Caltrans will track IC/ID reports from initial notification through resolution.

Investigation:

Caltrans staff will investigate IC/IDs and document findings. A determination of the source, substance, and duration of the illegal connection or illicit discharge will be performed.

Reporting:

Caltrans staff investigating confirmed IC/IDs will report their findings to the District NPDES Coordinator.

The District NPDES Coordinator will complete the Incident Report Form (Appendix A. Incident Report Form) and inform the Regional Water Quality Control Board.

If hazardous materials are known or suspected, the District Hazardous Materials Manager will be notified.

Maintenance staff will also follow the Maintenance Service Request (MSR) procedures for IC/IDs reported by the public.

Corrective Actions:

Actions in response to intentional introduction of harmful materials to the storm drain system (acts of terrorism) will be in accordance with Caltrans Emergency Operations Plan.

Highway spills that cause an immediate threat to life, property or the environment and impacts the traveled way will be in accordance with the Emergency Highway Spill Clean-up policy and applicable sections of the Maintenance Manual.

Actions taken to remove illicit discharges due to illegal encampments will be in accordance with the Illegal Encampments policy.

Caltrans may immediately remove from any State highway any illicit discharge or illegal connection encroachment.

Removal of illicit discharges consisting of illegal dumping including animal carcasses will be in accordance with the Maintenance Manual.

Progressive enforcement for IC/IDs may include the following actions:

Written Warning – District staff, where applicable, will issue a "Notice of Illegal Discharge and Demand for Correction Action" letter to the property owner where an IC/ID is discovered or to the individual responsible for the illegal discharge of material into the Caltrans right-of-way where the responsible party's identity is ascertained.

Removal of Connection/Discharge – District Maintenance staff or Caltrans designee may remove the IC/ID if it has not been corrected within a specified period as indicated in the IC/ID and Illegal Dumping Response Plan.

Other Enforcement Actions – Caltrans is not a typical MS4, such as a city or county, with its own enforcement branch such as police, sheriff, or zoning board. Without its own enforcement branch, Caltrans relies on other agencies (i.e., California Highway Patrol) for enforcement assistance. Caltrans may seek the enforcement assistance of the following jurisdictions to correct an IC/ID: U.S. EPA, California EPA, city and county environmental departments, city and county law enforcement, and/or municipal MS4s.

Legal Action – Caltrans may pursue legal action, where applicable, to ensure corrective actions are taken to resolve an IC/ID and to recover appropriate costs.

District staff will coordinate as needed for investigation and resolution of an IC/ID. The District NPDES Coordinator will review the IC/ID database on an annual basis to ascertain the number of IC/ID reports, investigations, and abatements that occurred in a given District. District staff will use this information to identify and focus its efforts on areas experiencing elevated IC/IDs, and to determine if more frequent training and/or changes to existing curriculum and training materials are needed.

The procedures described above are the basis for the IC/ID and Illegal Dumping Response Plan that was submitted to the SWRCB on December 31, 2013. This Plan includes procedures for investigating reports or discoveries of IC/IDs, remediation or elimination of the IC/ID, and procedures for cleanup.

Caltrans will also provide annual training sessions to appropriate District staff on how to implement the IC/ID and Illegal Dumping Response Plan (plan approved by the State Water Board on September 12, 2014).

10.3.1 Coordination with Local Jurisdictions

Caltrans' twelve District's boundaries overlap with the boundaries of other local jurisdictions, including, but not limited to, law enforcement, fire protection, and city and county MS4 stormwater programs. Stormwater and non-stormwater discharges, as well as discharges from IC/IDs, often do not occur isolated within a single jurisdiction. A coordinated approach will help identify and resolve IC/IDs. More broadly, Districts will also work with local jurisdictions charged with stormwater management and environmental protection to cooperatively reduce or eliminate the discharge of pollutants to receiving waters. Section 2.3 describes Caltrans municipal coordination activity regarding IC/ID response.

10.4 Authorized Non-Stormwater Discharges

Authorized non-stormwater discharges are certain categories of discharges not composed entirely of stormwater but which do not pose a threat to water quality. In some cases, they may require the implementation of BMPs. Requirements or exemptions of separate NPDES permits are not addressed in this plan.

10.4.1 List of Conditionally Exempt Non-Stormwater Discharges

Unless otherwise identified in Section 13, this section identifies certain discharges of untreated non-stormwater that pose no threat to water quality and are currently infeasible to eliminate. Caltrans may update this SWMP to include proposed additions to the current list of authorized non-stormwater discharges as Caltrans or the SWRCB identifies them. All additional conditionally exempt non-stormwater discharges proposed by Caltrans would include an analysis and justification to present to the SWRCB for approval. In contrast, if any of the non-stormwater discharges included below is deemed sources of pollutants, by Caltrans or by the SWRCB, the discharge will then be effectively prohibited. The following non-stormwater discharges are authorized, provided they are found not to be a significant source of pollution, or where there are appropriate BMPs implemented to minimize or eliminate pollution.

Table 10-1 shows Authorized Non-Stormwater Discharges.

Table 10-1. Authorized Non-Stormwater Discharges

Diverted stream flows	Water line/hydrant flushing[1]
Hillside dewatering, including slope lateral drainage	Footing drains
Uncontaminated pumped ground water	Potable water sources[1]
Flows from riparian habitats/wetlands	Air conditioning condensate
Water from crawl space or basement pumps	Minor, incidental discharges from lawn watering
Swimming pools[1]	Rising ground water
Uncontaminated ground water infiltration to separate storm sewers as defined at 40 CFR §35.2005(20)	Springs
Discharges or flows associated with emergency firefighting activities or operations (See Section 10)	Foundation drains
Irrigation water[2]	Residential car washing
Minor, incidental discharges from landscape irrigation[3]	
Naturally occurring groundwater seepage via a storm drain[4]	
Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff[4]	

[1] Discharges must be naturally or chemically dechlorinated.
[2] Return flows from irrigated agriculture are not point-source discharges and are not prohibited from entering Caltrans' MS4.
[3] Landscape irrigation systems must be designed, operated and maintained to control non-incidental runoff.
[4] Non-stormwater discharges to ASBS are effectively prohibited with limited exceptions (discharges essential for emergency response, structural stability, slope stability, or are naturally occurring).

10.5 Other Non-Stormwater Discharges

Discharges associated with utility vaults or underground structures to an ASBS are considered allowable if authorized by the Discharges from Utility Vaults and Underground Structures to Waters of the United States (WQO 2014-0174-DWQ). However, these discharges may be considered illicit and prohibited if determined appropriate by the local RWQCB.

All other non-stormwater discharges to ASBS are considered illicit discharges and will be addressed according to the protocols in Section 13.5. Any of the exempt discharges to ASBS listed above may be considered illicit and prohibited if it is demonstrated that the authorized discharges contribute to a violation of water quality objectives in Chapter II of the California Ocean Plan or alter natural ocean water quality in the ASBS.

10.5.1 Dewatering Permits Issued by RWQCBs

Caltrans conducts various activities that may require dewatering. Dewatering discharge requirements vary among the nine RWQCBs and they are addressed on a case-by-case basis.

10.5.2 Flows from Emergency Activities

Discharges to water conveyances can result from responding to emergency situations defined in Attachment VIII of the Caltrans NPDES Permit.

During emergency situations, priority of efforts will be directed toward life, property, and the environment (in descending order). Caltrans will control the pollution threat from their activities to the extent that emergency responsibility allows.

Caltrans will report emergency discharges in the Annual Report.

10.5.3 Other Non-Stormwater Discharges

Caltrans activities that have the potential to generate non-storm waters discharges to state water include:

- Low threat waste;
- Well drilling water;
- Monitoring well purge water;
- Drainage from boring waste (drill mud or cuttings);
- Water main, storage tank or hydrant flushing water;
- Flows from small dewatering projects;
- Small inert solid waste disposal;
- Cooling water discharges;
- Discharges from utility vaults, manholes, and underground structures.

The above waste or wastewater discharges are not covered by the Caltrans MS4 Permit, and Caltrans will contact the appropriate Regional Water Board for separate NPDES permit or WDRs coverage before discharging any of these wastes or wastewater to state water. If these discharges occur regularly on a statewide basis, Caltrans will contact State Water Board staff to obtain any necessary permits.

Table 10-2 lists the existing stormwater BMPs that may apply to the above discharge operations.

Table 10-2. Discharges to Land and Applicable BMPs

Stormwater BMP Category	Discharge Category							
	Water/Observation Well Development	Monitoring Well/Purge Water	Boring Wastes	Water Main/Storage Tank Flushing	Pipeline/Tank Testing	Small Dewatering Projects	Small Inert Solid Waste Disposal	Cooling Discharges
Solid Waste Management			X				X	
Concrete Waste Management							X	
Liquid Waste Management	X		X					
Water Conservation Practices	X					X		
Dewatering Operations	X					X		
Potable Water/Irrigation	X	X		X	X	X		
Evaporative Water								X
Mud-Jacking and Drilling			X					
Drilling Mud Disposal			X					

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11 Training

11.1 Overview

Caltrans ensures its employees are trained in stormwater management concepts. Caltrans also requires its construction contractors to train their employees in stormwater management concepts. Each Caltrans Division regularly provides training sessions, either in person or online. These training sessions are designed to keep employees and construction contractors informed about such topics as:

- Regulatory requirements;
- Causes and effects of stormwater pollution;
- BMPs;
- Lessons learned; and
- Penalties for non-compliance with the stormwater permit.

Caltrans will continue to develop employee training using curricula and materials tailored to specific topics and personnel duties. The training program is evaluated and refined periodically to ensure that the educational messages are both timely and effective.

This section describes:

- The strategy for providing stormwater related training to employees;
- Management and approach of the training program;
- Existing and proposed training modules;
- Training program frequency;
- Training program effectiveness evaluation;
- Other employee outreach; and
- The strategy for stormwater related training for construction contractors.

11.2 Strategy for Employee Training

The Caltrans stormwater training program ensures that its employees have the knowledge, skills, and abilities necessary to perform their duties so that they effectively and efficiently implement the stormwater program. The training program will also ensure that employees consistently implement stormwater management practices throughout the state by routinely providing core stormwater training to all functional units. The training program will incorporate both routine training that are geared for introductory topics and information as well as focused training modules that are geared for more advanced topics and information.

11.2.1 Training Program Management and Approach

Caltrans' approach for developing and implementing its training program for current and new employees consists of the following:

- Maintain a statewide training database.
- Identify the training requirements and needs for each functional unit.

- Evaluate the existing training to identify modifications and/or new training that may be necessary based on existing and new needs.
- Develop focused training and materials targeted to specific topics, groups within the functional units, or levels of personnel.
- Maintain copies of the training modules and materials in the DEA Water Quality Program library.
- Provide routine and focused training pursuant to the established training frequency.
- Incorporate the use of training evaluations and surveys within each training module.
- Evaluate the effectiveness of the training modules and the overall training program on an annual basis (see below).

11.2.2 Stormwater Training

The training program will provide Caltrans employees with both routine and focused training that generally addresses the following topics (topics may be added or modified as deemed necessary):

- Caltrans NPDES Permit and/or other regulatory requirements;
- Stormwater characteristics and water quality issues;
- Causes and effects of stormwater pollution;
- The roles and responsibilities of individuals, Districts, Divisions and Programs within Caltrans regarding implementation of the SWMP to achieve permit compliance;
- Activities and practices conducted by Caltrans employees that are or could be sources of stormwater pollution;
- BMPs to be selected and implemented for activities or practices that are or could be sources of stormwater pollution;
- BMPs to eliminate prohibited non-stormwater discharges;
- BMPs for applicable authorized non-stormwater discharges;
- Use of guidelines or other manuals to select and implement BMPs;
- Selection, design, construction, and maintenance of BMPs;
- Lessons learned; and
- Penalties for non-compliance with the applicable NPDES permits.

Stormwater training modules have been developed for each of the functional groups in order to provide a comprehensive overview of stormwater pollution prevention concepts and practices and to address the list of topics above. The delivery mechanisms include classroom and field training modules, webinars, and audio-visual presentations posted on websites, as appropriate. As noted above, in order to adapt to evolving stormwater technology and regulations, the module topics in Table 11-1 will be updated, as needed, or new topics proposed to reflect modifications to the Caltrans Stormwater Management Program.

The District Work Plans (DWPs) will include a list of the pertinent training modules and targeted staff to attend each module. Training sessions held will be documented and include the dates, training course description, and names of attendees present.

Table 11-1. Summary List of Existing and Proposed Training Modules by Division

Division	Training Module (E: Existing; P: Proposed)	Target Audience	Duration
Environmental Analysis	An Introduction to Stormwater (P)	Construction Encroachment Permits Environmental Analysis Equipment Maintenance Management Planning and Design Right of Way Stormwater Coordinators Traffic Operations	Minimum 4 hours
	Stormwater Quality Fundamentals and Monitoring (P)	Construction Encroachment Permits Environmental Analysis Stormwater Coordinators	Minimum 4 hours
Design	Permanent Erosion Control Training (E)	Maintenance Planning and Design Stormwater Coordinators	8 hours
	Construction Site BMP Training for Design (E)	Planning and Design Stormwater Coordinators	8 hours
	Erosion Prediction with Revised Universal Soil Loss Equation (RUSLE2) (E)	Planning and Design Stormwater Coordinators	8 hours
	Project Planning Design Guidance Training (E)	Planning and Design Stormwater Coordinators	8 hours
	Stormwater Data Report Training (E)	Planning and Design Stormwater Coordinators	4 hours
Construction	Stormwater Refresher	Construction	8 hours
	Water Pollution Control Compliance on Construction Sites for Resident Engineers (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Stormwater Best Management Practices Training Videos (P)	Construction Encroachment Permits Stormwater Coordinators	N/A

Division	Training Module (E: Existing; P: Proposed)	Target Audience	Duration
	Construction General Permit Qualified SWPPP Developer (QSD)/Qualified SWPPP Practitioner (QSP) Caltrans-specific Training (P)	Construction Encroachment Permits Stormwater Coordinators	Minimum of 8 hours
	Stormwater Quality Monitoring and Plan Preparation (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Inspecting for Water Pollution Control on Construction Sites (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Field Erosion Control (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Advanced BMP Training (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Introduction, Laws and Regulations, the Erosion Process (E)	Construction Encroachment Permits Stormwater Coordinators	4 hours
	Advanced Construction Site BMPs and Field Applications (E)	Construction Encroachment Permits Stormwater Coordinators	16 hours
	Water Pollution Control Contract Administration, Inspection and Maintenance on Construction sites (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Management of Construction Site Dewatering Operations (E)	Construction Encroachment Permits Stormwater Coordinators	6 hours
	Water Quality Sampling and Analysis on Construction Sites (E)	Construction Encroachment Permits Stormwater Coordinators	4 hours
	How to Review a SWPPP and Water Pollution Control Program (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
	Construction Management Training (E)	Construction Encroachment Permits Stormwater Coordinators	8 hours
Maintenance	Stormwater Management for Maintenance Activities (refresher) (E)*	Equipment Maintenance Stormwater Coordinators	4 hours (refresher)

Division	Training Module (E: Existing; P: Proposed)	Target Audience	Duration
	Stormwater Management for New Maintenance Employees (E)	Equipment Maintenance Stormwater Coordinators	4 Hours
	Facilities Pollution Prevention Plan (FPPP) Development and Implementation (P)	Equipment Maintenance Stormwater Coordinators	Minimum 4 hours
	Implementation of the Maintenance Compliance Program (P)	Equipment Maintenance Stormwater Coordinators	Minimum 4 hours
	Using the Maintenance Databases (Roadway Erosion Inventory, Storm Drain System Inventory, IC/ID, Maintenance Facility and Activity) (P)	Maintenance Environmental Analysis Stormwater Coordinators	Minimum 4 hours
	Implementation of the IC/ID Program (P)	Construction Encroachment Permits Maintenance Stormwater Coordinators	Minimum 4 hours
	How to perform Maintenance Facility Inspections and Review Maintenance Facility Inspection reports (P)	Maintenance Stormwater Coordinators Environmental Analysis Equipment	Minimum 4 hours
Operations	Encroachment Permit Staff Training (P)	Encroachment Permits Stormwater Coordinators	Minimum 4 hours
	Right of Way Stormwater Management (E)	Right of Way Stormwater Coordinators	12 hours
	Right of Way Stormwater Inspections for Leased Property (P)	Stormwater Coordinators Traffic Operations	Minimum 4 hours

* Refresher courses are attended by staff as needed but no less than every four years.

11.2.3 Training Program Frequency

Comprehensive introductory courses will be targeted to new employees and other employees that did not receive training in their first year. Training will be repeated on an as needed basis.

11.2.4 Training Program Effectiveness Evaluation

As a part of the Annual Report, Caltrans will evaluate the effectiveness of the training program. The evaluation typically includes a summary of the training modules conducted during the reporting period, which may include:

- Estimated number of employees in each Division;
- The name of the training module;
- The date and location of training;
- Number of attendees;
- Evaluation results; and
- Pre- and post-survey results.

A summary of the evaluation will be provided along with any recommendations to revise the training program, if necessary, to ensure it remains effective. In addition, the training modules, materials, and/or District Work Plans will be updated as necessary based on the evaluation.

11.2.5 Other Employee Outreach

Caltrans distributes informational bulletins to its staff on an as needed basis. The purpose of these bulletins is to provide up-to-date information about new and proposed water quality regulations, agency guidance, general permits, water quality plans, and other related issues that affect implementation of the Caltrans NPDES Permit.

11.3 Strategy for Construction Contractor Training

Caltrans ensures that the construction contractors have a designated Water Pollution Control (WPC) manager that has the appropriate qualifications.

For projects covered by the CGP or Lake Tahoe CGP, the WPC manager must be a Qualified SWPPP Developer (as defined by the CGP).

For projects that require the development of a Water Pollution Control Program, the WPC manager must be either a Qualified SWPPP Developer or a Qualified SWPPP Practitioner (as defined by the CGP).

Caltrans' contract documents require that contractor employees must receive initial water pollution control training before starting work at the job site. The WPC manager is responsible for ensuring that contractor employees have current water pollution control training. This training is tracked at the project level. The training requirements include the following:

- Water pollution control rules and regulations,
- Incident reporting and notification requirement under Table 16-1 footnote 2,
- Implementation and maintenance for:
    - Temporary soil stabilization,
    - Temporary sediment control,
    - Tracking control,
    - Wind erosion control,
    - Material pollution prevention and control,

- Waste management, and
- Non-Stormwater management including identification of IC/IDs.

Contractor personnel that are project managers, supervisory personnel, subcontractors, and employees involved in water pollution control work must also conduct weekly training meetings covering:

- Deficiencies and corrective actions for water pollution control practices,
- Water pollution control practices required for work activities during the week,
- Spill prevention and control,
- Material delivery, storage, usage, and disposal,
- Waste management, and
- Non-Stormwater management procedures.

Training for personnel who collect water quality samples must include:

- Construction Site Monitoring Program review,
- Health and safety review, and
- Sampling simulations.

Caltrans' contract documents also require the contractor to submit a Stormwater Annual Report. The Stormwater Annual Report will include documentation of training for individuals responsible for the following:

- Permit compliance
- BMP installation, inspection, maintenance, and repair
- Preparing, revising, and amending the SWPPP

Caltrans has made Caltrans' stormwater best management practices training videos regarding stormwater BMP installation and maintenance available to contractors for their use. These are a series of self-paced interactive training videos designed to improve construction staff understanding of the construction stormwater program, temporary construction stormwater BMPs, and construction stormwater compliance activities.

11.3.1 Informational Exchange Sessions

Caltrans may hold informational sessions for construction contractors to raise their awareness and understanding of Caltrans procedures and protocols for complying with the CGP, and Lake Tahoe CGP as well as the Caltrans NPDES Permit. Caltrans uses two types of informational exchange sessions to describe stormwater pollution prevention concepts and practices and to explain techniques for preparing SWPPPs and WPCPs for construction activities.

Informational Exchange #1, Caltrans NPDES Permit Compliance Requirements, and Pre-Bid Meeting: Pre-bid meetings may be conducted on selected projects. The Project Engineer provides general information to construction contractors regarding the requirements in the Caltrans NPDES Permit and the SWMP that apply to the subject project (i.e., the project on which the contractors are considering submitting bids). Topics to be discussed include environmental commitments and permits, and water pollution control requirements.

Informational Exchange #2, Caltrans NPDES Permit Compliance Requirements, and Pre-Construction Meeting: Caltrans contract documents require the contractor to attend a preconstruction meeting with the resident engineer. One of the topics discussed at the preconstruction meeting is water pollution prevention and the SWPPP or WPCP requirement for the project. Preconstruction meetings include the resident engineer, District Construction Stormwater Coordinator, contractor's superintendent, subcontractors, and specialists. Caltrans will also notify the appropriate RWQCB of the pre-construction meeting to allow a RWQCB representative to be at the meeting to review and discuss the water quality issues relating to the construction project. The contractor is advised to submit their SWPPP or WPCP at the meeting (or prior to the meeting).

12 Public Education and Outreach

12.1 Overview

Caltrans has begun implementing a new statewide public education program designed to promote awareness of stormwater quality pollution sources, how they reach the state's waters, and their affect. The campaign will encourage changes in attitudes and behaviors designed to help contribute to the improvement of stormwater quality and the preservation and enhancement of the state's waters. The program entails educating the public on the importance of water quality and the impact of their activities on Caltrans' stormwater drainage system. The program includes not only education of the general public, but also education of commercial and industrial entities whose actions may impair the quality of stormwater discharges from Caltrans' properties and facilities.

The program includes three key elements:

- **Research** – Caltrans has developed a plan for conducting research on public behavior that affects the quality of the Caltrans' runoff from highways. The information gathered forms the foundation for all the public education conducted. The public education campaign is regularly revised and updated according to the results of the research.
- **Education** – Caltrans has developed an overall public education strategy to educate the public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to Caltrans' stormwater.
- **Mass Media Advertising** – Caltrans has developed and implemented a mass media advertising campaign as a focal point of the public education strategy. Caltrans continually modifies and improves the advertising campaign as a focal point of the public education strategy. The campaign is focused on behaviors of concern and designed to motivate the public to change those behaviors.

Caltrans may cooperate with other organizations to implement the public education campaign and continues to seek opportunities to participate in public outreach and education activities with other MS4 permittees.

12.2 Research and Initial Implementation of the Public Education Plan

The public education program will evaluate public behavior that affects the quality of the Caltrans runoff. The information gathered will form the foundation for all the public education conducted. Caltrans' statewide public education program is designed to increase the public's awareness of stormwater quality management and emphasize a message of individual responsibility. The program emphasizes pollution prevention and pollutant source reduction. It incorporates a variety of methods (e.g., billboards, public service announcements, special events, etc.) to educate the public about the importance of managing stormwater and to promote a change in public behavior regarding the release of potential pollutants (e.g., litter, spilled loads, and oil leaks) on Caltrans properties and in general.

12.3 Public Education Strategy

Caltrans partners with various organizations at both the state and local levels. The campaign will focus on the behaviors of concern and on motivating the public to change those behaviors. The campaign will also focus on education of the general public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to Caltrans' stormwater. Joint public education initiatives are continuously evaluated to maximize use of educational materials developed from Caltrans' public education research.

Caltrans' statewide campaign, outreach efforts will expand to include target pollutants into various types of multimedia materials. At the District level, outreach programs for public education are described in the District Work Plans. A consistent message is applied statewide, and specific content may vary at the District level.

District NPDES Coordinators coordinate with their District's Public Information Officer to educate the public about stormwater pollution. Specific audiences, such as businesses, industry groups, community groups, and environmental groups are best reached using in-depth, targeted materials disseminated through newsletters, publications, and event-oriented printed materials.

Numerous special events occur in communities throughout California. Caltrans' presence at these events will reach various target audiences within the general public, in addition to business, industry, community, and environmental groups. Examples of major community events for Districts to target are beach cleanups, science fairs, workday events, fairs, and Earth Day events.

12.4 Use of Mass Media

Caltrans communicates public education through various media markets to educate the public on the importance of water quality. The following component options may be considered in the implementation of the statewide campaign, which may include billboard signs, theater slides, newspaper advertisements, mall and airport signs, trade publications, bus wraps, and public service announcements (PSAs) on radio. Emerging new media markets that may be appropriate for advertising include digital billboards, advertising on the Internet and mobile devices, and social media.

