



 **Caltrans**



California Department of Transportation
Statewide Stormwater Management Program
Annual Report Fiscal Year 2017-2018
CTSW-RT-18-379.06.1
October 2018

Caltrans Stormwater Management Program **ANNUAL REPORT** 2017-2018

California Department of Transportation Stormwater Management Program

Annual Report

Fiscal Year

2017-2018

CTSW-RT-18-379.06.1



California Department of Transportation
Division of Environmental Analysis
Stormwater Management Program
1120 N Street, Sacramento, California 95814

<http://www.dot.ca.gov/hq/env/stormwater>

October 1, 2018

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Please call or write to:

Stormwater Liaison, Caltrans Division of Environmental Analysis, MS-27

P.O. Box 942874, Sacramento, CA 94274 0001

(916) 653 8896 Voice or dial 711 to use a relay service.

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1120 N Street