Table 12-1 summarizes a complete list of public education strategies Caltrans uses or can use to deliver its stormwater awareness message.

Table 12-1. Potential Public Education Strategies

Public Education Strategies	
Coordination Efforts	
Coordinated Events	School Programs
Local and Regional Events	Speakers Bureau Presentations
Community Events	
Bring Your Child to Work Day Events	County Fairs
Creek Week Events	Earth Day Celebrations
Beach Cleanup Events	Environmental Awareness Events
City and County Cleanup Events	California State Fair
Community Science Fairs	Water Awareness Events
Media	
Information on Stormwater Research	Stormwater Program Brochures
Fact Sheets and Guidance Documents	Stormwater Public Education
Media Packages	Posters
Billboard Signage	Airport Signage
Movie Theater and Cinema Slides	Trade Publications
Newspaper Advertisements	Public Service Announcements
Press Releases	
Nontraditional Media	Broadcast Radio
Public Transportation Signage	Social Media
Shopping Malls	Internet and websites

12.5 Public Participation and Outreach Forums

12.5.1 Adopt-A-Highway Program

The Adopt-A-Highway program (http://adopt-a-highway.dot.ca.gov) is a cooperative program between organizations in which volunteers collect trash along the highways and receive recognition for their contribution to keeping the environment and highways clean. As part of the program, the Districts coordinates and establishes strong partnerships with local organizations, giving individuals, community groups, companies, businesses, and other organizations the opportunity to contribute in cleaning up and beautifying California. Adopting a stretch of California highway roadside is a way for these organizations to promote civic responsibility, community pride, and camaraderie while helping to improve the environmental quality along California highways. Participants agree to remove litter, plant and establish seedlings, trees and shrubs, and maintain wildflowers, remove graffiti and control vegetation. Adopt-A-Highway signs are installed to identify the participant and let the public know that the section is being maintained by other than state forces. The signs are located within each adopted segment as directed by Traffic Operations. Upon project completion, each participating group is recognized with a Certificate of Appreciation. A report on trash and litter collection

activities associated with the Adopt-A-Highway program is included in the Stormwater Management Program Annual Report.

12.5.2 Partnerships

Caltrans' stormwater program will form paid and non-paid partnerships with organizations to improve water quality. The intent of these partnerships is to provide collaborative efforts statewide. Caltrans has established a Technical Advisory Team which includes Regulators and non-profit organizations to help direct campaign efforts. The program material will be designed with the intention that local agencies and other stakeholders can readily integrate the message into their own campaigns. Various organizations have used the previous campaign message on their materials.

12.5.3 Websites

Caltrans has an extensive Internet website (http://www.dot.ca.gov/hq/env/stormwater) that includes information about the Stormwater Management Program, information related to the BMP development process, construction, and maintenance activities and links to key related sites.

Location and other information on Caltrans' current construction projects are provided on a statewide map (http://dot.ca.gov/hq/construc/consMap/conskml.php).

12.6 Public Education Program Progress Report

Caltrans submits a Public Education Program Progress Report each year as part of the Annual Report.

13 Region-Specific Activities

This section describes how Caltrans will implement the region-specific requirements specified in Caltrans NPDES Permit Attachment V – Region Specific Requirements. It describes how individual Districts will address region-specific requirements in the North Coast Region, the San Francisco Bay Region, and the Lahontan Region. Detailed information on how Caltrans will address these region-specific requirements is provided in the sections below.

13.1 TMDL Requirements

Total Maximum Daily Load (TMDL) requirements are developed by the RWQCBs, SWRCB, or U.S. EPA pursuant to state and federal requirements to attain the water quality standards for a specific water body. Water Quality Control Plans, also known as Basin Plans, set standards for surface and ground water in the Regions. These standards are comprised of designated beneficial uses for surface and ground water, and numeric and narrative objectives necessary to support beneficial uses and the state's anti-degradation policy. A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings to point and non-point sources. Caltrans will implement a consistent approach statewide to address TMDL compliance. Compliance with Attachment IV of the Caltrans NPDES Permit is planned to be achieved by treatment of stormwater discharges from Caltrans' right of way through structural and non-structural BMPs, cooperative opportunities, and cooperative grant programs. See Appendix D for implementation and reporting requirements of the TMDLs listed within Attachment IV of the Caltrans NPDES Permit.

Caltrans Districts are responsible for participating in the development and implementation of plans for stakeholder participation to meet the TMDL requirements for a given water body or watershed. Specific implementation plans and documents will be contained in the DWPs prepared for a RWQCB (see Section 16).

13.2 North Coast Region

Caltrans will take the following steps in watersheds listed for sediment to identify, prioritize, and control sources of sediment that discharge anthropogenic amounts of sediment into impaired waters. These requirements are in addition to any watershed-specific TMDL implementation requirements listed in Attachment IV of the Caltrans NPDES Permit. Steps to be taken include:

- **Inventory**: Identify sources of excess sediment or threatened discharge, and quantify the discharge or threatened discharges from the source(s).
- **Prioritize**: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps will be completed within two years of the adoption of the Caltrans NPDES Permit and updated annually. Caltrans is achieving this step by implementing the requirements of Caltrans NPDES Permit Attachment IV for sediment TMDLs, which includes submitting a prioritized list to the SB for their consideration.

- **Implement**: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge.
- **Monitor and Adapt**: Use monitoring results to direct adaptive management measures in order to refine and adjust erosion control practices and implementation schedules, until sediment discharge is reduced and no longer causes a violation of any sediment related narrative or numeric objective.

Each Caltrans District within the North Coast Region will include a time schedule for the above-referenced activities within the annual DWP for RWQCB approval. The time schedule will be designed to implement the required activities as quickly as feasible. An annual update on activities and compliance with the projected time schedule will be included in each subsequent Annual Report.

Removal of riparian vegetation may result in a threatened discharge or an exceedance of a water quality objective. Riparian vegetation will be protected and restored to the greatest extent feasible and removal may require permitting by the RWQCB.

13.3 San Francisco Bay Region

13.3.1 High Trash Generation Areas

Caltrans will demonstrate compliance with Discharge Prohibition 7, Table 4-1 of the San Francisco Bay RWQCB Basin Plan through the timely implementation of control measures in all high trash generating areas in the San Francisco Bay Region, identified as the following:

a. Freeway on- and off-ramps in high-density residential, commercial, and industrial land uses.
b. Rest areas and park-and-rides.
c. State highways in commercial and industrial land use areas.
d. Other freeway segments as identified by maintenance staff and/or trash surveys.

13.3.2 Control Measures

Caltrans will comply with the prohibition of discharge for trash through implementation of the following control measures:

a. Install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service the significant trash generating areas.
b. Coordinate with neighboring MS4 permittees to construct, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls in high trash generating areas and/or priority land use areas (high density residential, industrial, commercial, and public transportation stations).

All installed devices that meet the following full trash capture definition may be counted toward this requirement regardless of date of installation. A full trash capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the subdrainage area.

13.3.3 Coordinating with Local Entities

Caltrans may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The Minimum Full Trash Capture requirement may be met with Caltrans specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination activities meet the full trash capture standard.

13.3.4 Evaluation

Caltrans will evaluate the effectiveness of enhanced maintenance controls implemented in high trash generation areas. This evaluation will include controls implemented in coordination with local municipalities.

13.3.5 Additional

a. Abate trash from construction and reconstruction projects.
b. Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.

13.3.6 Reporting

In each Annual Report, as part of the TMDL Status Review Report, Caltrans will provide a per District summary of the following:

a. Trash load reduction actions;
b. Full trash capture installation and maintenance;
c. Implementation of enhanced maintenance controls;
d. A map and list of high trash generation areas and the installed controls addressing each area;
e. The reporting of trash load will be in a manner approved by the Executive Officer; and
f. Municipal coordination implementation.

13.3.7 Stormwater Pump Stations

Caltrans will comply with the following implementation measures to reduce polluted water discharges from its pump stations:

- Complete an inventory of pump stations within Caltrans' jurisdiction in Region 2, including locations and key characteristics[15] and submit to the RWQCB by October 1, 2015.
- Inspect and collect dissolved oxygen (DO) data from 20% of the pump stations once a year (100% in five years). DO monitoring will be conducted after a minimum two-week

[15] Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

antecedent dry period. DO monitoring is exempted where there is no discharge from a pump station or infiltrates into a dry creek immediately downstream.

- If DO levels are at or below 3 mg/L, apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.
- Report inspection and monitoring results in the Annual Report.

13.4 Lahontan Region

Portions of Districts 2, 3, 9, and 10 implement specific stormwater management practices within the jurisdiction of the Lahontan RWQCB as follows:

- For projects meeting the criteria specified in Provision E.2.d.of the Caltrans NPDES Permit (Project Planning and Design), the following numeric sizing criteria for stormwater treatment control BMPs apply:
    - Where stormwater runoff is determined to have connectivity to surface waters and/or is not adequately infiltrated or treated by the natural environment, stormwater/urban runoff collection, treatment, and/or infiltration disposal facilities will be designed, installed, and maintained for the discharge of stormwater runoff from all impervious surfaces generated by the 20-year, one-hour design storm as follows:
        - Within the Truckee River Hydrologic Unit: 3/4 inch of rain;
        - Within the East Fork Carson River and West Fork Carson River Hydrologic Units: one inch of rain; and
        - Within the Mammoth Creek Hydrologic Unit above the 7,000-foot elevation: one inch of rain.

Hydrologic evaluations may be required or may be conducted consistent with the NEAT study described below to help determine areas where infiltration of the 20-year, 1-hour storm is required.

In 2009, Caltrans completed the Natural Environment as Treatment (NEAT) study and report for 38 miles of roadway within the Lake Tahoe Hydrologic Unit. The NEAT approach is consistent with the strategic approach required by this permit. Projects developed within the NEAT study area will be designed and constructed based on the priority areas identified by the study.

- Unless granted a variance by the Lahontan RWQCB Executive Officer, Districts will not remove vegetation nor disturb the existing ground surface conditions between October 15 of any year and May 1 of the following year, except during an emergency that threatens the public health, safety, or welfare. The prohibition season, on a case-by-case or area-by-area basis, may be truncated in the desert areas of the Region once the Lahontan Regional Water Board approval has been obtained. Per the Caltrans NPDES Permit, this prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.

13.4.1 Project Review Requirements

Caltrans will participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, East and West Forks Carson River and Mammoth Creek Hydrologic Units.

Caltrans will solicit Lahontan RWQCB staff review when project development/design is at the 20 to 30 percent design level (prior to Project Approval and Environmental Document), 60 percent design level, and 90 percent design level (Plans, Specifications, and Estimate).

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14 Program Effectiveness Evaluation

14.1 Overview

The program effectiveness evaluation (PEA) is conducted every year as a part of the Annual Report to determine whether the various programs and/or activities are resulting in the desired outcomes. This generally includes the following:

a) Evaluation of program effectiveness in achieving Caltrans NPDES Permit requirements and measurable objectives.

b) Evaluation of program effectiveness in protecting and restoring water quality and beneficial uses.

c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.

d) Identification of how Caltrans will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness evaluations identify BMPs or programs that are ineffective or need improvement.

These outcome levels are tied to the Measurable Objectives listed in Table 15-1.

14.2 Field Activity Compliance Evaluations

In addition to the overall program effectiveness evaluation described above, Caltrans performs compliance evaluations and self-audits for various field activities including:

- Construction Activities;
- Roadway Maintenance; and
- Facility Maintenance.

The results of these self-audits are incorporated into the effectiveness evaluation portion of the Annual Report.

Program evaluation activities are performed and reported under the direction of Caltrans' Chief Environmental Engineer (CEE). The CEE will provide a management review of program activities on an annual basis; in addition, a comprehensive program evaluation will be performed by year four of the Caltrans NPDES Permit cycle that will be used to improve program performance during the next Caltrans NPDES Permit re-application period.

This section describes how Caltrans complies with Self-Audit requirements by implementing field compliance evaluation activities and reviewing certain targeted program elements for adherence to the SWMP. This section describes:

- Compliance evaluation program for field activities;
- Project Design Compliance Evaluation; and
- Targeted components within the Stormwater Program.

14.2.1 Compliance Evaluation Program for Field Activities

Field compliance evaluation plans are prepared for construction and maintenance operation activities. The following plans have been developed:

- Stormwater Program – Construction Compliance Evaluation Plan (CCEP)
- Stormwater Program – Maintenance and Operations Compliance Review Plan

The field compliance evaluation plans generally contain the following elements:

- Compliance Review Method
- Field Evaluation Selection Criteria
- Review Frequency
- Compliance Rating Criteria
- Feedback and Program Improvement

The results of the field evaluation program activities for each fiscal year will be provided in the Annual Report.

Section 2 describes the Caltrans construction compliance monitoring and the maintenance and operations compliance monitoring process. This section describes the evaluation procedures, criteria, reporting compliance, and BMP implementation trends and improvements.

14.2.2 Construction Compliance Evaluations

Construction compliance evaluations will be performed under the direction of the DEA Water Quality Program with the following objectives:

- Evaluate compliance of construction projects statewide with the requirements of the applicable NPDES permits;
- Satisfy the self-audit of field activities requirement of the Caltrans NPDES Permit;
- Report compliance status to Caltrans' management; and
- Evaluate BMP implementation trends and suggest areas of improvements.

14.2.2.1 Project Selection Criteria

The CCEP describes how construction projects to be reviewed are identified and prioritized. The criteria specified in the CCEP for prioritizing site reviews includes risk level, proximity to 303(d) listed watersheds, geographic region, time of year and project stage. Every year, all construction projects that are listed as Risk Level 2 or Risk Level 3 will be reviewed. District Construction Stormwater Coordinators will provide 24-hour notice to REs of reviews. CCEP reviews will be conducted during project site normal working hours. The third party CCEP inspectors will have a QSD certification and will not have been involved in the preparation of the construction documents for the site.

14.2.2.2 Project Review Criteria

Projects are reviewed for overall effectiveness and compliance with Caltrans NPDES Permit requirements. Stormwater BMPs are evaluated in accordance with the CCEP. In addition, the required stormwater administrative documentation is reviewed also in accordance with the

CCEP. Construction Project IQA reviews are conducted year round with emphasis placed on seasonal considerations. Field BMPs and administrative documentation that do not meet requirements of applicable permit and contract requirements are documented in an IQA review report as findings requiring corrective action.

14.2.2.3 Feedback and Program Improvement

The CCEP specifies procedures for providing feedback to the reviews to improve program performance. These procedures include trend evaluation in reported deficiencies to identify BMPs requiring improvement. Additionally, information gathered through the CCEP reviews will be evaluated to determine recommendations for the administration of a more effective program. Caltrans will perform an analysis of all CCEP IQA reviews annually and summarized in the Annual Report.

14.2.2.4 Construction Compliance Tracking

The DEA Water Quality Program monitors IQA reviews for Caltrans NPDES Permit compliance. Review findings are tracked to monitor the status of the corrective actions and resolution of findings that required corrective actions.

14.2.3 Maintenance and Operations Compliance Evaluations (Activities and Facilities)

Maintenance and Operations evaluations are performed under the direction of the DEA Water Quality Program with the following objectives:

- Evaluate compliance of maintenance activity and maintenance facility sites with the requirements of the Caltrans NPDES Permit;
- Satisfy the self-audit of field activities requirement of the Caltrans NPDES Permit;
- Report compliance status to Caltrans' management; and
- Evaluate BMP implementation trends and suggest areas of improvement.

14.2.3.1 Maintenance Activity and Maintenance Facility Site Review Criteria

Maintenance activity and maintenance facility sites are reviewed for overall effectiveness of BMP implementation. Each fiscal year a minimum of 10 maintenance activities will be inspected in each District. Maintenance facilities with the potential for a discharge within 300 feet of a water body (i.e., direct discharge) will be selected for annual reviews. The 300 feet will be measured from the point of discharge to the receiving water body. In each fiscal year, a minimum of twenty percent (20%) of all maintenance facilities will be inspected so that all maintenance facilities will be inspected at least once every five years.

District Maintenance Stormwater Coordinators will provide advance notice to the Maintenance Area Supervisor or facility manager the morning of a review except in cases where the review location is in a remote area or when safety, emergencies, or workload priorities necessitate a 24-hour advance notice.

During a review, the implementation of BMPs, non-stormwater management, waste management and disposal controls, and required documentation are rated. Reviews are

conducted year round. Compliance status is documented on a standardized site review form. The effectiveness of the BMPs observed is summarized and documented on the IQA report.

14.2.3.2 Feedback and Program Improvement

Information gathered from the maintenance compliance reviews will be evaluated to determine recommendations for the administration of a more effective Maintenance and Operations Stormwater Program. Information gathered from the compliance reviews will be shared with the Maintenance SWAT, HQ Maintenance, and the Division of Equipment on a regular basis. IQA review results will be summarized in the Annual Report.

14.2.3.3 Maintenance and Operations Compliance Tracking

The DEA Water Quality Program monitors IQA reviews for Caltrans NPDES Permit compliance. Review findings are tracked to monitor the status of the corrective actions and resolution of findings that required corrective actions.

14.3 Evaluation of Targeted Program Components

In addition to Caltrans' compliance evaluations for field activities, Caltrans will examine several targeted components and processes within the program. The following components to be evaluated include:

- IC/ID
- Training
- Facility Pollution Prevention Plan

Caltrans will develop a plan and implementation schedule for evaluating targeted program components. The findings and the corrective actions recommended for each component will be provided in the Annual Report.

15 Measurable Objectives

Caltrans has identified measurable objectives to meet the SWMP's goals, proposed activities and tasks to meet the objectives, and a time schedule for the proposed activities and tasks (see Table 15-1). Caltrans will report on its progress in meeting the measurable objectives in the Annual Report.

Table 15-1. Measurable Objectives and Caltrans NPDES Permit Requirements

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
a	"Fish Passage Design for Road Crossings" (CT, 2009)	A. Develop Program	Review/revise guidance	E.2.d.4), p. 40	Year 1
a	"Fish Passage Design for Road Crossings" (CT, 2009)	B. Implement Program	Report on review of document	E.2.d.4), p. 40	Year 2
b	"Fish Passage Design for Road Crossings" (CT, 2009)	C. Evaluate Program	Evaluate guidance and guidance implementation	E.2.d.4), p. 40	Year 2
b	Adequacy of CT Legal authority	C. Evaluate Program	Evaluate legal authority	E.2.b.2)a)-b), p. 21	Annually
b	Agricultural Return Flows	C. Evaluate Program	Evaluate guidance implementation	E.2.j.2), p. 49	Annually
d	Annual Report	B. Implement Program	Prepare report	E.3, p. 51	Annually
b	Article 3.5 of Streets and Highways Code SWRCB report - On status of locating, assessing, and remediating barriers to fish passage	C. Evaluate Program	Submit report	E.2.d.4), p. 40	Annually
a	ASBS Compliance Plan	A. Develop Program	Prepare plan	E.5.d., p. 55	Year 1
a	ASBS Compliance Plan	B. Implement Program	Implement plan	E.5.d., p. 55	Year 2
a	Comprehensive TMDL Monitoring Plan	A. Develop Program	Develop plan	ATT IV, Section III.A.1, p. IV-24	Year 2
d	Construction guidance	C. Evaluate Program	Evaluate guidance	E.2.f.2)-5), p. 42	Annually
c	Control Measures Planned for TMDL Implementation in the upcoming reporting period (January 1, 2015 - October 1, 2015)	C. Evaluate Program	Evaluate/prepare report	ATT IV, I.B.1, p. IV-3; III.A.3.a., p. IV-25	Year 2

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
a	District Work Plans	B. Implement Program	Prepare plan	E.3.b., p. 52	Annually
d	District Work Plans	C. Evaluate Program	Evaluate plan	E.3.b., p. 52	Annually
a	Documentation and reporting procedure (using Incident Report Form and filed electronically through SMARTS) that facilitates reporting of all known non-compliance incidents to SWRCB or RWQCB	B. Implement Program	Document and report	E.2.b.6), p. 23; ATT I, p. I-1	Annually
d	Documentation and reporting procedure (using Incident Report Form and filed electronically through SMARTS) that facilitates reporting of all known non-compliance incidents to SWRCB or RWQCB.	C. Evaluate Program	Evaluate documentation and reporting procedure	E.2.b.6), p. 23; ATT I, p. I-1	Annually
a	Effective Stormwater Management Plan (SWMP) that describes how NPDES Permit will be implemented.	A. Develop Program	Develop plan	E.1.a.-h., p. 19; E.2.a.-e., h.-o., p.21; E.3.a., p. 51; E.4.a.-b., p. 53; E.5., p. 53; E.6., p. 58; ATT III, p. III-1; ATT IV, p. IV-1; ATT V, p. V-1	Year 1
a	Fiscal Analysis	C. Evaluate Program	Evaluate fiscal analysis	E.2.b.3)a)-c), p. 22	Annually
a	Fiscal Analysis	C. Evaluate Program	Prepare budget	E.2.b.3)c), p. 22	Year 4
a	FPPP Template and Guidance	C. Evaluate Program	Evaluate plan implementation	E.2.h.2), p. 43	Annually
b	Guidance to ensure industrial activities and facilities are covered by Industrial General Permit	C. Evaluate Program	Evaluate guidance	E.2.g., p. 43	Annually
b	Highway maintenance activities as required	C. Evaluate Program	Evaluate implementation	E.2.h.3)a)-d), p. 44; E.2.h.4)a)-d), p. 47; E.2.h.6), p. 48	Annually

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
a	IC/ID & Illegal Dumping Response Plan	A. Develop Program	Develop plan	E.2.h.4)b)ii), p. 47	Year 1
b	IC/ID & Illegal Dumping Response Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.4)b)ii), p. 47	Annually
b	Implementation of SWMP, including practices and policies, and propose revisions in Annual Report	C. Evaluate Program	Evaluate plan implementation	E.2.a.-e., p. 21; E.2.h.-o., p. 43; E.3.a., p. 51; E.4.a.-b., p. 53; E.5., p. 53; E.6., p. 58; ATT III, p. III-1; ATT IV, p. IV-1; ATT V, p. V-1	Annually
a	Inspect and collect dissolved oxygen (DO) data from 20% of pump stations; apply corrective actions (San Fran Bay Region)	B. Implement Program	Maintain inventories	ATT V, Part 2, 7.b, p. V-3	Annually
c	Inspection and maintenance records to ensure Treatment BMPs that retain stormwater are operated and maintained to minimize mosquito production and drain within 96 hours of rain event (except per NPDES Permit)	C. Evaluate Program	Evaluate records	E.2.e.1)a), p. 40	Ongoing
d	Inspection Program	C. Evaluate Program	Evaluate facilities and activities	E.2.b.5), p. 22; E.2.e.2)a)-d), p. 41; E.2.h.5)a)-c), p. 48	Annually
a	Lake Tahoe Pollutant Load Reduction Plan	A. Develop Program	Develop plan	ATT IV, Table IV.2, p. IV-20	Year 2
b	Lake Tahoe Pollutant Load Reduction Plan	C. Evaluate Program	Evaluate plan implementation	ATT IV, Table IV.2, p. IV-20	Year 2
a	Lake Tahoe Stormwater Monitoring Plan	C. Evaluate Program	Develop plan	ATT IV, Table IV.2, p. IV-21	Year 1
a	Landslide Management Plan	A. Develop Program	Develop plan	E.2.h.3)d), p. 46	Year 1
b	Landslide Management Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.3)d), p. 46	Annually

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
a	Monitoring Program - Tier 1/Tier 2 and ASBS Monitoring Requirements	A. Develop Program	Prepare program	E.2.c.1)-6), p. 23	Year 1
a	Monitoring Program - Proposed Tier 2 prioritized monitoring locations	A. Develop Program	Develop/submit	E.2.c.1)-4), p. 23	Year 1
a	Monitoring Program - Quality Assurance Project Plan	A. Develop Program	Develop plan	E.2.c.4), p. 31	Year 1
b	Monitoring Program	B. Implement Program	Conduct monitoring	E.2.c.1)-4), p. 23	Annually
a	Monitoring Program - Monitoring Results Report	B. Implement Program	Prepare and submit report	E.2.c.5)a)-d), p. 31	Annually
c	Monitoring Program	C. Evaluate Program	Assess and evaluate results	E.2.c.1)-4), p. 23; E.2.c.5)a)-d), p. 31	Annually
a	Monitoring Tier 1	B. Implement Program	Conduct monitoring	ATT III, p. III-1; E.2.c.2)a)i)(1)(b), p. 25	Ongoing
a	Municipal Coordination Plan	A. Develop Program	Develop plan	E.2.b.1)a)-b), p. 21	Year 1
c	Municipal Coordination Plan	C. Evaluate Program	Evaluate plan implementation	E.2.b.1)a)-b), p. 21	Annually
d	New construction guidance as needed to comply with new Statewide Construction General Permit (CGP) and new Lake Tahoe Construction General Permit (TCGP) requirements	C. Evaluate Program	Evaluate guidance	E.2.f.1), p. 42	As needed
c	Overall Program Effectiveness	C. Evaluate Program	Evaluate effectiveness	E.2.m.3), p. 50	Annually
a	Policies and procedures that address General Discharge Prohibitions, Non-Stormwater Discharges, Effluent Limitations, and Receiving Water Limitations requirements	C. Evaluate Program	Evaluate policies and procedures	A, B, C, D, p. 14	Annually

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
c	Public Education Program	C. Evaluate Program	Evaluate Public Education Program	E.2.l.2), p. 50	Annually
a	Pump station inspection and monitoring results (San Fran Bay Region)	C. Evaluate Program	Report results	ATT V, Part 2, 7.b, p. V-3	Annually
b	Self-Audit	C. Evaluate Program	Evaluate/prepare report	E.2.m.2), p. 50	Annually
a	Sources of Sediment Discharge in North Coast Region inventory	A. Develop Program	Develop inventory	ATT V, Part 1.a., p. V-1	Year 2
a	Sources of Sediment Discharge in North Coast Region inventory	B. Implement Program	Maintain inventories	ATT V, Part 1.a., p. V-1	Annually
a	Stormwater Pump Stations (San Fran Bay Region) inventory	A. Develop Program	Develop inventory	ATT V, Part 2, 7.b, p. V-2	Year 3
c	Stormwater Treatment BMP Technology Report	C. Evaluate Program	Prepare and submit updates	E.2.e., p. 40	Annually
c	Stormwater Monitoring and BMP Development Status Report in Annual Report	C. Evaluate Program	Prepare and submit updates	E.2.e., p. 40	Annually
a	Structural BMP inventory (which retain water for more than 96 hours) to California Department of Public Health electronically	C. Evaluate Program	Submit inventory	E.2.e.1)b), p. 41	Biennially
a	Structural BMPs (which retain water for more than 96 hours) inventory	A. Develop Program	Develop inventory	E.2.e.1)b), p. 41	Year 2
a	Structural BMPs (which retain water for more than 96 hours) inventory	B. Implement Program	Maintain inventories	E.2.e.1)b), p. 41	Biennially
a	TMDL - Reach Prioritization	A. Develop Program	Develop inventory	ATT IV, Section I.A.4, p. IV-2	Year 1
c	TMDL - Implementation Plan (Jan 1 to Oct 2015)	C. Evaluate Program	Evaluate/prepare report	ATT IV, Section III.A.3, p. IV-25	Year 2

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Caltrans NPDES Permit Section/ Page #	Frequency
c	TMDL - Progress Report	C. Evaluate Program	Evaluate/prepare report	ATT IV, Section III.A.3.a., p. IV-25	Year 5
c	TMDL - TMDL Status Review Report	C. Evaluate Program	Evaluate/prepare report	E.4.b., p. 53; ATT IV, Section I.B.3., p. IV-4; ATT V, Part 2, 1.-6., p. V-2	Annually
c	Training	C. Evaluate Program	Review/assess training	E.2.k.3), p. 49	Annually
c	Trash and litter activities (report and evaluate)	C. Evaluate Program	Evaluate activities	E.2.h.4)c), p. 47	Annually
c	Trash Reduction Reporting	C. Evaluate Program	Evaluate reporting	ATT V, Part 2, 6. p. V-3	Annually
a	Update Lake Tahoe Pollutant Load Reduction Plan on strategy to achieve pollutant load reduction requirements for second five-year TMDL implementation period (ten-year load reduction milestone)	C. Evaluate Program	Develop plan	ATT IV, Table IV.2, p. IV-21	Year 5
c	Vegetation controls (applications of pesticides, herbicides, and fertilizers) program	C. Evaluate Program	Evaluate controls	E.2.h.3)b), p. 44	Annually
a	Waste Management Plan	A. Develop Program	Develop plan, inventory	E.2.h.3)c)iii), p. 46	Year 1
d	Waste Management Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.3)c)iii), p. 46	Annually
a	Watershed-based Treatment BMPs and Maintenance inventory	B. Implement Program	Maintain inventories	E.2.e.2)d), p. 41	Ongoing
a	Watershed-based Treatment BMPs inventory	A. Develop Program	Develop inventory	E.2.e.2)d), p. 41	Annually

a) Evaluation of program efectiveness in achieving Caltrans NPDES Permit requirements and measurable objectives.
b) Evaluation of program efectiveness in protecting and restoring water quality and beneficial uses.
c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.

d) Identification of how Caltrans will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness evaluation identify BMPs or programs that are ineffective or need improvement.

Annually = Submitted via the Annual Report or performed annually
As needed = Where applicable on a case by case basis
Biennially = Activities performed every other year
Ongoing = Activities performed throughout the Caltrans NPDES Permit term

Year 1 = Fiscal Year 2013-2014
Year 2 = Fiscal Year 2014-2015
Year 3 = Fiscal Year 2015-2016
Year 4 = Fiscal Year 2016-2017
Year 5 = Fiscal Year 2017-2018

16 Reporting

16.1 Overview

This section describes the following reporting activities:

- Non-Compliance Reporting;
- Annual reporting of program activities;
- SWMP Revisions;
- District Work Plans (DWP);
- TMDL Status Review Report;
- Planned TMDL Implementation Activities (January 1, 2015 – October 1, 2015);
- TMDL Progress Report; and
- IC/ID reporting (see Section 10.3).

Caltrans is required to provide documentation on specific elements of the Caltrans NPDES Permit (activities and deliverables) to the online Stormwater Multiple-Application Report and Tracking System (SMARTS). All SMARTS entries will be conducted by a designated Legally Responsible Person(s) (LRPs) or by the 'duly authorized representative(s),' designated by the LRP(s). Designed LRPs for SMARTS reporting will be assigned for the sole purpose of adhering to the electronic filing requirements required by the Caltrans NPDES Permit. Caltrans may develop a reporting structure for each program area that requires electronic filing in SMARTS.

16.2 Non-Compliance Reporting

16.2.1 Overview

Caltrans NPDES Permit Section E.2.b.6) requires Caltrans to report all known incidents of actual and anticipated non-compliance. Each District Work Plan will identify the responsible parties for non-compliance reporting within each District.

Actual types of non-compliance incidents are emergency, field, and administrative. Anticipated types of non-compliance incidents are field and administrative. Emergency incidents are sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

Field non-compliance may arise from the following:

- Discharge of pollutants to surface water caused by lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s).
- Monitoring data indicating an exceedance of a defined standard. Defined standards include TMDL requirements, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and RWQCBs, including California Ocean Plan limitations and prohibitions.

- Discharge of prohibited non-stormwater (as defined in Provision E of the Caltrans NPDES Permit) to surface water.
- Failure to comply with a site's Facility Pollution Prevention Plan (FPPP) BMP requirements, which results in a discharge to surface water.
- Failure to comply with inspection, monitoring, and reporting requirements and protocols.

Reports of field non-compliance may come from the following sources:

- Construction Project Activities not subject to the CGP or the Lake Tahoe CGP – Discharges on a construction site should first be addressed by the contractor, as that is where the responsibility for Caltrans NPDES Permit compliance rests. The contractor's own QC program, such as conducting inspections and submitting inspection reports, and providing annual certifications, should prevent or catch discharges missed by the contractor's crews. A contractor's implementation or QC failure will be verified by the Resident Engineer (RE), site inspectors, or other District staff.
- Encroachment Permit Activities not subject to the CGP or Lake Tahoe CGP– Non-compliance may be discovered by the Encroachment Permit inspector. Notice may also come from local agencies. Any discharge will be referred to the District NPDES Coordinator who ensures an Incident Report Form is submitted.
- Caltrans Staff – Caltrans staff is to notify the District NPDES Coordinator for compliance assurance and follow-up for all construction, maintenance and encroachment permit issues. The District NPDES coordinator will contact the appropriate staff member of the Construction Division, Maintenance Division, or Traffic Operations (Encroachment Permits).
- Notification from a Regional Water Quality Control Board – RWQCB staff may contact Caltrans staff regarding a potential non-compliance incident. Appropriate action, based on where the incident occurs, will be taken by the District NPDES Coordinator.
- Reports from the Public – Public complaints may come directly to Caltrans or through other local, state, or federal government agencies. Communication is referred to the District NPDES Coordinator for compliance assurance and follow-up.

Administrative non-compliance arises from the following:

- Failure to submit reports or documents required by the Caltrans NPDES Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information;
- Failure to develop and/or maintain a site-specific FPPP; or
- Failure to implement any other procedural requirement of the Caltrans NPDES Permit.

Reports of administrative non-compliance may come from the following sources:

- Third-party independent reviews conducted as part of the Caltrans self-audit program.
- Quality assurance reviews performed by Caltrans personnel.
- Stormwater program audits performed by regulatory or oversight agencies.

Non-compliance incidents for the following activities are not subject to the reporting requirements of Section E.2.f.6) of the Caltrans NPDES Permit and are instead subject to the requirements of their respective permits:

- Construction activities (projects) covered by the CGP and the Lake Tahoe CGP.-
- Industrial activities covered by the IGP.-

16.2.2 Reporting of Actual Incidents of Non-Compliance

Non-compliance reporting for actual non-compliance incidents will occur via verbal notification and the electronic filing of an Incident Report form in the Stormwater Multiple Application Report and Tracking System (SMARTS). Each DWP will identify the responsible parties for non-compliance reporting within each District.

Caltrans will report non-compliant incidents as listed in Table 16-1 (see Appendix A for the Incident Reporting form for field and administrative incidents). Distribution of incident reports internally between the SWRCB and any RWQCB will be conducted through SMARTS.

Table 16-1. Notification Schedule for Actual Incidents of Non-Compliance

Type of Incident	Within 5 Working Days (Verbal Notification)	Within 10 Working Days (Written Notification)[5]	Within 30 Calendar Days (Written Notification)	In Annual Report
Emergency[1,2]				Chronological summary and status of all incidents
Field [2,3]	Notify Caltrans HQ DEA-SWP; Notify RWQCB Exec Officer	To RWQCB Exec Officer; Copy HQ DEA-SWP;		Chronological summary and status of all incidents
Administrative[4,5]	Notify HQ DEA-SWP; Notify RWQCB Exec Officer or SWRCB Contact		To RWQCB Executive Officer, SWRCB Executive Director; Copy to Caltrans HQ DEA-SWP.	Chronological summary and status of all incidents

1. Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

2 Additional immediate reporting to the Office of Emergency Services is required in compliance with Water Code §13271 if Caltrans causes or permits a discharge of a hazardous substance or sewage to waters of the state or discharges or deposits hazardous waste or sewage where it will or probably will be discharged to waters of the state. See Cal OES Notification Guidance (http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-Spill_Booklet_Feb2014_FINAL_BW_Acc.pdf).

3. Failure to meet any non-administrative (field) requirement of this SWMP or the Caltrans NPDES Permit or to meet any applicable water quality standard. This includes failure to install required BMPs which result in a disharge to surface water, conduct required monitoring, or conduct maintenance which results in a discharge to surface water. It also includes discharges of prohibited non-stormwater to surface water that do not meet the

definition of emergency incidents. It does not include determinations by Caltrans or a RWQCB Executive Officer that a discharge is causing or contributing to an exceedance of an applicable Water Quality Standard (WQS). See provision E.2.c.6)c) of the Caltrans NPDES Permit.

4. Failure to meet any administrative or procedural requirement of this SWMP or the Caltrans NPDES Permit including submission of required reports, notifications and certifications. The report of non-compliance must be submitted to the same organization (SWRCB or RWQCB) to which the required report was originally due.

5. Written documentation for discharges to receiving water must be submitted through an Incident Report Form, all other field and administrative non-compliance incidents may be submitted through a letter.

16.2.3 Anticipated Non-Compliance

Caltrans will report all potential or threatened anticipated non-compliance to the SWRCB and appropriate RWQCB in accordance with "Anticipated non-compliance" provisions described in Attachment VI of the Caltrans NPDES Permit. The report will describe the timing, nature, and extent of the anticipated non-compliance. Potential non-compliance may be for field or administrative incidents as described in Section 16.2.1 only. Threatened non-compliance is when any planned changes at a facility, at a Caltrans construction site, or at a maintenance activity site covered under the Caltrans NPDES Permit may result in non-compliance with the Caltrans NPDES Permit requirements. --The submittal of an Incident Report Form is not required for anticipated non-compliance.

16.3 Annual Report

16.3.1 Overview of the Annual Report

The Annual Report summarizes significant activities and events related to implementation of the SWMP for each fiscal year (i.e., July 1 through June 30). Caltrans submits thirteen copies of the Annual Report to the SWRCB Executive Director and uploads an electronic portable document format (PDF) copy into SMARTS by October 1 each year according to the following schedule:

Table 16-2. Annual Report Submittal Dates

Fiscal Year (Reporting Period)	Annual Report Due Date
July 2013 – June 2014	October 1, 2014
July 2014 – June 2015	October 1, 2015
July 2015 – June 2016	October 1, 2016
July 2016 – June 2017	October 1, 2017
July 2017 – June 2018	October 1, 2018

The Annual Report will contain all information and submittals required by this Order including, but not limited to:

1. A District-by-District description of storm water pollution control activities conducted during the reporting period;
2. A progress report on meeting the SWMP's measurable objectives;
3. An Overall Program Effectiveness Evaluation as described in section E.2.m.3);
4. Proposed revisions to the SWMP, including revisions to existing BMPs, along with corresponding justifications;
5. A report on post-Construction Site BMP maintenance activities;
6. A list of non-approved BMPs that were implemented in each District during the reporting period including the type of BMP, reason for use, physical location, and description of any monitoring;
7. An evaluation of project planning and design activities conducted during the year;
8. A summary of non-compliance with this Order and the SWMP as specified in Section E.2.c.6)b). The summary will include an assessment of the effectiveness of any Department enforcement and penalties, and as appropriate, proposed solutions to improve compliance;
9. An evaluation of the Monitoring Results Report, including a summary of the monitoring results;
10. Proposed revisions to the Department's Vegetation Control Program;
11. Proposals for monitoring and control of non-storm water discharges that are found to be sources of pollutants as described in Section B. of the Caltrans NPDES Permit;
12. District Work Plans (See below);
13. Measures implemented to meet region-specific requirements; and
14. Inventory of stabilization activities.

The Annual Report serves the purpose of evaluating, assessing, and reporting on each relevant element of the stormwater program, and revising activities, control measures, BMPs, and measurable objectives, as necessary, to meet the applicable standards.

The Annual Report will evaluate compliance with permit conditions, evaluate and assess the effectiveness of BMPs, summarize the results of the monitoring program, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to the SWMP.

The format of the Annual Report will be consistent with the organization of the SWMP. Consequently, activities described in the Annual Report can be compared to the commitments or activities defined in the SWMP. In some cases, information to be reported may not be suitable or convenient for inclusion in the Annual Report and may be issued as supplements, for example, documentation of monitoring data. When supplements are used, the narrative portion of the Annual Report will identify the supplement, and the supplement is provided with the Annual Report, if it has not been previously submitted. The Annual Report and supplemental materials will be available to the public via Caltrans' website (http://www.caltrans.ca.gov/hq/env/stormwater), Caltrans' Stormwater library, or by a public records request.

16.4 SWMP Revisions

When Caltrans divisions identify needed changes, they submit these in writing to the Division of Environmental Analysis. Any Caltrans entity (e.g., Office, SWAT, and Division) may request a change, as well as the SWRCB and RWQCBs.

When Caltrans proposes significant changes for the SWMP, the changes are identified in a proposed SWMP that depicts deleted text in strikeout and added text in underline. The purpose and need of these changes are described either in the Annual Report or in a separate submittal. Significant changes to the SWMP will require a public notice and approval by the SWRCB at a Board Hearing. Minor changes may be approved by the Executive Director. All proposed changes will be included in a formal request from Caltrans to the SWRCB.

16.5 District Work Plans

Provision E.3.b of the Caltrans NPDES Permit requires the submittal of District Work Plans (DWPs) as part of the Annual Report. DWPs describe the organization of each Caltrans District's stormwater program and outline the planned stormwater activities the Districts will conduct to implement the SWMP for the upcoming fiscal year. The Districts are responsible for implementation of the stormwater program consistent with statewide model practices in collaboration with Headquarters Division of Environmental Analysis and other applicable Headquarters Functions consistent with the process as described in Section 2.2 of the SWMP.

Caltrans will develop and submit DWPs to the SWRCB each year by October 1, as part of the Annual Report. The DWPs will also be forwarded by HQ DEA to the appropriate RWQCB Executive Officer for acceptance. The DWPs are deemed accepted 60 days after receipt by the RWQCB unless rejected in writing. District staff will meet with RWQCB staff annually before submitting the DWPs to discuss alternatives and ensure appropriate post construction controls are included in the project development process through review of the DWPs and early consultation and coordination between District and RWQCB staff. DWPs will conform to the requirements of applicable RWQCB Basin Plans and will include, at a minimum:

- A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this will include a description of the construction and post construction controls to be implemented;
- The area of disturbed soil associated with each project or activity;
- The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project;
- A description of other permits needed from the RWQCBs for each project or activity;
- Potential and actual impacts of the discharge(s) from each project;
- The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with TMDLs assigned to Caltrans for specific pollutants in specific watersheds or sub watersheds;
- The elements of the statewide monitoring program to be implemented in the District;

- Identification of high-risk areas (such as locations where spills or other releases may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities);
- Spill containment, spill prevention and spill response and control measures for high-risk areas;
- Proposed measures to be taken to meet Region-specific requirements listed in Section 13; and
- An inventory of vulnerable road segments with slopes prone to erosion and sediment discharge.
- A list of all deviations from the prior year's DWPs that have resulted or will result in the Permit or SWMP non-compliance and provide a summary of all corrective efforts.

Section 1 – Introduction – contains general statements regarding the DWP and its organization.

Section 2 – Personnel and Responsibilities – describes positions, addresses, and telephone numbers of personnel with responsibilities for stormwater operations within the Districts. This section also identifies positions having signatory authority for various notifications or documents required for submittal by a District (e.g., notice of construction).

Section 3 – District Facilities and Water Bodies – identifies maintenance stations (to include identification of crew function and street address), vista points, commercial vehicle enforcement areas, roadside rest areas, park and ride facilities, and toll road and bridge plazas. In addition, this section contains a map depicting the roadways, significant water bodies, and RWQCB watersheds (Hydrologic Unit Boundaries).

Section 4 – Drinking Water Reservoirs and Recharge Facilities – describes and identifies high-risk areas (such as locations where spills or other releases from Caltrans-owned rights-of-way, roadways or facilities may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities. Projects that potentially drain to these areas consider project features that enhance spill response.

Section 5 – Slopes Prone to Erosion – identifies the road segments within each District that have slopes that are prone to erosion and sediment discharge.

Section 6 – Implementation – identifies projects within Project Initiation Document (PID), Project Approval/Environmental Document (PA/ED), Plans, Specifications, and Estimates (PS&E), and Construction phases. These projects are limited to those meeting any of the following criteria:

- All projects that require soil disturbing activities
- Adjacent to a Drinking Water or Ground Water Recharge Facility, as described in Section 4 of the DWP
- A supplemental environmental project
- Additional projects per agreement between the District and local RWQCB

Projects are presented in a manner that identifies the following, if applicable:

- Location (county, route and post mile limits)
- Project number (Expense Authorization)
- Basic Project Description
- Disturbed soil area
- Presence of receiving waters within or adjacent to project limits, with special designation for 303(d) listed water bodies (adopted)
- Drinking Water Reservoir or Ground Water Recharge Facility within or adjacent to project (as identified in Section 4 of the DWP)
- Projected milestone dates of PID, PA/ED, PS&E, begin Construction, and end Construction
- Construction and Post-Construction Treatment Controls (types and quantities)
- Dredge and fill (CWA-401) activities within the project
- Other RWQCB permits required
- Potential and Actual Impacts of Project's Discharge
- Area of New Impervious Surface
- Percentage of New Impervious Surface to Existing Impervious Surface

Updated lists of projects meeting these criteria will also be provided to the RWQCB -on October 1. Furthermore, Section 6 identifies planned maintenance activities involving water bodies that may require action by the RWQCB under Section 401 of the CWA. Information associated with the activities includes location, affected water body, and area of disturbance. In addition, Section 6 describes planned efforts of stormwater monitoring within the District; however, these activities may be conducted jointly with other Districts and HQ. Consequently, information contained in a DWP may be repeated in another DWP.

Section 7 – Region-Specific Activities –identifies the applicable region-specific activities (if applicable) that the District has planned for the fiscal year to address requirements listed in Attachment V of the Caltrans NPDES Permit, including the following:

- North Coast Region: Activities to Address Riparian Vegetation Removal
- San Francisco Bay Region: Trash Load Reduction Activities and Storm Water Pump Stations Activities
- Lahontan Region: Natural Environment as Treatment (NEAT) Treatment Control Design, Vegetation Removal or Existing Ground Surface Disturbance Prohibition, and Project Review Requirements

Caltrans coordinates its stormwater management activities with other MS4 stormwater management programs under the oversight of the District Directors. Activities for the upcoming fiscal year are included in each of the DWPs and certified by the District Director.

16.6 Municipal Coordination Program Report

Caltrans' Municipal Coordination Plan (Section 2.3) describes the types of municipal relationships that Caltrans views as mutually beneficial to itself and various local jurisdictions, along with a description of the circumstances that would prompt Caltrans coordination with local jurisdictions, and the protocols under which Caltrans staff would operate in these scenarios. The Municipal Coordination Program Report will also include cooperative implementation agreements established for TMDL compliance activities.

16.7 TMDL Status Review Report

The TMDL Status Review Report is submitted with each Annual Report. Caltrans must start the required implementation actions for the minimum number of Compliance Units (CU) to be achieved annually in the prioritized reaches identified by the State and Regional Water Boards. The following information should be included in each TMDL Status Review Report:

- Planned Control Measure Implementation Activities (for the upcoming reporting period):
    - Name of the waterbody,
    - Associated TMDL,
    - Proposed control measures,
    - Proposed number of compliance units per control measure, and
    - Projected schedule for installation of control measures with anticipated beginning and ending dates.
- Status of Implementation Activities (for the previous reporting period):
    - The status of implementation activities,
    - The locations of the control measures,
    - The size and type of BMPs that were installed,
    - The effectiveness of the BMPs installed, including any pertinent monitoring data (e.g., influent vs. effluent data),
    - A summary update of any cooperative implementation agreements (see Attachment IV, section II.B.1) including those that are solely for each TMDL,
    - A summary update of activities and/or actions that have been completed for any cooperative implementation agreement for each TMDL,
    - A summary update of projects initiated under the cooperative implementation grant program (see Attachment IV, section II.B.2),
    - A summary update of activities and/or actions that have been completed for any projects under the cooperative implementation grant program,
    - A summary of institutional control measures implemented to comply with Attachment IV,

  - A summary of TMDLs adopted during the past year where Caltrans is assigned a WLA or Caltrans is identified as a responsible party in the implementation plan,
  - A discussion, supported by data and analysis, of whether Caltrans considers work in the reach complete, and
  - Any other information requested by the State Water board Executive Director or designee.
- A discussion on the implementation activities within the highest prioritized reaches to achieve a minimum of 1,650 CUs. A CU is considered to be one acre of Caltrans' Right-of-Way (ROW) from which the runoff is retained, treated, and/or controlled prior to discharge into the relevant reach. CUs may be allocated for the following actions:
  - Stand-alone BMP retrofits,
  - Cooperative implementation,
  - Monitoring program-related retrofits,
  - Post-construction treatment beyond the Caltrans NPDES Permit requirements, and
  - Other pollution reduction practices necessary to comply with the TMDL.
- Caltrans may receive credit for CUs by contributing funds to Cooperative Implementation Agreements and/or the Cooperative Implementation Grant Program. Caltrans may receive credit for one compliance unit for each $88,000 that it contributes. For Cooperative Implementation Agreements, the credit will be received when Caltrans transfers the funds to a responsible party. For the Cooperative Implementation Grant Program, the credit will be received when Caltrans transfers the funds to the State Water Board.

  No credit will be given to post-Construction Site BMPs that only meet the minimum requirements of the Caltrans NPDES Permit. Other projects within a TMDL watershed where treatment is provided above and beyond the post-construction requirements of the Caltrans NPDES Permit, may receive Compliance Unit credits. Cooperative Implementation Agreements and/or Cooperative Implementation Grant Program Activities:

  - Caltrans will seek to establish agreements for cooperative implementation studies with other parties that have responsibility for a TMDL, except where precluded by a TMDL or where specific implementation requirements are prescribed in Appendix D. Cooperative agreements that only involve monitoring are not eligible for compliance units.
  - Where Caltrans has existing cooperative implementation agreements with other responsible parties, and will evaluate the commitments and requirements of those agreements.
  - Where Caltrans has not yet committed to cooperative implementation efforts, but intends to do so, Caltrans will provide written notification, including the anticipated date of commitment, to the State Water Board in its TMDL Status Review Report.
  - Cooperative agreements relative to the TMDL implementation activity are subject to approval by the applicable Regional Water Board Executive Officer.

Cooperative agreements will describe the terms of the mutually agreed activities to be performed, and at a minimum will include:

- The date the cooperative agreement was approved by the Regional Water Board,
- A map showing the location of work to be performed in the reach,
- Any monitoring program parameters and responsibilities,
- Any implementation responsibilities, including BMP Operation and Maintenance,
- Any funding commitments that correspond with the implementation responsibilities, and
- A termination clause upon failure to comply with the terms and conditions of the agreement, as applicable

- Caltrans will submit sufficient information to document the progress in achieving the requirements of the TMDL for each cooperative implementation agreement in its annual TMDL Status Review Report.
- If Caltrans is not participating or has not given notice of its intent to participate in cooperative implementation efforts, or Caltrans is not fulfilling its cooperative implementation responsibilities under an agreement, and will summarize in the TMDL Status Review Report.
- Caltrans may establish a cooperative implementation grant program to be administered by the State Water Board for TMDL watersheds.
- Caltrans may elect to establish a grant program. Caltrans and the State Water Board will prepare an agreement specifying the terms of the grant program and the commitments and responsibilities of the parties. Caltrans will be responsible for paying the State Water Boards' cost of administering the grant program.
- Cooperative implementation grants will be used to fund capital projects undertaken by other responsible parties in impaired watersheds in which Caltrans has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation grant applications that are consistent with the final prioritized Categorical Inventories of Reaches will be given a higher priority for funding. Cooperative implementation grants will not be awarded for projects that only involve monitoring, where precluded by a TMDL, or where specific implementation requirements are described in Appendix D.

16.7.1 Planned TMDL Implementation Activities (January 1, 2015 – October 1, 2015)

On January 1, 2015, Caltrans submitted the required information in Section I.B. of Attachment IV regarding planned implementation of control measures for the upcoming reporting period (January 1, 2015 – October 1, 2015).

16.7.2 TMDL Progress Report

Caltrans will prepare and submit a TMDL Progress Report by January 1, 2018, to the State Water Board as part of its report of waste discharge under Provision E.13.c. Caltrans will summarize the previous year's TMDL monitoring results, deliverables, and other actions as specified in its annual TMDL Status Review Report. The TMDL Progress Report will be presented to the SWRCB as an informational item and include the following information:

- A summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of the BMP effectiveness evaluation,
- A determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines,
- Where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants,
- A summary of the estimated quantified amount of pollutants prevented from entering into the receiving waters as a result of BMPs, cooperative agreements, or other source control measures taken, and
- An analysis demonstrating that the level of effort (1650 compliance units/year) during the present Caltrans NPDES Permit cycle will be sufficient to achieve WLAs and other performance standards for all TMDLs listed in Table IV.2 by 2034. The analysis will be performed and provide a reasonable assurance that applicable standards and performance criteria will be met.

17 References

Following is a list of items referenced in this report.

Caltrans. (2010, April). Treatment BMP Technology Report. Retrieved from http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-09-239-06.pdf

Caltrans. (2012). Highway Design Manual. Retrieved from http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/HDM_Complete_06-21-13.pdf

Caltrans. (2012). Highway Design Manual.

Lahontan RWQCB. (2011). Lake Tahoe Construction General Permit. Retrieved from http://www.waterboards.ca.gov/lahontan/water_issues/programs/storm_water/docs/tahoe_cgp.pdf

SWRCB. (2009, September 2). National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. Retrieved from http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

SWRCB. (2012). National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities. Retrieved from http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml

SWRCB. (2012, September 19). National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Waste Discharge Requirements (WDRS) for State of California Department of Transportation. Order No. 2012-0011-DWQ, NPDES No. CAS000003. Retrieved from http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2012/wqo2012_0011_dwq.pdf

SWRCB. (2014, September 19). Amendment to Order 2012-0011-DWQ. Order No. 2014-0077-DWQ, Permit TMDL Implementation, effective July 1, 2014. Retrieved from http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/caltrans/wqo2014_0077_dwq.pdf

U.S. EPA. (1998). Code of Federal Regulations Title 40, Volume 13, Section 122.26. Retrieved from http://www.gpo.gov/fdsys/pkg/CFR-1998-title40-vol13/xml/CFR-1998-title40-vol13-sec122-26.xml

U.S. EPA. (2010, October 26). Findings of Violation and Order for Compliance. Retrieved from http://www.epa.gov/region9/water/npdes/pdf/ms4/Caltrans-order.pdf

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Appendix A. Incident Report Form

Type of incident: ❒ **Field** ❒ **Administrative**	
Name of person completing this form:	Person's agency name and address:
	Person's phone and e-mail:

For Field incidents complete Sections 1 and 3. For Administrative incidents, complete Section 2. See Non-compliance Notification Schedule on Page 2.

SECTION 1: Field incidents

Date(s) and time(s) of incident:	1. Start date/time:
	2. End date/time:
Location of Incident:	3. Nearest city/town:
County:	4. Street address/nearest cross street:
	5. Latitude/Longitude:
	6. Additional location detail:
Materials involved in the incident: (use Comments Section below if necessary)	6. Name(s) of material(s) discharged:
	7. Approximate quantity discharged (specify units):
	8. Approximate concentration of material:
Discharge to surface water? ❒ **No** ❒ **Yes** If yes, answer questions 9-11	9. Name of water body:
	10. Apparent effects (if any) on water body:
	11. Estimated extent of impacts to water body:
Was CalEMA notified? ❒ **No** ❒ **Yes** If yes, answer questions12-14	12. Date and time of notification:
	13. Name of person making the notification:
	14. Phone number of person making the notification:
Was the Regional Water Board notified? ❒ **No** ❒ **Yes** If yes, answer questions 15-17	15. Name of RWB contact:
	16. RWB contact's phone/e-mail:
	17. Name of person making the notification:
Were downgradient communities/people notified? ❒ **No** ❒ **Yes** If yes, answer questions 18 - 20	18. Date and time of notification:
	19. Name of person making the notification:
	20. Phone number of person making the notification:
	21. Name of downgradient community/ person:

Field Non-compliance (check all that apply)	
❒	Discharge of pollutants to surface water caused by lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s).
❒	Monitoring data indicates an exceedance of a defined standard. Defined standards include TMDL Waste Load Allocations, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions.
❒	Discharge of prohibited non-stormwater (as defined in Provision B of the Caltrans NPDES Permit) to surface water.
❒	Failure to comply with a site's Facility Pollution Prevention Plan (FPPP) BMP requirements, which results in a discharge to surface water.
❒	Failure to comply with inspection, monitoring, and reporting requirements and protocols.
❒	Other (describe - use Comments Section below if needed):

SECTION 2: Administrative Non-compliance (check all that apply)

❒	Failure to submit reports or documents required by the Caltrans NPDES Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information.
❒	Failure to develop and/or maintain a site-specific FPPP or to implement any other procedural requirement of the Caltrans NPDES Permit.
❒	Other (describe - use Comments Section below if needed):

SECTION 3: Description of Incident

Activities in the area prior to the incident (If any):
Initial assessment of any impact caused by the discharge (If any):
Samples collected and analyses requested (If any):
Steps taken to mitigate damage and prevent reoccurrence (If any):
Current Status:
Schedule for proposed mitigation/abatement (If any):
Other Comments:

Non-compliance Notification Schedule

Type of Incident	Within 5 Working Days(Verbal)	Within 10 Working Days(Written)	Within 30 Calendar Days (Written)	In Annual Report
Emergency Incidents[1]	–	–	–	Chronological summary and status of all incidents
Field[2]	Notify Regional Water Board Executive Officer	To Regional Water Board Executive Officer and copies to Caltrans HQ	–	Chronological summary and status of all incidents
Administrative[3]	Notify Regional Water Board Executive Officer or State Water Board Contact[3]	–	To Regional Water Board Executive Officer, State Water Board Executive Director, and copies to Caltrans HQ	Chronological summary and status of all incidents

[1] Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

[2] Failure to meet any non-administrative requirement of the SWMP or Caltrans NPDES Permit or to meet any applicable water quality standard. This includes failure to install required BMPs or conduct required monitoring or maintenance. It also includes discharges or prohibited non-stormwater that do not meet the definition of emergency incidents. It does not include determinations by the Department (Caltrans) or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS. See provision E.2.c.6)c).

[3] Failure to meet any administrative or procedural requirement of the SWMP or Caltrans NPDES Permit including submission of required reports, notifications, and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.

Certification *– I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Signature of Contractor (if applicable)	**Title**	**Telephone**	**Date:**
Signature of Department Representative	**Title**	**Telephone**	**Date:**

Appendix B. Monitoring Constituent List

(ASBS Monitoring as prescribed by the California Ocean Plan dated 2009. Not Applicable to ASBS Discharges)

Constituent	Analytical Method	Reporting Limit[16]	Units
WATER COLUMN CHEMISTRY			
Conventional Pollutants			
Hardness as CaCO3	SM 2340 B or C	5	mg/L
pH	Calibrated Field Instrument		pH Units
Temperature	Calibrated Field Instrument		C +/-
Flow Rate	Calibrated Field Instrument		ft3/s
Total Dissolved Solids	EPA 160.1	1	mg/L
Total Suspended Solids	EPA 160.2	1	mg/L
Hydrocarbons			
Oil & Grease	EPA 1664B	1.4	mg/L
Polycyclic Aromatic Hydrocarbons (Total)	EPA 8310	0.05	µg/L
Nutrients			
Total Kjeldahl Nitrogen (TKN)	EPA 351.3	100	µg/L
Nitrate as Nitrogen (NO_3-N)	EPA 300.0	100	µg/L
Phosphorous (Total)	EPA 365.2	30	µg/L
Metals			
Aluminum (Total)	EPA 200.8	25	µg/L
Chromium (Total)	EPA 200.8	1	µg/L
Copper (Total)	EPA 200.8	1	µg/L
Iron (Total)	EPA 200.8	1	µg/L
Lead (Total)	EPA 200.8	1	µg/L
Zinc (Total)	EPA 200.8	5	µg/L
Microbiological			
Fecal Coliform	SM 9221 C E	2	MPN/100 mL
Enterococcus[17]	EPA 1600	2	CFU/100 mL
WATER COLUMN TOXICITY			
Chronic[18]	EPA 821-R-02-013	Pass/Fail	

[16] Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Water Boards shall be consulted.

[17] Only applicable for direct discharges to marine waters. See definition of direct discharges and indirect discharges in SWMP Appendix H (Permit Attachment VIII) Glossary.

[18] To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A of the *NPDES Test of Significant Toxicity Implementation Document* (EPA/833-R-10-003) shall be used.

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	mg/L
Settleable Solids	mL/L
Turbidity	NTU
pH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents will be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including stormwater effluent, reference samples, and ocean receiving water samples, will be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

Appendix C. ASBS Priority Discharge Locations

Sample ID	RWQCB	ASBS Name	Longitude	Latitude
SAU020A	1	Saunders Reef	-123.65273	38.85916
SAU019A	1	Saunders Reef	-123.6528	38.86067
SAU016A	1	Saunders Reef	-123.65237	38.85849
SAU015	1	Saunders Reef	-123.65178	38.85612
SAU013A	1	Saunders Reef	-123.6514	38.85451
SAU014	1	Saunders Reef	-123.6517	38.8551
SAU011A	1	Saunders Reef	-123.64853	38.8527
SAU008	1	Saunders Reef	-123.6478	38.8521
SAU006A	1	Saunders Reef	-123.64777	38.85186
SAU009A	1	Saunders Reef	-123.64809	38.85254
RED023	1	Redwoods National Park	-124.1017	41.60527
RED027	1	Redwoods National Park	-124.10126	41.59657
RED028	1	Redwoods National Park	-124.10101	41.59729
RED018A	1	Redwoods National Park	-124.1061	41.613
RED015	1	Redwoods National Park	-124.11257	41.62928
RED014	1	Redwoods National Park	-124.11296	41.63059
RED017A	1	Redwoods National Park	-124.10571	41.61195
FIT012	2	James V. Fitzgerald	-122.516861	37.531406
ANO030	3	Año Nuevo	-122.30121	37.11334
ANO033	3	Año Nuevo	-122.29881	37.11202
ANO001	3	Año Nuevo	-122.306364	37.121672
ANO002	3	Año Nuevo	-122.30534	37.11987
ANO035	3	Año Nuevo	-122.29297	37.10714
ALT004	4	Laguna Point to Latigo Point	-119.059097	34.08609
MUG005	4	Laguna Point to Latigo Point	-119.03821	34.083896
ALT005	4	Laguna Point to Latigo Point	-119.054291	34.085415
ALT006	4	Laguna Point to Latigo Point	-119.048653	34.085361
MUG008	4	Laguna Point to Latigo Point	-119.036389	34.0083644
MUG010	4	Laguna Point to Latigo Point	-119.014826	34.070804
MUG013	4	Laguna Point to Latigo Point	-118.993551	34.065445
MUG016	4	Laguna Point to Latigo Point	-118.987069	34.062852
ALT008	4	Laguna Point to Latigo Point	-118.985931	34.062325
MUG028	4	Laguna Point to Latigo Point	-118.974165	34.058928
ALT009	4	Laguna Point to Latigo Point	-118.975975	34.059978
MUG031	4	Laguna Point to Latigo Point	-118.968706	34.056265
MUG041	4	Laguna Point to Latigo Point	-118.964271	34.053461
MUG046	4	Laguna Point to Latigo Point	-118.960862	34.052112

Sample ID	RWQCB	ASBS Name	Longitude	Latitude
MUG048	4	Laguna Point to Latigo Point	-118.9594833	34.05172
MUG049	4	Laguna Point to Latigo Point	-118.9594333	34.05165
MUG051	4	Laguna Point to Latigo Point	-118.957316	34.050937
ALT011	4	Laguna Point to Latigo Point	-118.939404	34.045355
MUG053	4	Laguna Point to Latigo Point	-118.95539	34.050248
MUG059	4	Laguna Point to Latigo Point	-118.9515	34.048835
MUG058	4	Laguna Point to Latigo Point	-118.95042	34.048355
ALT010	4	Laguna Point to Latigo Point	-118.948184	34.047873
MUG061	4	Laguna Point to Latigo Point	-118.94834	34.047675
MUG077	4	Laguna Point to Latigo Point	-118.9345833	34.04513
MUG078	4	Laguna Point to Latigo Point	-118.934358	34.045431
MUG070	4	Laguna Point to Latigo Point	-118.9320000	34.04600
MUG066	4	Laguna Point to Latigo Point	-118.924654	34.04714
MUG073	4	Laguna Point to Latigo Point	-118.922723	34.046418
MUG135	4	Laguna Point to Latigo Point	-118.897426	34.041983
MUG147	4	Laguna Point to Latigo Point	-118.894154	34.041553
MUG150	4	Laguna Point to Latigo Point	-118.889212	34.040872
MUG187	4	Laguna Point to Latigo Point	-118.869505	34.039285
SAD0950	4	Laguna Point to Latigo Point	-118.8385500	34.02699
SAD0960	4	Laguna Point to Latigo Point	-118.8375000	34.02619
SAD0970	4	Laguna Point to Latigo Point	-118.8364600	34.02535
SAD0980	4	Laguna Point to Latigo Point	-118.8348600	34.02435
MUG318	4	Laguna Point to Latigo Point	-118.834316	34.023879
SAD0990	4	Laguna Point to Latigo Point	-118.8326600	34.02302
SAD1000	4	Laguna Point to Latigo Point	-118.8303400	34.02123
MUG355	4	Laguna Point to Latigo Point	-118.829258	34.02122
SAD1030	4	Laguna Point to Latigo Point	-118.827049	34.018711
SAD1040	4	Laguna Point to Latigo Point	-118.8256600	34.01748
SAD1050	4	Laguna Point to Latigo Point	-118.8249200	34.01700
SAD1060	4	Laguna Point to Latigo Point	-118.8225400	34.01559
ALT017	4	Laguna Point to Latigo Point	-118.777059	34.025805
MUG346	4	Laguna Point to Latigo Point	-118.783588	34.02508
MUG283	4	Laguna Point to Latigo Point	-118.765915	34.02589
IRV020	8	Irvine Coast	-117.840190	33.576001
IRV009	8	Irvine Coast	-117.830393	33.566251
IRV007	8	Irvine Coast	-117.828078	33.565343
IRV001	8	Irvine Coast	-117.81858	33.558
IRV002	8	Irvine Coast	-117.821484	33.560705
CAR007B	3	Carmel Bay	-121.923798	36.52499
CAR006	3	Carmel Bay	-121.92457	36.52469

Appendix D. Total Maximum Daily Loads

This appendix is a supplement to SWMP sections 2.3, 3.2, 13.1, 13.2, and 16.5. It provides key information pertaining to Caltrans' efforts to implement a consistent statewide approach to address Total Maximum Daily Load (TMDL) compliance requirements for 84 TMDLs as specified in Attachment IV of Caltrans NPDES Permit, adopted by the State Water Resources Control Board (SWRCB) on May 20, 2014.

D.1 TMDL Prioritization and Implementation

D.1.1 Reach Prioritization

Caltrans developed a prioritized list of reaches for implementation activities as required within Section I.A of Attachment IV of the Caltrans NPDES Permit. Steps taken to identify the list of prioritized reaches are:

1. Complete an inventory of reaches. If reaches are defined in the TMDL, use the list provided to complete the inventory. However, when reaches are not defined, Caltrans should delineate the receiving waters into reaches.
2. Segregate the inventory of reaches based on the priority scoring matrix (Table D-1). Individual reaches may be present in multiple pollutant categories.
3. Rank the reaches in each TMDL category based on the scoring matrix.
4. Submit the prioritized list to the SWRCB by October 1, 2014.
5. Collaborate with the SWRCB and RWQCBs on final prioritization of each reach. Some factors considered to complete the final prioritization by the Water Boards are:
    a. Opportunities for synergistic benefits with existing or anticipated projects within the reach
    b. Multiple TMDLs that can be addressed by BMPs within a reach
    c. TMDL deadlines specified in a Basin Plan
    d. RWQCB and SWRCB priorities
    e. Accessibility for construction and/or maintenance (e.g., safety considerations)
    f. Multi-benefit projects that provide benefits in addition to water quality improvement

Table D-1. Reach Prioritization Scoring Matrix*

Rating Factor	Criteria		
	High	Medium	Low
Impairment Status[1]	Over 75%	25% - 75%	Below 25%
Caltrans' Drainage Area Contributing to Reach[2]	Over 5% of Drainage Area	Between 1% and 5% of Drainage Area	Less than 1% of Drainage Area
Proximity to Receiving Waters[3]	Over 75% of ROW within 0.25 miles of reach	Between 25% and 75% of ROW within 0.25 miles of reach	Less than 25% of ROW within 0.25 miles of reach
Community Environmental Health Impact[4]	Top 3 categories	Middle 4 categories	Lower 3 categories

* Source: Attachment IV of the Caltrans NPDES Permit (May 2014 Version)
[1] The degree of impairment of the waterbody, measures by the percent pollution reduction needed to achieve the Waste Load Allocation (WLA). Reaches with higher degree of impairment will be given higher priority. Consider all sources of impairment when making this determination.
[2] The contributing drainage area from Caltrans' ROW is relative to the watershed draining to each reach.
[3] This rating factor measures the relative proximity of the Caltrans' ROW to the reach of the water that receives runoff from Caltrans. Sites discharging through conveyances within 0.25 miles of the pertinent reach are considered to have greater potential to contribute pollutants and receive a higher rating.
[4] This rating factor requires use of the California Office of Health Hazard Assessment (OEHHA) evaluation tool, CalEnviroScreen (http://oehha.ca.gov/ej/ces11.html), to assess environmental justice issues. Outcomes are segregated into 10 categories ranging from low to high environmental justice scores. Higher scores indicate that there is a higher potential for environmental justice issues to be present at the site.

D.2 Implementation Actions

Attachment IV of the Caltrans NPDES Permit requires Caltrans to implement one of the following listed actions to achieve compliance:

1. Design pollution prevention best management practices (BMPs)
2. Numeric sizing criteria for stormwater treatment control BMPs
3. BMP development and implementation, vector control
4. BMP development and implementation, stormwater Treatment BMPs
5. BMP development and implementation, wildlife
6. BMP development and implementation, biodegradable materials

In addition, Caltrans will ensure that all BMPs installed do not cause a decrease in lateral (bank) or vertical (channel bed) stability in receiving stream channels.

Table D-2. TMDL Summary Table*

CT District	Regional Water Board	Impaired Waterbody	Pollutant	Implementation Requirements (Section III)**
1	1	Albion River	Sediment	Part A and Part B
1	1	Big River	Sediment	Part A and Part B
1	1	Lower Eel River	Temperature and Sediment	Part A, Part B and Part H
1	1	Middle Fork Eel River	Temperature and Sediment	Part A, Part B and Part H
1	1	South Fork Eel River	Temperature and Sediment	Part A, Part B and Part H
1	1	Upper Main Eel River	Temperature and Sediment	Part A, Part B and Part H
1	1	Garcia River	Sediment	Part A and Part B
1, 4	1	Gualala River	Sediment	Part A and Part B
1, 2	1	Klamath River in California	Temperature, Dissolved Oxygen, Nutrients, and Microcystin	Part A, Part B and Part H[4] locating, assessing, and remediating barriers to fish passage

CT District	Regional Water Board	Impaired Waterbody	Pollutant	Implementation Requirements (Section III)**
2	1	Lost River	Nitrogen, Biochemical Oxygen Demand to address Dissolved Oxygen and pH impairments	Part A and Part B
1, 2	1	Mad River	Sediment and Turbidity	Part A and Part B
1	1	Navarro River	Sediment and Temperature	Part A, Part B and Part H
1	1	Noyo River	Sediment	Part A and Part B
1	1	Redwood Creek	Sediment	Part A and Part B
2	1	Scott River	Sediment and Temperature	Part A, Part B and Part H
2	1	Shasta River	Dissolved Oxygen and Temperature	Part A, Part B and Part H
1	1	Ten Mile River	Sediment	Part A and Part B
1, 2	1	Trinity River	Sediment	Part A and Part B
1, 2	1	South Fork Trinity River and Hayfork Creek	Sediment	Part A and Part B
1, 2	1	Van Duzen River and Yager Creek	Sediment	Part A and Part B
4	2	Napa River	Sediment	Part A and Part B[4]
4	2	Richardson Bay	Pathogens	Part A and Part E
4	2	San Francisco Bay	PCBs	Part A and Part C[4]
4	2	San Francisco Bay	Mercury	Part A and Part B[4]
4	2	San Pedro and Pacifica State Beach	Bacteria	Part A and Part E
4	2	Sonoma Creek	Sediment	Part A and Part B[4]
4	2	San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	Part A, Part C and Part F[4]
4, 5	3	San Lorenzo River	Sediment	Part A and Part B
5	3	Morro Bay	Sediment	Part A and Part B
7	4	Ballona Creek	Metals	Part A, Part C and Part G
7	4	Ballona Creek	Trash	Part A[1]
7	4	Ballona Creek Estuary	Toxic Pollutants	Part A and Part C
7	4	Ballona Creek Ballona Estuary and Sepulveda Channel	Bacteria	Part A and Part E
7	4	Ballona Creek Wetlands	Sediment and Invasive Exotic Vegetation	Part A and Part B
7	4	Calleguas Creek, its tributaries and Mugu Lagoon	Metals and Selenium	Part A, Part C and Part G

CT District	Regional Water Board	Impaired Waterbody	Pollutant	Implementation Requirements (Section III)**
7	4	Calleguas Creek, its tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls and Siltation	Part A, Part B and Part C
7	4	Colorado Lagoon	Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs and Metals	Part A and Part C
7	4	Dominguez Channel and Greater Los Angeles & Long Beach Harbor Water	Toxic Pollutants	Part A and Part C
7	4	Legg Lake	Trash	Part A and Part D
7	4	Long Beach City Beaches and Los Angeles River Estuary	Indicator Bacteria	Part A and Part E
7	4	Los Angeles Area (Echo Park Lake)	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash	Part A, Part B, Part C and Part D
7	4	Los Angeles Area (Lake Sherwood)	Mercury	Part A and Part B
7	4	Los Angeles Area (North, Center, & Legg Lakes)	Nitrogen and Phosphorus	Part A and Part B
7	4	Los Angeles Area (Peck Road Park Lake)	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs and Trash	Part A, Part B, Part C and Part D
7	4	Los Angeles Area (Puddingstone Reservoir)	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	Part A, Part B, and Part C
7	4	Los Angeles River and Tributaries	Metals	Part A and Part C
7	4	Los Angeles River	Trash	Part A[2]
7	4	Los Angeles River Watershed	Bacteria	Part A and Part E
7	4	Los Cerritos	Metals	Part A and Part C
7	4	Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrients)	Part A and Part B
7	4	Machado Lake	Pesticides and PCBs	Part A and Part C
7	4	Machado Lake	Trash	Part A and Part D
7	4	Malibu Creek Watershed	Bacteria	Part A and Part E

CT District	Regional Water Board	Impaired Waterbody	Pollutant	Implementation Requirements (Section III)**
7	4	Malibu Creek and Lagoon	Sedimentation and Nutrients to address Benthic Community Impairments	Part A and Part B
7	4	Malibu Creek Watershed	Trash	Part A and Part D
7	4	Marina Del Rey Harbor	Toxic Pollutants	Part A and Part C
7	4	Marina Del Rey harbor Mothers' Beach and Back Basins	Bacteria	Part A and Part E
7	4	Revolon Slough and Beardsley Wash	Trash	Part A and Part D
7, 8, 12	4	San Gabriel River	Metals	Part A, Part C and Part G
7	4	Santa Clara River Estuary and Reaches 3, 5, 6 and 7	Coliform	Part A and Part E
7	4	Santa Clara River Reach 3	Chloride	Part A and Part I
7	4	Santa Monica Bay Beaches	Bacteria	Part A and Part E
7	4	Santa Monica Bay	DDTs and PCBs	Part A and Part C
7	4	Santa Monica Bay Nearshore and Offshore	Debris (trash and plastic pellets)	Part A and Part D
7	4	Upper Santa Clara River	Chloride	Part A and Part I
7	4	Ventura River Estuary	Trash	Part A and Part D
7	4	Ventura River	Algae, Eutrophic Conditions, and Nutrients	Part A and Part B
1	5	Clear Lake	Nutrients	Part A and Part B
1, 3	5	Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch	Mercury	Part A and Part B
3, 4, 10	5	Sacramento-San Joaquin River Delta Estuary	Methylmercury	Part A and Part B
3	6	Lake Tahoe	Sediment and Nutrients	Part A[3]
3	6	Truckee River	Sediment	Part A and Part B
8, 11	7	Coachella Valley Stormwater Channel	Bacterial Indicators	Part A and Part E
8	8	Big Bear Lake	Nutrients for Dry Hydrological Conditions	Part A and Part B
8	8	Lake Elsinore and Canyon Lake	Nutrients	Part A and Part B[4]
12	8	Rhine Channel Area of Lower Newport Bay	Chromium and Mercury	Part A, Part B and Part C

CT District	Regional Water Board	Impaired Waterbody	Pollutant	Implementation Requirements (Section III)**
12	8	San Diego Creek and Newport Bay including Rhine Channel	Metals	Part A and Part C
12	8	San Diego Creek and Upper Newport Bay	Cadmium	Part A and Part C
12	8	San Diego Creek Watershed	Organochlorine Compounds	Part A and Part C
12	8	Upper & Lower Newport Bay	Organochlorine Compounds	Part A and Part C
11	9	Chollas Creek	Diazinon	Part A and Part F
11	9	Chollas Creek	Metals	Part A and Part C
8, 11	9	Rainbow Creek	Total Nitrogen and Total Phosphorus	Part A and Part B
8, 11, 12	9	Project I – Revised Twenty Beaches and Creeks in the San Diego Region	Indicator Bacteria	Part A and Part E

* Source: Attachment IV of Caltrans NPDES Permit (May 2014 Version)

** See Section D.2.1 for implementation requirements for each TMDL

[1] Caltrans shall comply with WLA requirements and schedule as set forth in the Ballona Creek Trash TMDL

[2] Caltrans shall comply with WLA requirements and schedule as set forth in the Los Angeles River Trash TMDL

[3] Caltrans shall comply with requirements as set forth in Attachment IV of Caltrans NPDES Permit for this TMDL

[4] Caltrans shall comply with other implementation requirements as set forth in Attachment IV of the Caltrans NPDES Permit for this TMDL

D.2.1. General and Categorical Requirements

Attachment IV of the Caltrans NPDES Permit includes general requirements that apply to all TMDLs, and categorical requirements that apply to specific TMDL constituents. The following sections summarize these requirements.

A. *General Requirements for all TMDLs* – A Comprehensive TMDL Monitoring Plan (Plan) is required for all TMDLs, and will include monitoring for TMDLs that do and do not have existing approved water quality monitoring plans. Cooperative water quality monitoring plans that have received approval from the Regional Water Board Executive Officer will also be included. The List of TMDLs, including those with Approved Cooperative Monitoring Programs is now posted at the Caltrans internet website at http://www.dot.ca.gov/hq/env/stormwater/pdf/approved_tmdl_coop_monitoring_plans.pdf. The Plan should provide guidance on the selection of BMPs and discuss reach prioritization and BMP implementation effectiveness procedures. A time schedule showing milestones for implementation after SWRCB Executive Officer approval should also be included. During implementation, the monitoring data will be used to evaluate the performance and effectiveness of BMPs. If the evaluation indicates that BMPs or other control measures are inadequate to achieve Waste Load Allocations (WLAs), the

Comprehensive TMDL Monitoring Plan should include procedures to modify the BMPs. In addition, Caltrans will submit the required information for the implementation of control measures and activities in the selected reaches and a TMDL progress report in accordance with Attachment IV, Section I.B and Section III.A.3.c. of the Caltrans NPDES Permit.

B. *Sediment/Nutrients/Mercury/Siltation/Turbidity TMDL Control Requirements* – Since sediment from roads is a significant source of nutrients, mercury, and sediment, Caltrans will control the discharge of sediment to address these pollutants. Source control measures, such as protecting hillsides and filtering runoff prior to discharge into a receiving waterbody, will be implemented to prevent or minimize erosion and sediment discharge. In addition, Caltrans will minimize the discharge of sediment into a receiving waterbody through various implementation measures discussed in Section D.3 of Appendix D.
C. *Metals/Toxics/Pesticides TMDL Control Requirements* – Caltrans will implement source control measures to minimize the discharge of fine sediment and dissolved fraction metals through the implementation measures discussed in Section D.3 of Appendix D. Sources of these constituents include tires, brake pads, and road surfaces. Caltrans will also implement safe handling practices when using pesticides statewide as required by Provision E.2.h.3)b) of Attachment IV, federal, state and local regulations.
D. *Trash TMDL Control Requirements* – Discharging trash into any receiving waterbody is prohibited. Caltrans will implement appropriate measures to comply with this prohibition at all significant trash generating areas as defined in Attachment IV. Each significant trash generating area will be evaluated to implement one of the following control measures, where feasible:
    - Install, operate, and maintain a full capture system, treatment controls, and/or institutional controls for storm drains that service significant trash generating areas; or
    - Coordinate with other municipalities to implement treatment controls where feasible.

    As part of the TMDL Status Review Report, Caltrans will determine the highway characteristics that may qualify as significant trash generating areas by October 1, 2015 and will submit the status of each of the applicable control measures. Caltrans is exempt from monitoring for the Attachment II constituents in waterbodies that only have trash impairments.
E. *Bacteria TMDL Control Requirements* – Caltrans is exempt from monitoring for the Attachment II constituents in waterbodies that only have bacteria impairments. It will minimize dry-weather and wet-weather discharges from the right-of-way into receiving waterbodies impaired for bacteria through implementing control measures where feasible.
F. *Diazinon TMDL Control Requirements* – The discharge of Diazinon is prohibited. Since Caltrans does not use Diazinon in the right-of-way, no control measures for this constituent are required.
G. *Selenium TMDL Control Requirements* – Selenium naturally occurs in geologic formations, soils, and aquatic sediments. Stormwater runoff, dewatering, groundwater

seepage, irrigation of high selenium content soils, and oil refineries are identified as significant sources of selenium. Caltrans will implement control measures to control the discharge of selenium, unless one of the following can be demonstrated:

- There is no exceedance of an applicable receiving water limitation for selenium in the receiving water(s) at, or immediately downstream of, Caltrans' outfall(s), or
- There is no direct or indirect discharge from Caltrans' outfall(s) to the receiving water during the time period subject to the WLA.

Caltrans is exempt from monitoring for the Attachment II constituents in waterbodies if it can demonstrate a non-exceedance or no discharge of selenium.

H. *Temperature TMDL Control Requirements* – Caltrans will preserve existing riparian biotic conditions immediately adjacent to, and provide effective shade near receiving waters susceptible to temperature increases. Any alteration of riparian biotic conditions that may increase sedimentation or reduce effective shade will require that Caltrans obtain written authorization by the applicable RWQCB Executive Officer or designee prior to beginning work.

I. *Chloride TMDL Control Requirements* – Caltrans does not discharge a significant amount of chloride. Any other minimal discharges are expected to be addressed under the requirements of the 2012 Caltrans NPDES Permit. Therefore, Caltrans is not required to implement additional measures to address these TMDLs.

D.3 Compliance Activities

Caltrans will continue efforts to reduce pollutants from discharging to the receiving waters through ongoing compliance activities. Caltrans will implement a consistent approach statewide to address the Attachment IV requirements for various pollutants. -

Appendix E. Toxicity Reduction Evaluation Workplan

Toxicity Reduction Evaluation Work Plan for Construction Compliance

Tests for chronic toxicity will be estimated as specified in *Short-Term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002; Table IA, 40 Code of Federal Regulations (CFR) Section 136 and its subsequent amendments or revisions. The instructions in Appendix A of the *NPDES Test of Significant Toxicity Implementation Document* (EPA/833-R-10-003) will be used to calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the instream waste concentration (IWC).

Caltrans will conduct a Toxicity Reduction Evaluation (TRE) when an exceedance of a WQS is determined by a Regional Water Board, and is required by the Regional Water Board's Executive Officer. The following plan will be implemented when TREs are conducted by Caltrans:

1. **Information and Data Acquisition**

    a. Chronic toxicity testing will be performed on runoff samples and results will be evaluated in accordance with the Caltrans NPDES Permit Section E.2.c.6)d). Results will be calculated at 100% in stream waste concentration. If a "Fail" result is calculated, the first step will be to conduct a thorough review of the laboratory report by a qualified individual. This review will include checking for laboratory reporting errors to confirm that all test methods were performed according to appropriate protocol. Additionally, results from the laboratory controls, associated with the toxicity test, will be carefully evaluated. Additional data and information from the laboratory may be necessary in order to complete these thorough reviews.

    b. Subsequent to verification of the laboratory data report(s), sample collection, and handling procedures will be reviewed and evaluated to determine if the potential for sample contamination existed. If any sampling concerns are identified, appropriate corrections to sampling procedures and/or equipment will be implemented prior to the initiation of required accelerated monitoring.

2. **Facility Performance Evaluation**

    a. Site-specific operational procedures and BMPs will be reviewed, including the review of results from routine effluent water quality sampling conducted within the same time frame as toxicity sampling. These data will be evaluated to identify effluent variability and compared to historical data to determine if elevated concentrations of potentially toxic constituents existed.

    b. Operational and BMP improvements to help reduce toxicity will be evaluated. BMP efficiencies will be evaluated to determine if a treatment deficiency is causing non-compliance with an NPDES effluent limit. Studies will be conducted to evaluate treatment modifications before proceeding further with the TRE.

c. In addition to the review of Caltrans' facilities, a site survey of the drainage system will be conducted for the purpose of determining if any illegal connections or illicit discharges correlate with effluent toxicity.

3. Toxicity Identification Evaluation and Reporting

a. If drainage system surveys, operational and treatment modifications do not result in toxicity reduction USEPA Phase I Toxicity Identification Evaluation (TIE) procedures may be used to identify the causes of toxicity.

Appendix F. BMP Descriptions by Function

Overview

Caltrans implements stormwater pollution controls through the use of best management practices (BMPs). BMPs are used during design, construction, and maintenance activities of Caltrans' highways and facilities. Where feasible, Treatment BMPs are built into the design of projects. This appendix provides:

- A description of the primary types of BMPs.
- A table that lists Caltrans' approved BMPs and divisional responsibility for implementing each type.
- A brief description of each approved BMP (i.e., "toolbox") used by Caltrans for water quality protection.

BMP Types

For the purpose of describing BMPs implemented by Caltrans, BMPs are categorized into four types as described below:

Design BMPs

Design BMPs incorporate permanent water quality protection or control into a project after construction is completed. These include both Design Pollution Prevention and Treatment BMPs. Design Pollution Prevention BMPs are those BMPs that Caltrans uses when projects create Disturbed Soil Areas (DSA). Treatment BMPs are those BMPs that have been scientifically proven to reduce pollutant discharges. Caltrans has a variety of approved Treatment BMPs; however, additional devices can be considered after following the process described in Section 4.

Administrative BMPs

These are indirect practices and policies that are employed to ensure that stormwater protection is addressed during the construction of a project or during maintenance of Caltrans highways or facilities.

Erosion and Sediment Control BMPs

Caltrans employs a variety of BMPs to control erosion on its property and limit the amount of sediment entering drainages. Most of these BMPs are employed during highway construction projects but may be also used during the course of some maintenance activities.

Non-Stormwater Pollutant Control BMPs

These practices address the control of authorized non-stormwater discharges as listed in the SWMP and permit. These BMPs are used during both construction and ongoing maintenance of highways and facilities.

BMPs used by Caltrans

Table F-1 lists all currently approved BMPs by category. BMP descriptions will vary depending on the particular guidance and application. The Divisions of Design, Construction, and Maintenance have developed guidance documents for the BMPs. Detailed descriptions within individual guidance documents may vary to a minor degree depending on the specific application performed by the Division.

Table F-1. List of BMPs

BMP List by Category	Division		
	Construction	Design	Maintenance
Design BMPs			
Design Pollution Prevention BMPs			
Channel Linings		X	
Ditches, Berms, Dikes and Swales		X	X
Energy Dissipation Devices		X	
Flared Culvert End Sections		X	X
Hard Surfaces		X	X
Outlet Protection/Velocity Dissipation Devices	X	X	X
Overside Drains		X	X
Peak Flow Attenuation Devices[19]		X	
Preservation of Existing Vegetation		X	
Reduction of Paved Surface		X	
Slope Roughening/Terracing/Rounding/Stepping		X	
Soil Modification		X	
Vegetated Surfaces		X	
Treatment BMPs			
Biofiltration: Strips/Swales		X	
Detention Devices		X	
Dry Weather Flow Diversion		X	
Gross Solids Removal Devices		X	X
Infiltration Devices		X	X
Media Filters		X	X
Multi-Chamber Treatment Train		X	X

[19] BMP may be designed to attain Treatment BMP credits.

BMP List by Category	Division		
	Construction	Design	Maintenance
Traction Sand Trap Devices		X	
Wet Basin		X	
Administrative BMPs			
Anti-Litter Signs	X		X
Baseline Stormwater Drainage Facilities Inspection and Cleaning			X
Enhanced Storm Drain Inlet Inspection and Cleaning Program			X
Illegal Spill Discharge Control	X		X
Illegal Connection/Illicit Discharge Detection, Reporting, and Elimination	X		X
Maintenance Facility Housekeeping Practices			X
Preservation of Existing Vegetation	X	X	X
Safer Alternative Products	X		X
Scheduling	X	X	X
Vegetated Slope Inspection			X
Vegetated Treatment System Maintenance			X
Work in a Water Body	X		X
Sediment /Erosion Control BMPs			
Check Dam	X	X	X
Clear Water Diversion	X	X	X
Fiber Rolls	X	X	X
Geotextiles, Mats/Plastic Covers and Erosion Control Blankets	X	X	X
Gravel Bag Berm	X	X	X
Hydraulic Mulch	X	X	X
Hydroseeding	X	X	X
Sandbag Barrier	X	X	X
Sediment Trap	X	X	X
Sediment/Desilting Basin	X	X	
Silt Fence	X	X	X
Slope Drains	X	X	X
Slope Roughening	X	X	
Soil Binders	X	X	X
Stabilized Construction Entrance/Exit	X	X	X
Stabilized Construction Roadway	X	X	
Stockpile Management	X	X	X
Storm Drain Inlet Protection	X	X	X

BMP List by Category	Division		
	Construction	Design	Maintenance
Straw Bale Barrier	X	X	X
Straw Mulch	X	X	X
Streambank Stabilization	X	X	
Street Sweeping and Vacuuming	X	X	X
Temporary Stream Crossing	X	X	
Tire Inspection and Sediment Removal	X	X	X
Wind Erosion Control	X	X	X
Wood Mulching	X	X	X
Non-Stormwater Pollutants Control BMPs			
Chemical Vegetation Control			X
Concrete Curing and Finishing	X		X
Concrete Waste Management	X		X
Construction/Structure Demolition Over Water	X		X
Contaminated Soil Management			X
Dewatering Operations	X		X
Evaporative Water			X
Hazardous Waste Management	X		X
Liquid Waste Management	X		X
Litter and Debris			X
Material Delivery and Storage	X		X
Material Use			X
Mud-Jacking and Drilling			X
Paving and Grinding Operations	X		X
Pile Driving Operations	X		X
Potable Water/Irrigation	X		X
Sanitary/Septic Waste Management	X		X
Snow Removal and De-icing Agents			X
Solid Waste Management	X		X
Spill Prevention and Control	X		X
Structure Demolition/Removal Over or Adjacent to Water		X	
Vehicle and Equipment Cleaning	X		X
Vehicle and Equipment Fueling	X		X
Vehicle and Equipment Maintenance	X		X
Water Conservation Practices	X		X

BMP Summary Descriptions

A summary description of each BMP, as listed in Table F-1, is provided below. The list is arranged alphabetically and organized by BMP type (Administrative Design, Erosion/Sediment Control, and Non-Stormwater). Detailed descriptions within individual guidance documents may vary depending on the specific application performed by the Division.

Design BMPs

Biofiltration – **Strips/Swales** – Designated treatment areas that receive stormwater discharges from the highway or other impervious surfaces. Biofiltration strips are vegetated sections of land over which stormwater flows as overland sheet flow. Biofiltration swales are vegetated channels that convey stormwater. Pollutants are removed by filtration through the vegetation, sedimentation, sorption to soil or grass, and infiltration through the soil.

Detention Devices – Used to temporarily detain runoff and reduce flow velocity to allow particles to settle out.

Ditches, Berms, Dikes, and Swales – Concentrated flow conveyances that are either earthen, concrete, or asphalt structures used to intercept, divert, and convey surface runoff in a manner that minimizes erosion.

Dry Weather Flow Diversion – Direct flow through a pipe or channel to a local sanitary sewer system for conveyance and treatment at a local wastewater treatment plant during dry weather.

Energy Dissipation Devices – A broad category of devices that release the concentrated flow energy to prevent scour and minimize erosion.

Flared Culvert End Sections – Used at inlets and outlets of culverts to prevent scour and minimize erosion.

Gross Solids Removal Devices (GSRD) – A device installed at drainage outlets designed to capture gross solids (litter, vegetation, and other large particles). Two types are: Linear Radial and Inclined Screen.

Hard Surfaces – Used for slope/surface protection consisting of placed concrete, rock, or combination of materials.

Infiltration Devices – Devices that allow stormwater to infiltrate into the ground. Infiltration effectively prevents pollutants in the captured runoff from reaching the surface waters.

Media Filters – Devices that removes fine sediments, particulate-associated pollutants, and sometimes, dissolved pollutants. The normal configuration of such devices consists of an initial sedimentation basin or chamber followed by a filtering basin or chamber that contains a filter media.

Multi-Chamber Treatment Train – A Treatment BMP device that uses three treatment mechanisms in three different chambers. These include a catch basin with a sump, a

sedimentation chamber with tube settlers and/or sorbent pads, and a filtering chamber lined with media.

Outlet Protection/Velocity Dissipation Devices – Devices placed at pipe outlets to prevent scour and reduce the velocity and/or energy of exiting stormwater flows.

Overside Drains – Pipes, downdrains, flumes, or asphalt concrete overside drains used to protect slopes against erosion.

Peak Flow Attenuation Devices – Facilities designed to reduce peak discharges. A typical device type would be a detention basin.

Preservation of Existing Vegetation – Involves the identification and protection of desirable vegetation that provides erosion and sediment control benefits.

Reduction of Paved Surface – When considering downstream effects related to potentially increased flow always consider reducing impervious areas.

Slope Roughing/Terracing/Rounding/Stepping – Techniques used reduce velocities and surface runoff from slopes.

Soil Modification – Modifications to site soils used to improve infiltration characteristics.

Traction Sand Trap Devices – Devices that temporarily detain runoff and allows for traction sand, which was applied to snowy or icy roads, to settle out.

Vegetated Surfaces – Establishment of permanent perennial vegetative cover on areas previously disturbed.

Wet Basin – A Treatment BMP consisting of permanent pools of water designed to mimic naturally occurring wetlands. The main distinction between construction and natural wetlands is that constructed wetlands are placed in upland areas and are not subject to wetland protection regulations; also referred to as Constructed Wetlands.

Administrative BMPs

Anti-Litter Signs – Placement of signs on Caltrans property to prohibit and discourage dumping and littering on the highways.

Stormwater Drainage Facilities Inspection and Cleaning – Culverts, ditches, gutters, underdrains, horizontal drains, and downdrains require inspection and cleaning to prevent flooding and to provide for sufficient hydraulic capacity.

Enhanced Storm Drain Inlet Inspection and Cleaning Program – An inspection and cleaning program for drain inlets and catch basins located in priority areas.

Illegal Spill Discharge Control – Reporting procedures for field staff that detect illegal dumping, discharges, and spills of pollutants on Caltrans properties.

Illegal Connection/Illicit Discharge Detection, Reporting, and Elimination – This procedure directs maintenance, construction or Right-of-Way staff, to detect and report illegal connections and illicit discharges into Caltrans stormwater drainage systems. Illegal

connections are connections to Caltrans drainage systems that have not been approved by Caltrans.

Maintenance Facility Housekeeping Practices – Practices and procedures to eliminate the potential for discharge of pollutants to drainage paths, stormwater drainage systems or watercourses by promoting efficient and safe storage, use and cleanup of potentially harmful materials.

Preservation of Existing Vegetation – The identification and preservation of vegetation that provides erosion and sediment control benefits.

Safer Alternative Products – A process of evaluating new products for potential effect on stormwater in order to reduce the potential for the discharge of harmful pollutants to drainages.

Scheduling – Planning construction activities in a manner that will reduce the amount and duration of soil exposed to erosion and sediment transport.

Vegetated Slope Inspection – District procedures to routinely inspect and identify slopes in need of repair or revegetation to reduce erosion.

Vegetated Treatment System Maintenance – Regular inspection and maintenance of approved installed treatment systems to ensure these devices continue to perform their intended function.

Work in a Water Body – Maintenance activities occasionally require equipment or personnel to enter a stream, river, channel, or other water body. This BMP describes measures that are required for maintenance activities in water bodies.

Erosion and Sediment Control BMPs

Check Dam – A small device constructed of rock, gravel bags, or other impedance-like material that are placed across a natural or man-made channel or drainage ditch. Sediment within runoff is reduced by reducing flow velocity.

Clear Water Diversion – A system of structures that intercept runoff upstream of a project site or activity, transports it around the site, and discharges it downstream.

Fiber Rolls – Straw or other organic materials rolled or bound into a roll and placed on a slope to intercept runoff.

Geotextiles, Mats/Plastic Covers, and Erosion Control Blankets – Non- vegetative materials applied to disturbed soil surfaces to prevent erosion.

Gravel Bag Berm – Gravel bags installed end-to-end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide some removal of sediment from the runoff.

Hydraulic Mulch – A mixture of shredded wood fiber that is applied to slopes and open soil surfaces to control erosion.

Hydroseeding – The application of a mixture of wood fiber, seed, fertilizer, and stabilizing emulsion to disturbed areas requiring protection against erosion.

Sandbag Barrier – Stacked sandbags designed to intercept and slow the flow of sediment-laden runoff.

Sediment Trap – A small temporary containment area with a controlled release structure formed by excavating or constructing an earthen embankment across a ditch or low drainage area.

Sediment/Desilting Basin – A temporary basin that allows sediment to settle out before the runoff is discharged. A desilting basin is generally less extensive than a Sediment Basin.

Silt Fence – A constructed barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from exposed, erodible soil.

Slope Drains – A pipe or lined ditch used to intercept and direct surface runoff or groundwater from slopes into a stabilized watercourse, trapping device, or stabilized area.

Slope Roughening – Practice of creating defined imprints upon soil surfaces on a slope to establish vegetation or provide interim stabilization.

Soil Binders – Polymetric or plant-based soil stabilizers. Typically applied to disturbed areas requiring temporary protection from erosion.

Stabilized Construction Entrance/Exit – Sorted gravel or steel gratings placed at the entrance/exit to a construction site to reduce the tracking of mud and dirt onto public roads by vehicles.

Stabilized Construction Roadway – A temporary access road connecting existing public roads to a remote construction area designed to control vehicular tracking.

Stockpile Management – Procedures and practices to control stormwater runoff from contacting stockpiles of soil or other materials.

Storm Drain Inlet Protection – Practice used to detain and allow sediment to settle prior to discharge of stormwater into stormwater drainage systems.

Straw Bale Barrier – Sediment barrier consisting of straw bales designed to intercept and slow the flow of sediment-laden sheet flow runoff.

Straw Mulch – Fibrous organic material incorporated into the soil to reduce erosion, often used in conjunction with hydroseeding.

Streambank stabilization – Placement of rock gabion, riprap, and other measures to improve bank stability and reduce erosion.

Street Sweeping and Vacuuming – Practices to remove tracked sediment and other materials to prevent them from entering a storm drain or watercourse.

Temporary Stream Crossing – Structure placed across a waterway that allows vehicles to cross the waterway during without entering the water during construction activities.

Tire Inspection and Sediment Removal – Practices followed at construction road egress point facilities to remove sediment from tires and under carriage, and to reduce or prevent sediment from being transported off site.

Wind Erosion Control – Application of water or covering of material as necessary to prevent windblown sediment from entering drainages.

Wood Mulching – Application of chipped material or commercially available wood mulch products to disturbed soil to reduce the potential for erosion.

Non-Stormwater Pollutant Control BMPs

Chemical Vegetation Control – Practices to reduce the potential for the discharge of pollutants generated during chemical vegetation control. This method of vegetation control uses herbicides to eliminate and prevent weed growth. The purpose is to control weed growth that may cause a fire hazard or visually block safety devices or line of sight for the travelling public.

Concrete Finishing and Curing – Procedures to minimize the discharge of materials from the finishing and curing of concrete to storm drain systems or to watercourses

Concrete Waste Management – Procedures and practices used to minimize the discharge of concrete waste materials to storm drain systems or to watercourses.

Contaminated Soil Management – Procedures and practices to protect stormwater from contaminated soil.

Dewatering Operations – Practices that address the discharge of water produced by the removal of water from construction site activities.

Evaporative Water – Water used for vehicle and equipment cleaning where no discharge to a sanitary sewer system is available.

Hazardous Waste Management – Procedures and practices used to protect stormwater from wastes defined as "hazardous" in accordance with CCR, Title 22.

Liquid Waste Management – Procedures and practices used to protect water quality and during the creation, collection, and disposal of non-hazardous liquid wastes.

Litter and Debris – The collection of litter and debris from roadsides and other Caltrans facilities to prevent their mobilization by runoff.

Material and Equipment Use Over Water – Procedures for the proper use, storage, and disposal of materials and equipment on barges, boats, temporary construction pads, or similar locations that minimize or eliminate the discharge of potential pollutants to a watercourse.

Material Delivery and Storage – Procedures and practices for the proper handling and storage of materials in a manner that minimizes or eliminates the discharge of pollutants.

Mud-Jacking and Drilling – Procedures used to prevent release of grout material to stormwater drainages typically used to maintain and repair rigid type surfacing, base and concrete shoulders.

Paving and Grinding Operations – Procedures that protect stormwater runoff during the paving of new roadways or treatment of existing roadways.

Pile Driving Operations – Procedures for sites near or adjacent to a water body where structure foundation elements are being installed.

Potable Water/Irrigation – Measures taken to ensure discharges are not exposed to materials that would introduce pollutants into the runoff.

Sanitary/Septic Waste Management – Practices used to minimize or eliminate the discharge of sanitary/septic waste materials to storm drain systems or to watercourses.

Snow Removal and De-icing Agents – Practices to reduce the discharge of potential pollutants generated during the mechanical spreading of abrasives and de-icing agents and mechanical removal of snow from the travel way.

Solid Waste Management – Procedures and practices to protect stormwater from the temporary storage or removal of solid wastes generated from construction or maintenance.

Spill Prevention and Control – Procedures and practices to prevent and control spills in a manner that minimizes or prevents the discharge of spilled material to the storm drain system or watercourses.

Structure Demolition/Removal Over or Adjacent to Water – Procedures to protect water bodies from debris and wastes associated with structure demolition or removal over or adjacent to watercourses.

Vehicle and Equipment Cleaning – Procedures and practices used to reduce or eliminate the discharge of pollutants from vehicle and equipment cleaning operations to storm drain systems or to watercourses.

Vehicle and Equipment Fueling – Procedures and practices used to minimize or eliminate the discharge of fuel spills and leaks into storm drain systems or to watercourses.

Vehicle and Equipment Maintenance – Procedures and practices used to minimize or eliminate the discharge of pollutants from vehicle and equipment maintenance procedures to storm drain systems or to watercourses.

Water Conservation Practices – Procedures and practices that reduce the amount of water needed to perform a specific activity by either reducing the amount of water required or eliminating the activity entirely to avoid causing erosion and/or the transport of pollutants off-site.

Appendix G. Acronyms and Abbreviations

A&E	Architectural and Engineering
AC	Asphalt Concrete
ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practice
C/EP-SWAT	Construction/Encroachment Permit Stormwater Advisory Team
CalEMA	California Emergency Management Agency
CCEP	Construction Compliance Evaluation Plan
CCR	California Code of Regulations
CEDEN	California Environmental Data Exchange Network
CEE	Chief Environmental Engineer
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHP	California Highway Patrol
CTR	California Toxics Rule
CTR	California Toxics Rule
CTSW	Caltrans Stormwater
CWA	Clean Water Act
CWC	California Water Code
DARC	District Airspace Review Committee (DARC)
DDT	Dichlorodiphenyltrichloroethane
DEA	Division of Environmental Analysis
DPE	District Permit Engineer
DWP	District Work Plan
DWQ	Department of Water Quality
DOT	Department of Transportation
EP	Encroachment Permits
EPA	Environmental Protection Agency
EPSWC	Encroachment Permit Stormwater Coordinator
FPPP	Facility Pollution Prevention Plan
HQ	Headquarters
IC/ID	Illegal Connection/Illicit Discharge
IGP	Industrial General Permit
IQA	Independent Quality Assurance
IWC	Instream Waste Concentration
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRR	Monitoring Results Report

MS4	Municipal Separate Storm Sewer System
M-SWAT	Maintenance Stormwater Advisory Team
NEAT	Natural Environment as Treatment
NEC	No Exposure Certification
NOEL	No Observed Effect Level
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
PA/ED	Project Approval/Environmental Document
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PD-SWAT	Project Design Stormwater Advisory Team
pH	Potential of Hydrogen; a measure of acidity or alkalinity
PID	Project Initiation Document
POTW	Publicly Owned Treatment Works
PRD	Permit Registration Document
PS&E	Plans, Specifications and Estimates
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
RE	Resident Engineer
ROW	Caltrans Right-of-Way
RWQCB	Regional Water Quality Control Board
SMARTS	Stormwater Multiple Application and Report Tracking System
SWRCB	State Water Resources Control Board
SUSMP	Standard Urban Stormwater Mitigation Plan
SWAT	Stormwater Advisory Team
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCGP	Lake Tahoe Construction General Permit
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSS	Total Suspended Solids
TUc	Chronic Toxicity Unit
USEPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WPCP	Water Pollution Control Plan
WQ	Water Quality
WQMAT	Water Quality Management Assurance Team
WQO	Water Quality Objective
WQS	Water Quality Standard
WQ-SWAT	Water Quality Stormwater Advisory Team

Appendix H. Glossary

Acute Toxicity. A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TUa), TUa=100/96-hour LC 50%. Acute toxicity can also be expressed as lethal concentration 50% (LC 50).

Administrative Non-Compliance. Failure to comply with the procedural requirements of this Caltrans NPDES Permit. Examples include but are not limited to: failure to submit required reports or documents required by the Caltrans NPDES Permit and/or SWMP, missed deadlines or late submittal, and/or failure to submit required information, failure to develop and/or maintain site-specific FPPP or to implement any other procedural requirement of the Caltrans NPDES Permit.

Areas of Special Biological Significance (ASBS). Ocean or estuarine areas designated by the State Water Board that require special protection of species or biological communities to the extent where alteration of natural water quality is undesirable. The California Ocean Plan describes ASBSs as “those areas containing biological communities of such extraordinary value that no risk of change in their environment as the result of man's activities can be entertained". ASBSs are a subset of State Water Quality Protection Areas.

Basin Plan. Also known as Regional Water Quality Control Plans, Basin Plans are the principal regulatory mechanisms for protection of water quality in California. They describe the beneficial uses that each water body supports, e.g., drinking, swimming, fishing, and agricultural irrigation; the water quality objectives necessary to protect those uses; and the program implementation needed to achieve the objectives, such as waste discharge permits and enforcement actions.

Batch Plant. A processing plant where concrete or asphalt is mixed before transport to a construction site. Batch plants are considered to be industrial activities as defined in 40 CFR 122.26(b)(14) (iii) and are regulated under the Industrial General Permit.

Beneficial Uses. The uses of the water protected against degradation including, but not limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT). Technology-based compliance standard established by the Clean Water Act. BAT is based on consideration of the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and other factors as deemed appropriate. BAT effluent limitations guidelines, in general,

represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). Technology-based compliance standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, oil and grease. BCT is established by a two-part "cost reasonableness" test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a publicly owned treatment works (POTW) for similar levels of reduction of a pollutant loading. The second test examines the cost- effectiveness of additional industrial treatment beyond BCT. Limits must be reasonable under both tests.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs include structural and nonstructural controls, treatment requirements, operation and maintenance procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Non-Approved BMP. Any BMP for maintenance, construction, design pollution prevention, and treatment that are not in the Caltrans SWMP (CTSW-RT-02-008) or Statewide Storm Water Quality Practice Guidelines (CTSW-RT-02-009) approved for statewide use.

Post-Construction Site BMPs. Any structural or non-structural controls that detain, retain, or filter stormwater to prevent the release of pollutants to receiving waters after final site stabilization is attained.

Structural BMPs. Any structural facility designed and constructed to mitigate the adverse impacts of stormwater runoff (e.g., canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

Source Control BMPs. Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices, or operational practices that aim to prevent stormwater pollution by reducing the potential for contamination at the source. Examples include treatment techniques that use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by controlling the pollutant source.

Treatment Control BMPs. Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

California Ocean Plan (Ocean Plan). The water quality control plan for California near-coastal waters, first adopted by the State Water Resources Control Board in 1972. The purpose of the Ocean Plan is to protect the beneficial uses of the State's ocean waters by identifying water quality objectives, setting general waste discharge requirements, and listing discharge prohibitions. In addition, the Ocean Plan is used to develop and

update statewide water quality control plans, policies, and standards involving marine waters.

California Toxics Rule. The Federal regulation, found at 40 CFR § 131.38.

Establishes water quality criteria (limits) for heavy metals and other toxic compounds for the protection of beneficial uses of surface waters in California.

Catch Basins. A storm drain inlet having a sump below the outlet to capture settled solids, debris, sediment, and prevent clogging.

Chronic Toxicity. The ability of a substance or a mixture of substances to cause harmful effects over an extended period. Expressed as toxic units chronic (TUc), TUc=100/NOEL, where NOEL is the No Observed Effect Level.

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Construction General Permit. NPDES General Permit for Storm Water Discharges Associated with Construction Activities involving one acre or more of land disturbance.

Cut and Fill. The process of moving earth by excavating part of an area and using the excavated material for adjacent embankment of fill areas.

Department. California Department of Transportation (Caltrans)

Department Airspaces. Any area within the Department's operating right-of-way that can safely accommodate a privately managed use such as: parking lots, self-storage units, commercial businesses, light industry, and cellular telephone towers. Caltrans executes airspace leases with third parties for these uses.

Department Facility. A Maintenance Facility, Non-maintenance Facility, Highway Facility, Industrial Facility, or Vehicle Maintenance.

Maintenance Facility. A facility under Caltrans ownership or control that contains fueling areas, maintenance stations/yards, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

***Non-maintenance Facility*.** Laboratories or office buildings used exclusively for administrative functions.

Highway Facility. Highways are linear facilities designed to carry vehicular and pedestrian traffic. These include freeways, highways, and expressways as designated by the California Streets and Highway Code and the California legislature. These facilities also include all support infrastructure associated with these freeways, including bridges, toll plazas, inspection and weigh stations, sound walls, retaining walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights,

gutter, guard rail, and other support facilities. The support infrastructure is considered a Highway Facility only when accompanied by an increase in highway impervious surface. Otherwise, it is considered a non-highway.

***Industrial Facility*.** A collection of industrial processes discharging stormwater associated with industrial activity within the property boundary or operational unit.

Non-Highway Facility. For purposes of this permit, a Non-Highway Facility is any facility not meeting the definition of a Highway Facility, including but not limited to rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Discharge. When used without qualification means the discharge of a pollutant.

Direct Discharge. Any discharge from the MS4 that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff that is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person that do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

District Work Plans (DWPs). Annual work plans prepared by each District containing descriptions of all activities and projects to be undertaken in the District that are necessary to implement the SWMP and comply with the requirements of the Caltrans NPDES Permit. DWPs are submitted annually with the Annual Report. Formerly known as the Regional Work Plans.

Drainage Inlet. A location where water runoff enters a stormwater drainage system that includes streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting or disposing of stormwater

Effluent. Any discharge from the MS4.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind, or water. Often the eroded material (silt or sediment) becomes a pollutant via stormwater runoff. Erosion occurs naturally, but it can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.

Facility Pollution Prevention Plan (**FPPP**). A plan that identifies the functional activities specific to the maintenance facility, applicable BMPs, and other procedures utilized by facility personnel to control the discharge of pollutants in stormwater. Facilities subject to FPPPs include: maintenance yards/stations; material storage facilities/permanent stockpile locations (if not totally enclosed), equipment storage and repair facilities, roadside rest areas, agricultural and highway patrol weigh stations, decant storage or disposal locations, and permanent and temporary solid and liquid waste management sites.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations will implement the applicable best management practices defined in the Caltrans Stormwater Quality Handbook Maintenance Staff guide. Any stockpile location in continuous use for more than one year is deemed permanent, and it requires a Facility Pollution Prevention Plan.

Full Capture System (pertains to Trash TMDLs only).

A full capture system is a BMP used to control only trash. It consists of any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.

Rational equation is used to compute the peak flow rate:

$$Q = C \times I \times A$$

Where

Q = design flow rate (cubic feet per second, cfs);

C = runoff coefficient (dimensionless);

I = design rainfall intensity (inches per hour, as determined per a rainfall isohyetal map), and

A= subdrainage area (acres).

Hydrograph Modification (Hydromodification). The alteration of the hydrologic characteristics of surface waters through watershed development. Under past practices, new and re-development construction activities resulted in urbanization, which in turn modified natural watershed and stream processes. The impacts of hydromodification include, but are not limited to, increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding. Urbanization does this by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect

hydrologic characteristics in the watershed and affect the supply and transport of sediment in the stream system.

Hydromodification Management Plan. A plan to control and reduce the impacts of hydrograph modification from development activities in a watershed.

Illegal Connection/Illicit Discharge (IC/ID).

Illegal Connection. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. It includes all non-stormwater discharges except conditionally exempt non-stormwater discharges.

Illegal Dumping**.** Discarding or disposal within the Caltrans right-of-way, properties or facilities, either intentionally or unintentionally, of trash and other wastes in non-designated areas that may contribute to stormwater pollution.

Impervious Cover. Any surface in the landscape that cannot effectively absorb or infiltrate rainfall; for example, sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g., during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g., broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Industrial General Permit. NPDES General Permit for Discharges Associated with Industrial Activities Excluding Construction Activities

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing, etc.). Land use is generally regulated at the local level in the U.S. based on zoning and other regulations. Land use mapping differs from land cover mapping in that it is not always obvious what the land use is from visual inspection.

Load Allocation*.* The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading (40 CFR 130.2(g)).

Low Impact Development (LID). An approach to land development with the goal of mimicking or replicating the pre-project hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and

frequency of discharges are maintained through the use of integrated and distributed micro-scale stormwater retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable (MEP). The minimum required performance standard for implementation of municipal stormwater management programs to reduce pollutants in stormwater. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible and are not cost-prohibitive. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the MEP can only be made by the State or Regional Water Boards.

Municipal Separate Storm Sewer System (MS4). A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is: (1) Owned or operated by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey stormwater; (3) Not a combined sewer; and (4) Not part of a Publicly Owned Treatment Works.

Natural Ocean Water Quality. The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, (i.e., an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemicals (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria)) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "shall not alter natural ocean water quality" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case,

sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development. Any newly constructed facility, street, road, highway, or contiguous road surface installed as part of a street, road or highway project within the Caltrans right-of-way.

Non-Department Activities. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction activities and non-construction activities.

Non-Department Projects. Same as Non-Department Activities.

Non-Stormwater. Discharges that are not induced by precipitation events and are not composed entirely of stormwater. These discharges include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and firefighting activities.

Nonpoint Source. Pollution that is not released through a discrete conveyance but rather that originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;

(2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Perennial Stream. Any stream shown as a solid blue line on the latest version of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map (sometimes referred to as a blue-line stream). Where 7.5 minute series maps have not been prepared by USGS, 15 minute series maps are used.

Pesticide. Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides, algicides, and bactericides.

Algicide. A pesticide that controls algae in swimming pools and water tanks.

***Herbicide*.** A pesticide designed to control or kill plants, weeds, or grasses.

Insecticide. A pesticide compound specifically used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

Bactericide. A pesticide used to control or destroy bacteria, typically in the home, schools, or on hospital equipment.

pH. A measure of the degree of acidity or alkalinity in a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Point source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under CWA section 303(d) are also Pollutants of Concern. Pollutants in the Caltrans discharge that may be Pollutants of Concern include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste), and litter and trash.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses (Porter-Cologne Water Quality Control Act, section 13050(l)(1)).

Reach. A discrete segment of a receiving water body (e.g., river, stream) that collects and conveys runoff from a subwatershed or tributary drainage area. A reach within a TMDL watershed is defined either in the TMDL staff report or as a receiving water segment within a defined Hydrologic Unit Code (HUC) subwatershed. Prioritized reaches in approved TMDLs listed in Appendix D are provided at http://www.waterboards.ca.gov/water_issues/programs/stormwater/caltrans.shtml.

Redevelopment. The creation, addition, and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that

removes impervious materials and exposes the underlying soil or pervious subgrade. Redevelopment does not include trenching and resurfacing associated with utility work; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post-construction treatment controls as provided in provision E.2.d.2).

Roadway. Any road within the Caltrans right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way (ROW). Real property that is either owned or controlled by Caltrans or subject to a property right of Caltrans. Right-of-way that is in current use is referred to as operating ROW.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. The sudden release of a potential pollutant to the environment.

Stormwater. Stormwater runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26 (b)(13).

Stormwater Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes.

Standard Urban Stormwater Mitigation Plan (SUSMP). Plans designating the Best Management Practices that must be used in specified categories of development and redevelopment. The State Water Board adopted a precedential decision (Order WQ 2000-11) upholding a SUSMP requirement imposed under a Phase I MS4 permit and requiring SUSMPs in all MS4 permits.

Stormwater Management Plan (SWMP). Description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

Threshold Drainage Area (TDA). The area draining to a location 20 channel widths downstream (representative reach) of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits.

Threatened Non-compliance. Any planned changes in the permitted facility or activity that may result in non-compliance with Caltrans NPDES Permit requirements.

Total Kjeldahl Nitrogen (TKN). The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then waste load allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR 130.2(i)).

Total Suspended Solids (TSS). Suspended particulate matter: Fine material or soil particles that remain suspended by the water column. They create turbidity and, when deposited, can smother fish eggs or alevins.

Toxicity. The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Toxicity Identification Evaluation (TIE). A series of laboratory procedures used to identify the probable causes of toxicity in a sample of water or sediment, conducted in three phases: 1) characterization, 2) identification, and 3) confirmation.

Trash. All improperly discarded waste material associated with human habitation, of human origin; or from any producing, manufacturing, or processing operation including, but not limited to, product packaging or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials that are thrown or deposited in waters or where it could be transported, as floating, suspended, and/or settleable materials, to waters of the State, including watersheds. (SWRCB Trash Policy).

Turbidity. Murkiness or cloudiness of water, indicating the presence of suspended solids.

United States Environmental Protection Agency (U.S. EPA). U.S. EPA works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Stormwater Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Load Allocation (WLA). The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Objectives (WQO). The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to

prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards (WQS). State-adopted and U.S. EPA-approved water quality standards for surface water bodies. The standards prescribe the beneficial uses (swimmable, fishable, drinkable, etc.) of the water body and establish the WQOs that must be met to protect designated uses.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in California Water Code (CWC) 13050(e). The Caltrans NPDES Permit contains requirements to protect the beneficial uses of waters of the State.

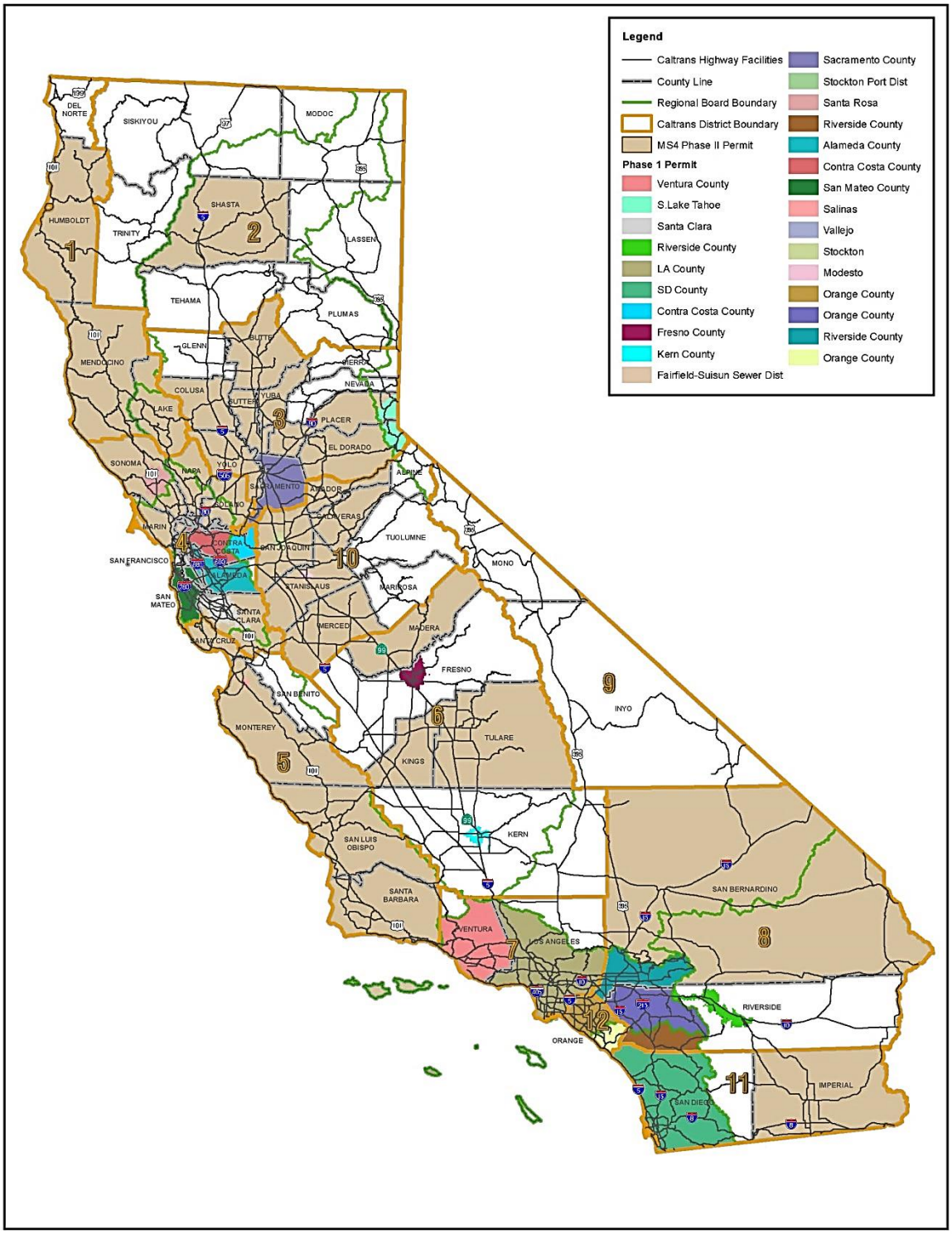
Waters of the United States. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States [as defined in 40 CFR 230.3(s)] include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use of which would affect or could affect interstate or foreign commerce. The definition also applies to tributaries of the aforementioned waters. See 40 CFR 122.2 for the complete definition, which is hereby incorporated by reference.

Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Work Plans. See District Work Plans.

Appendix I. MS4 Maps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County Line
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Phase 1 Permit
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Kern County
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Sacramento County
Stockton Port Dist
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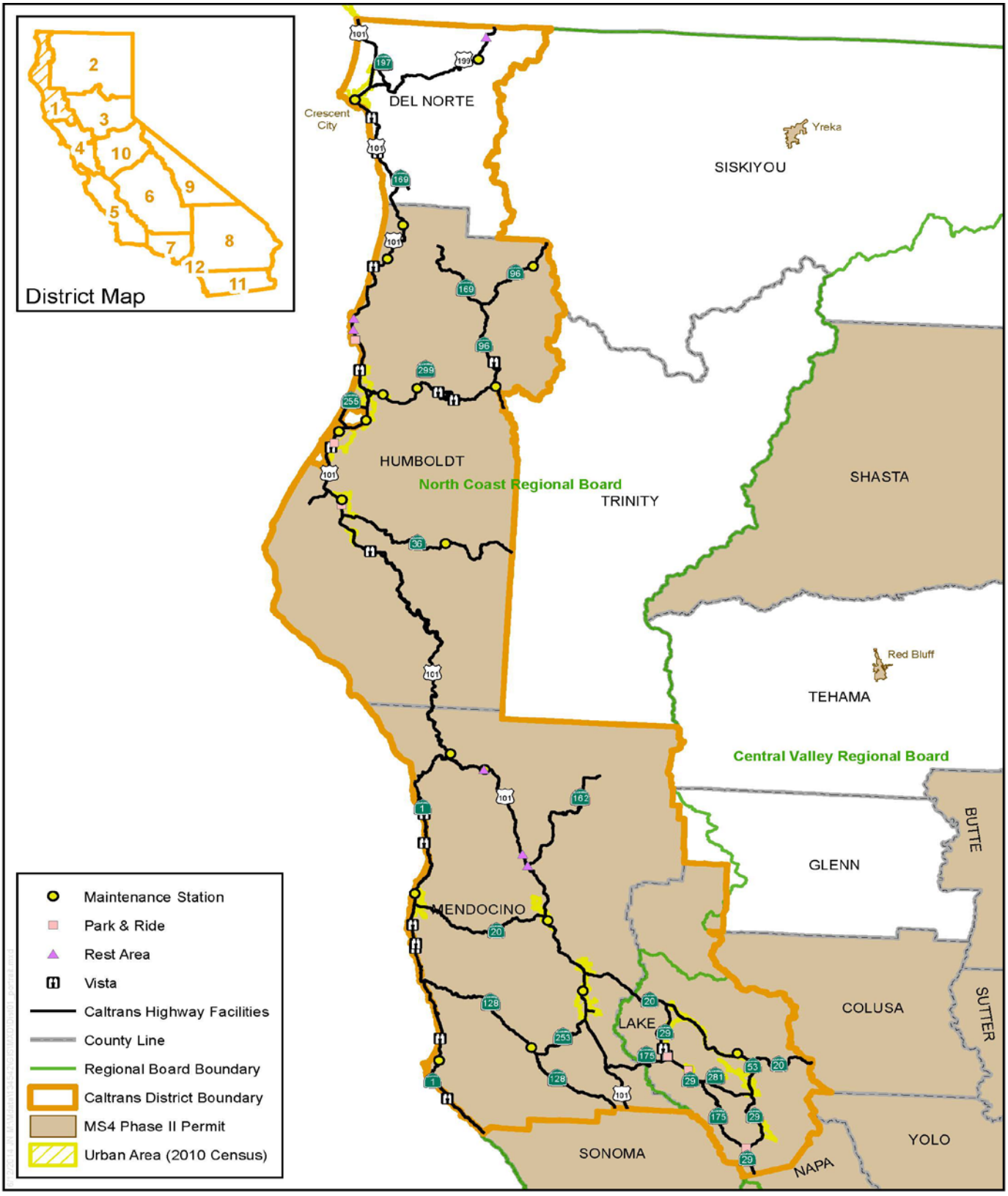
Sources: Caltrans, ESRI, RBF Consulting, State Water Resources Control Board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Sources: Caltrans, ESRI, RBF Consulting, State Water Resources Control Board
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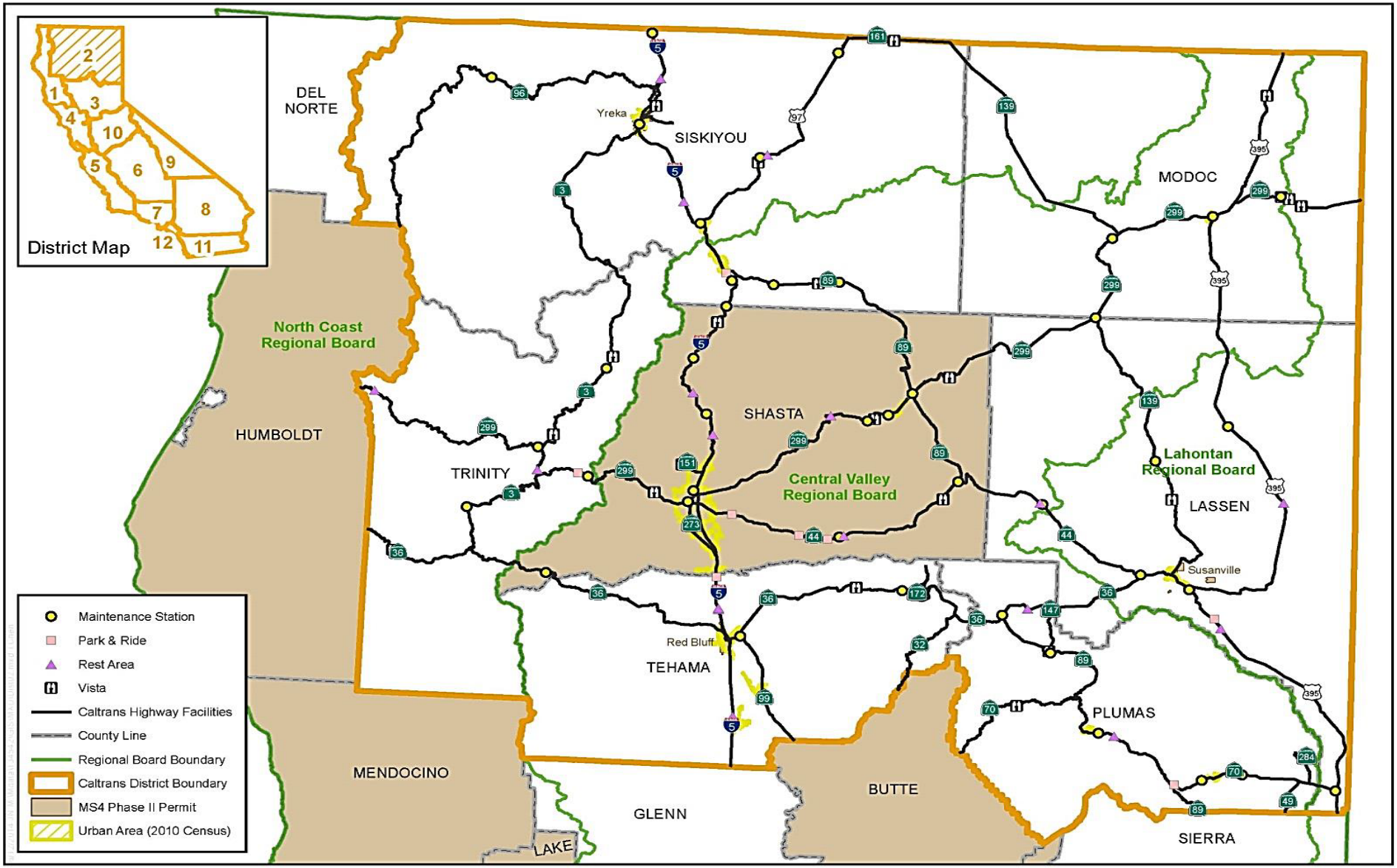
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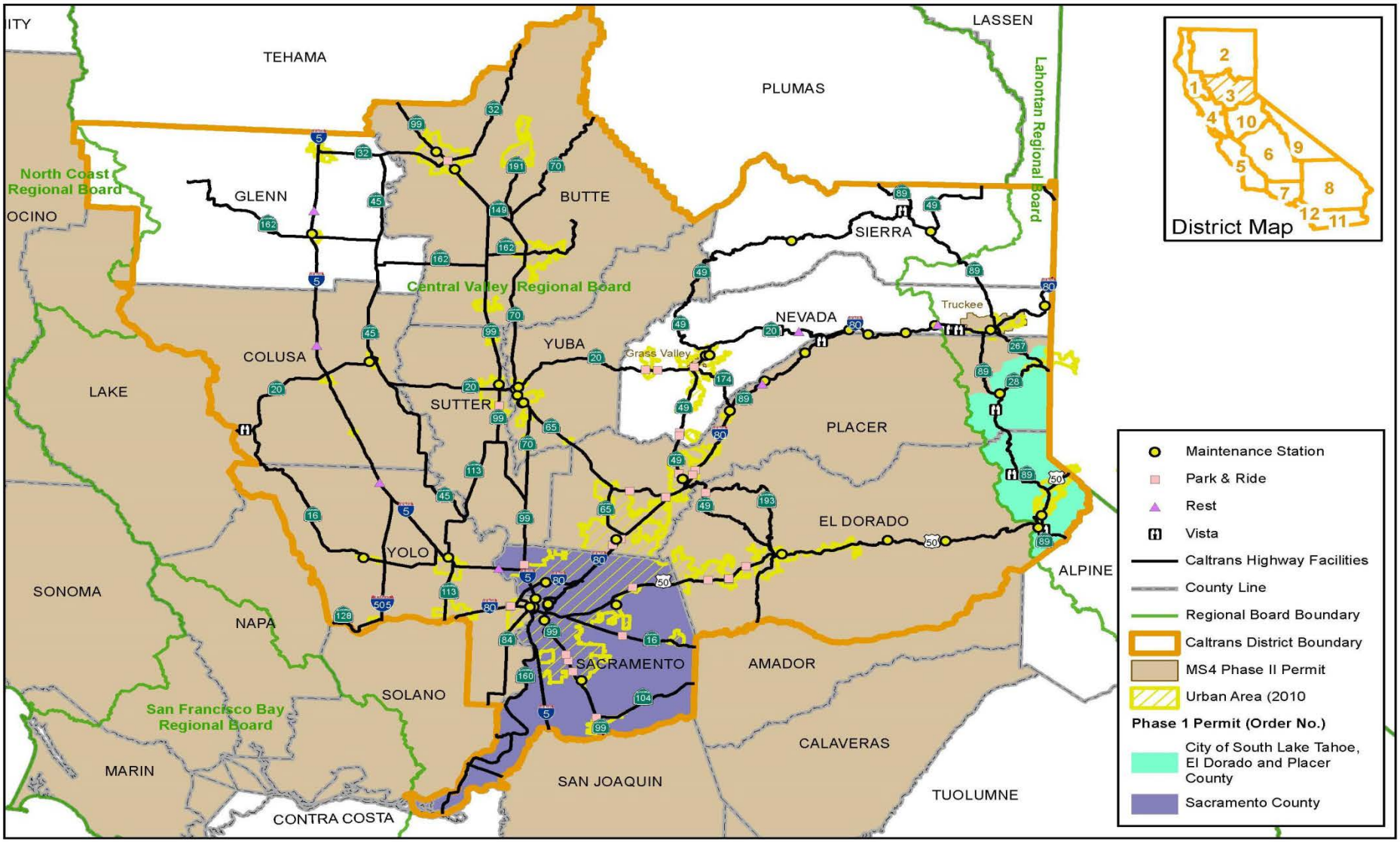
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Phase 1 Permit (Order No.)
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Caltrans
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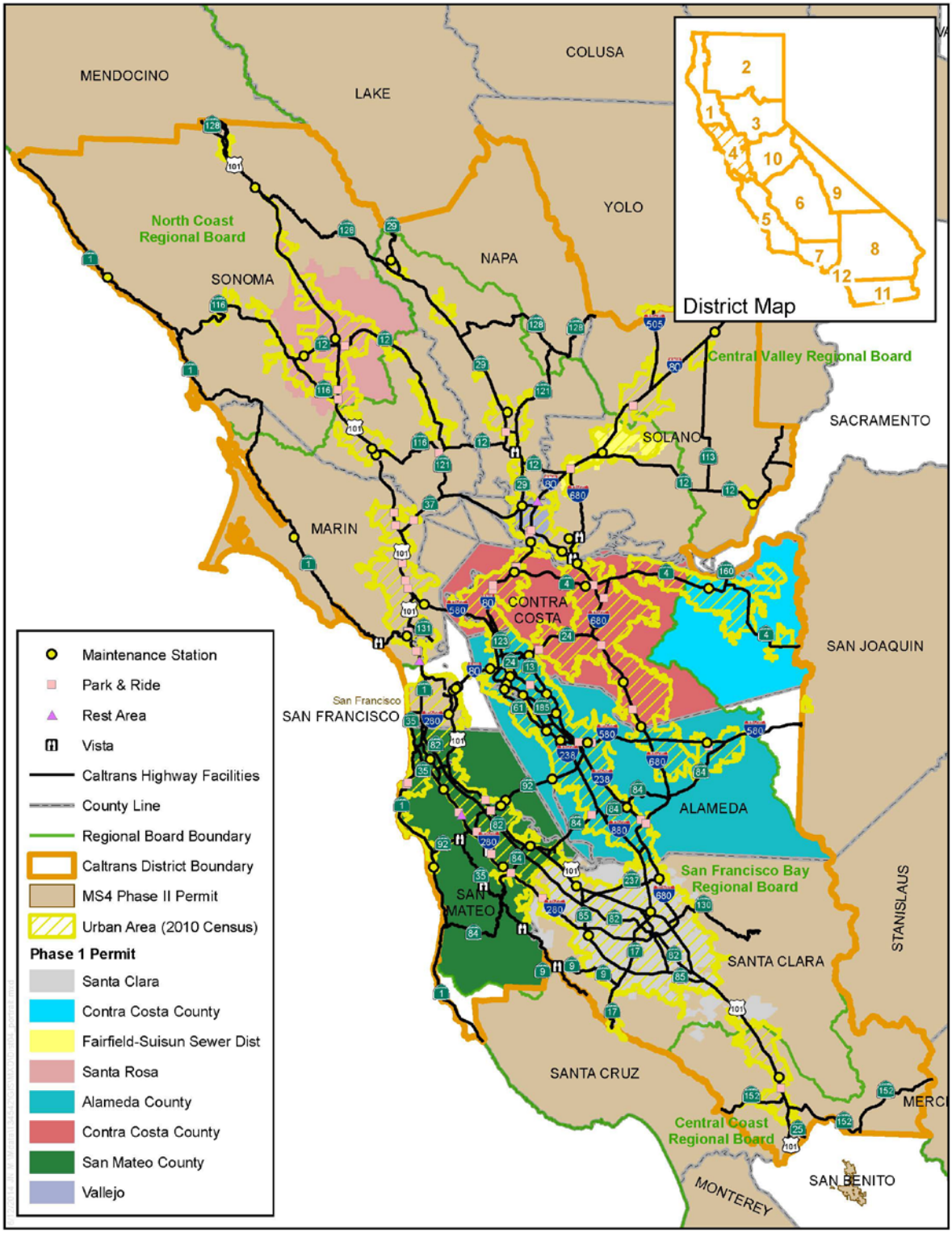
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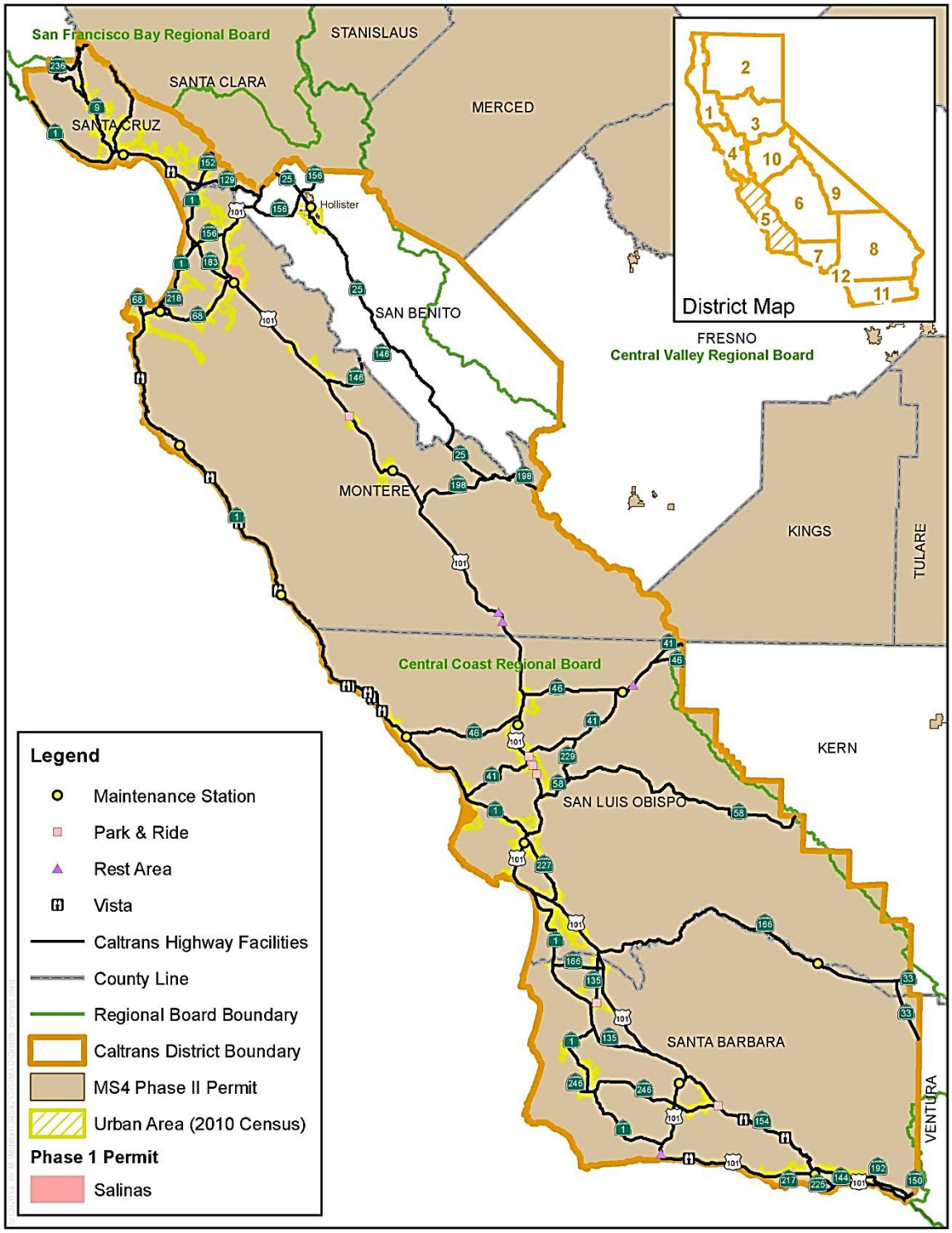
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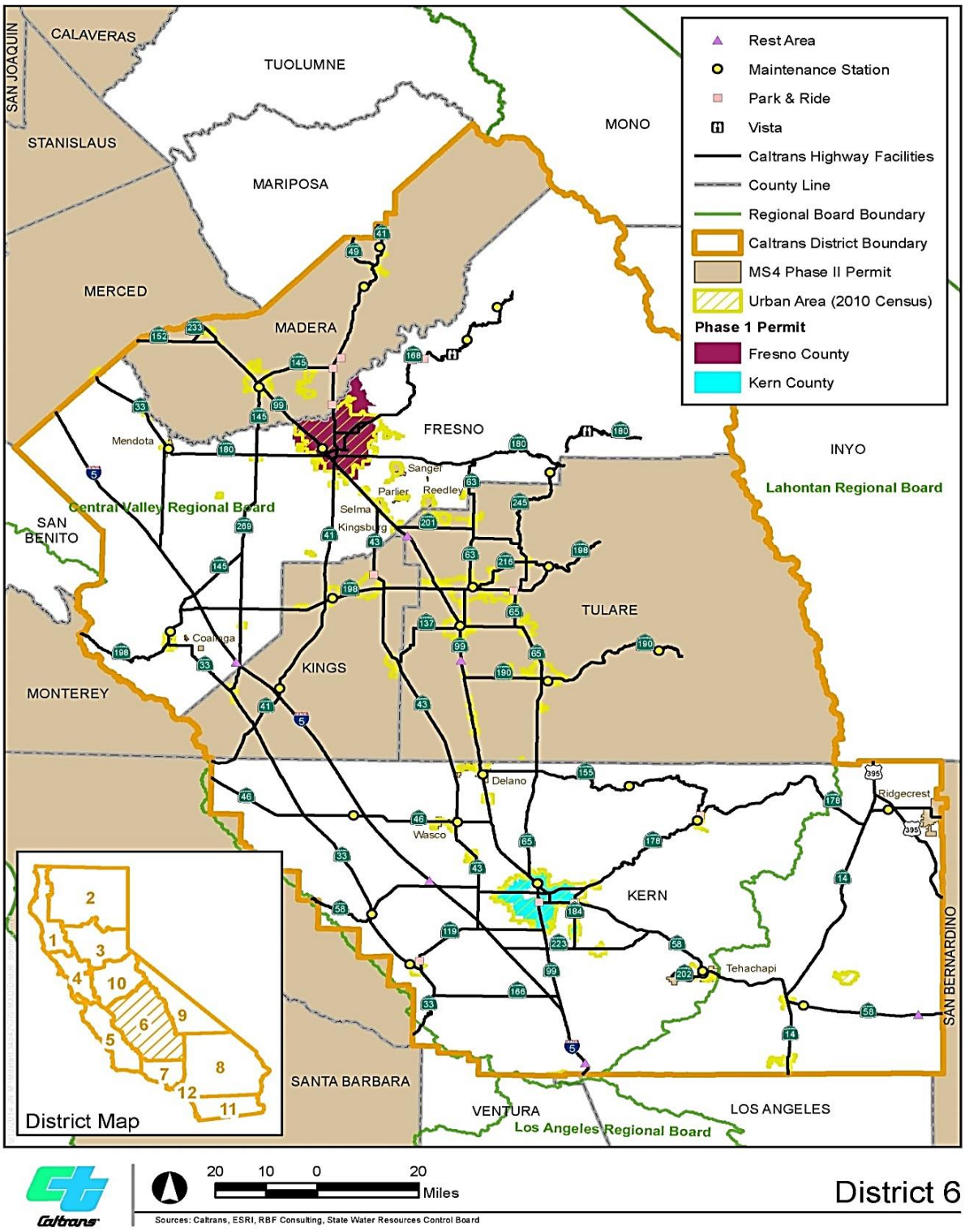
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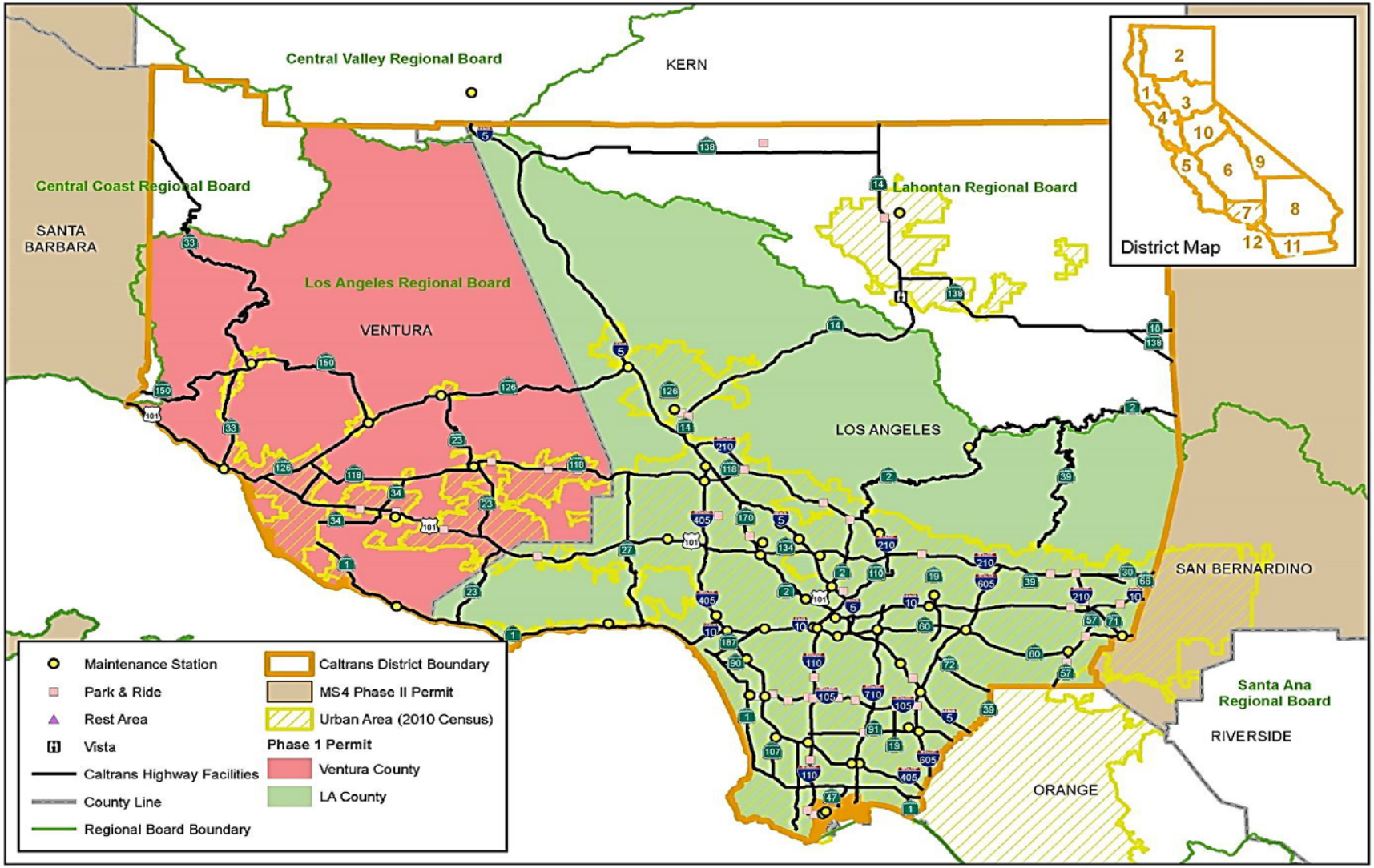
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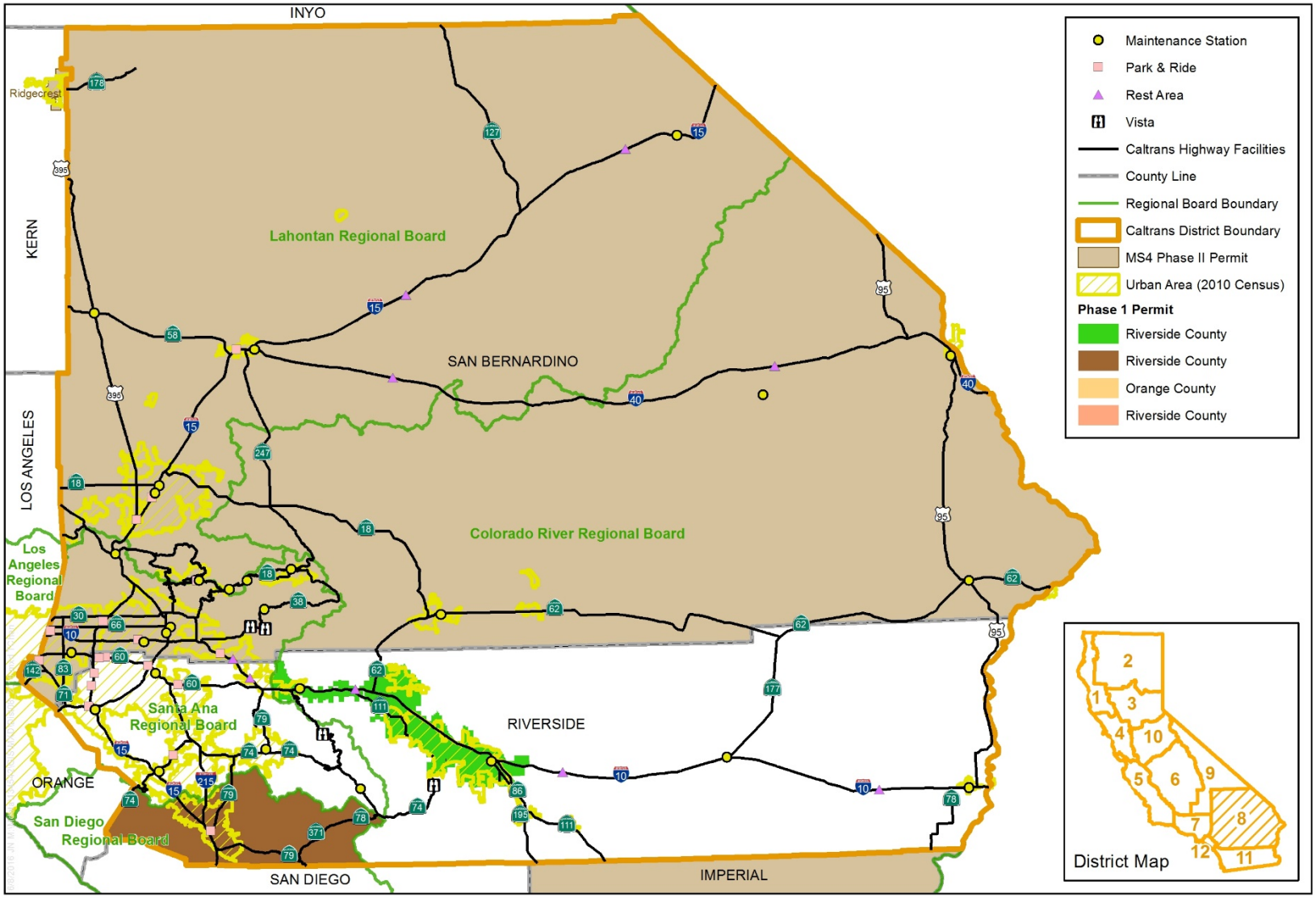
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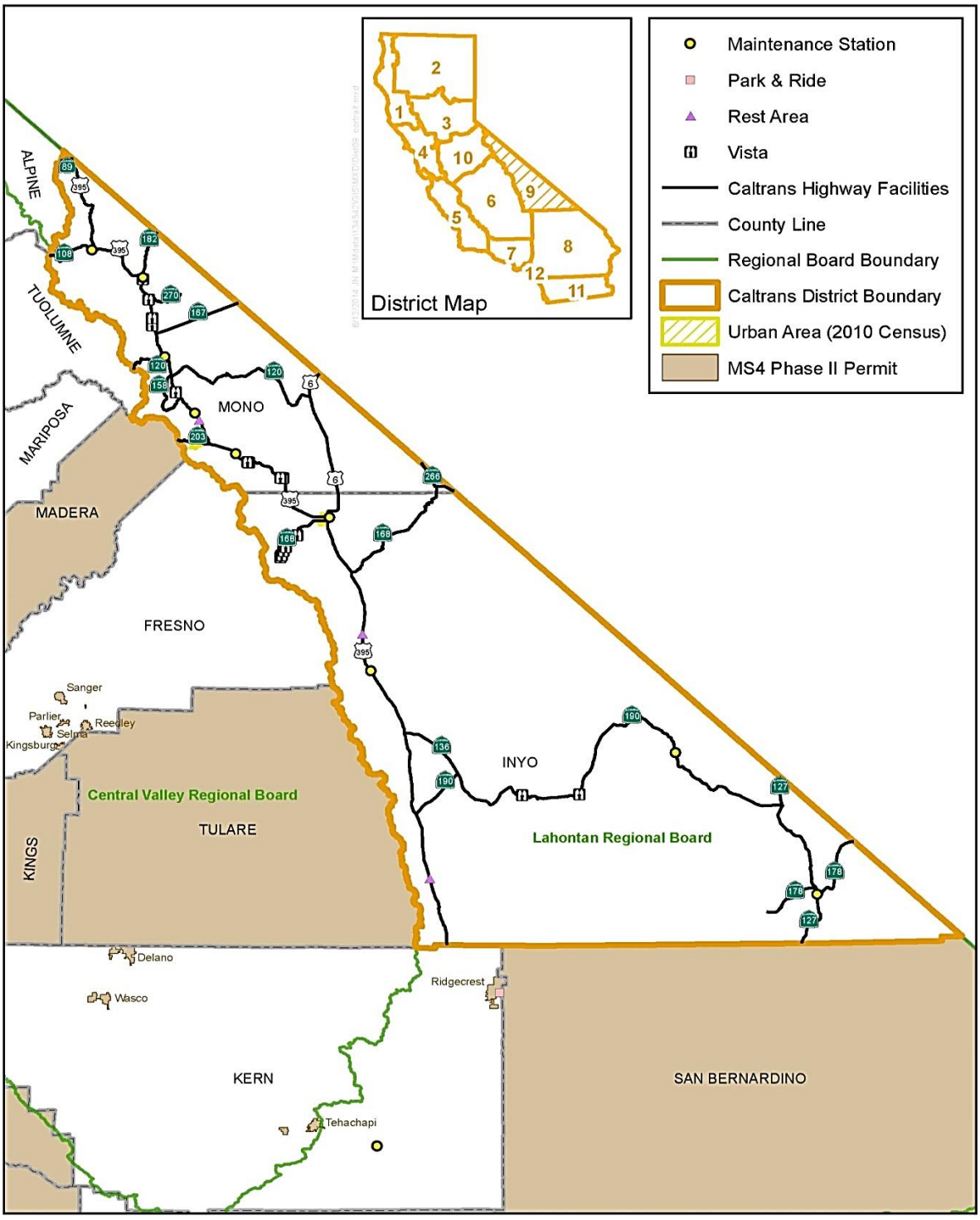
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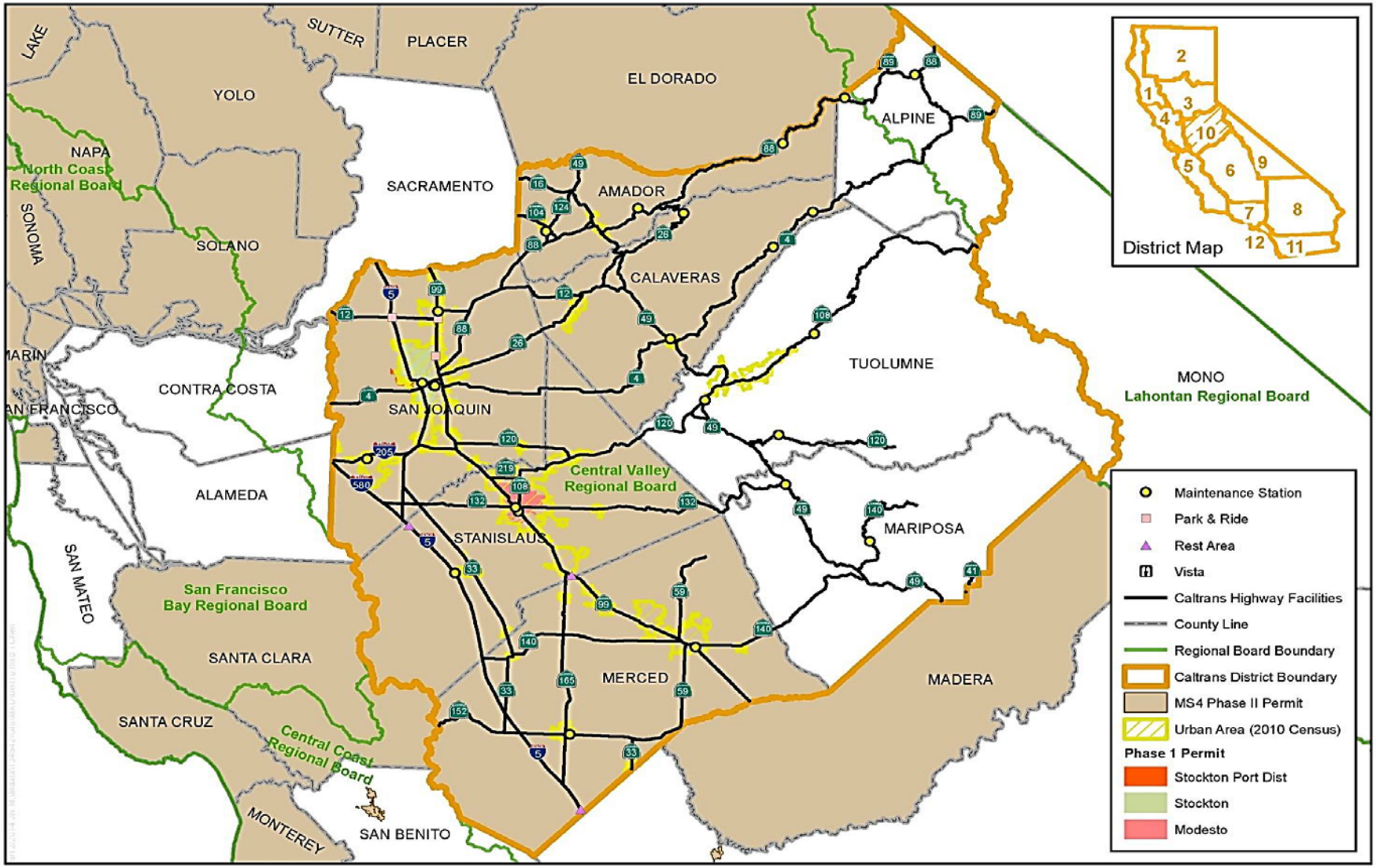
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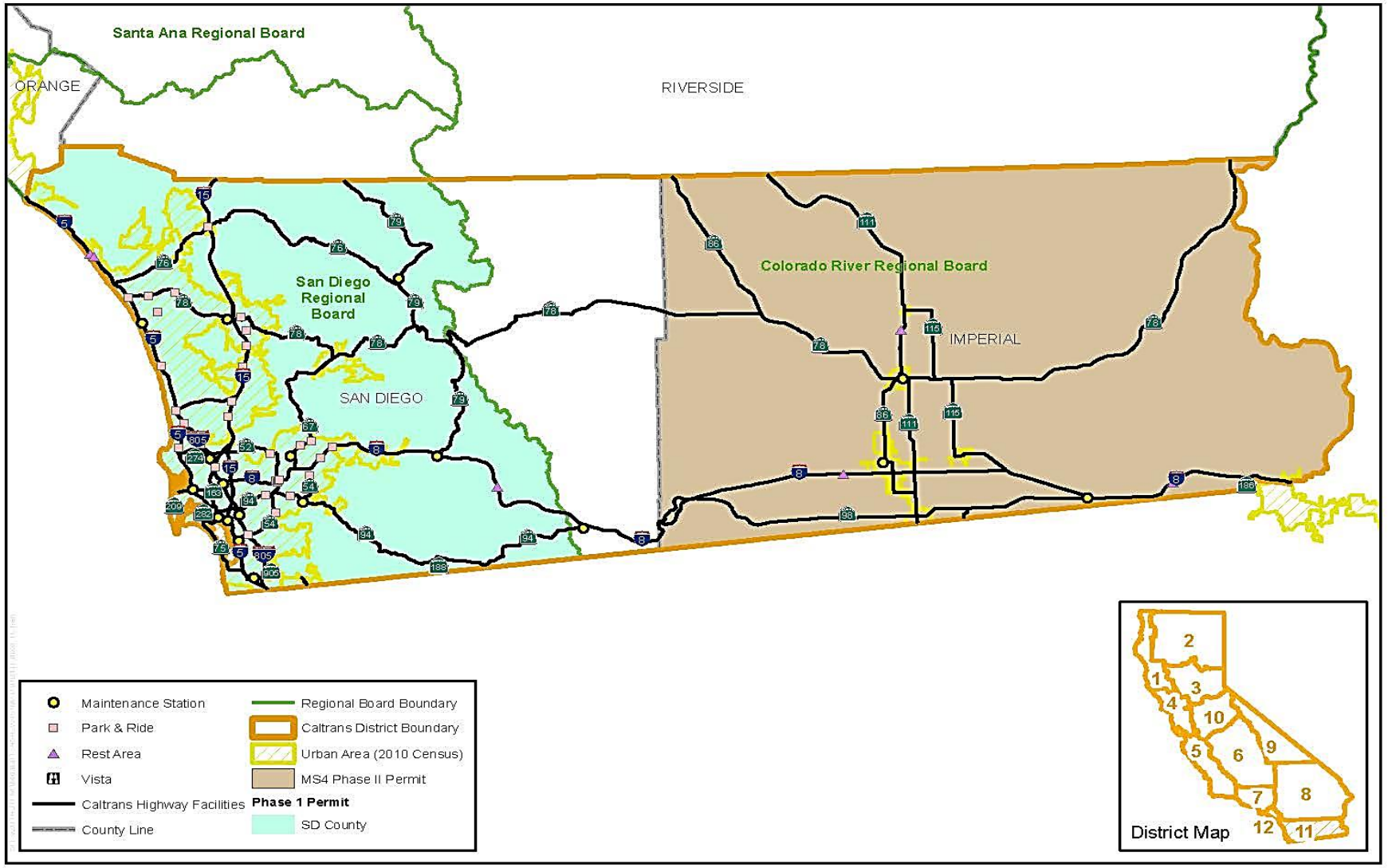
District 10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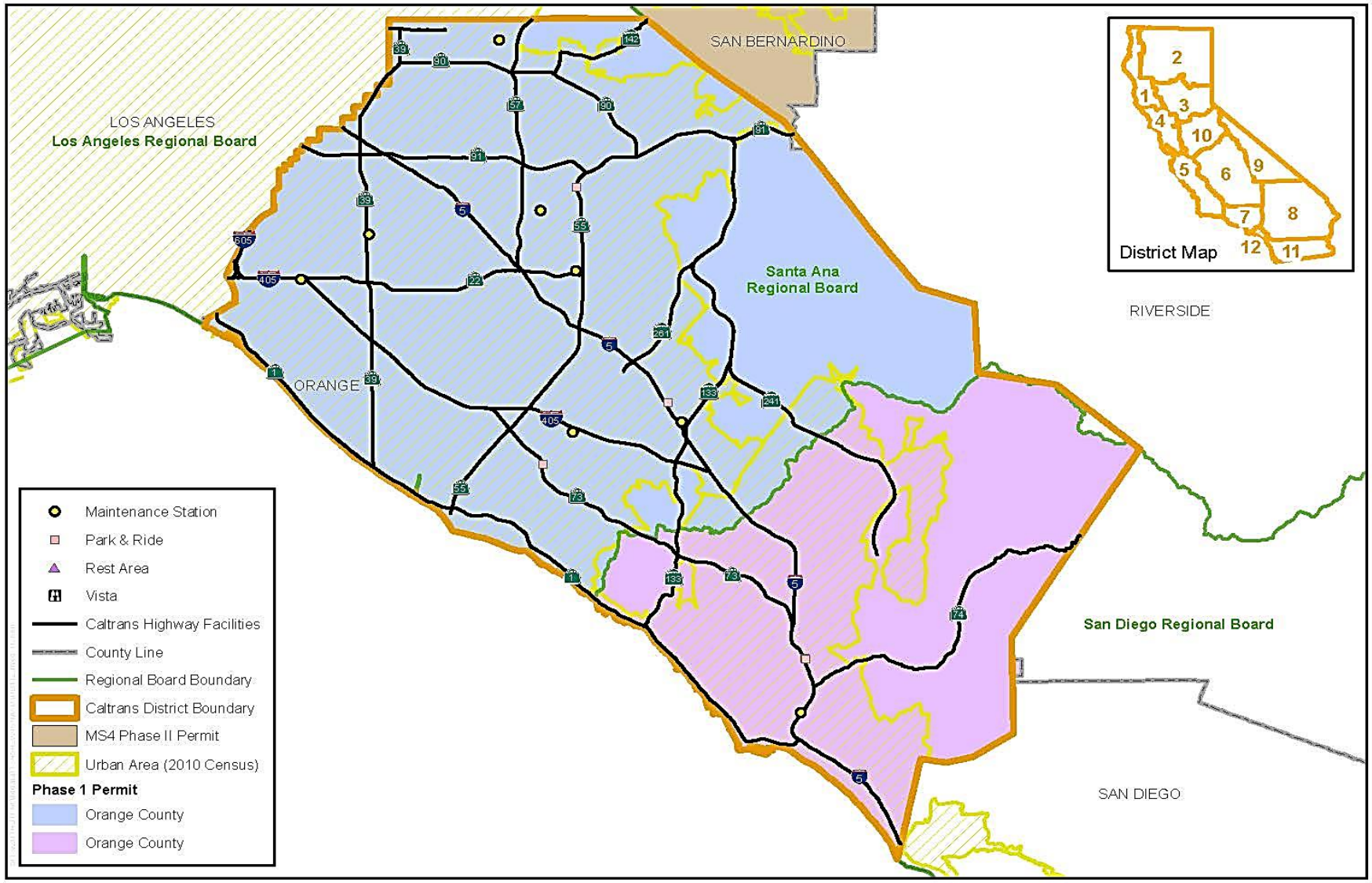
Sources: Caltrans, ESRI, RBF Consulting, State Water Resources Control Board

District 11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Sources: Caltrans, ESRI, RBF Consulting, State Water Resources Control Board
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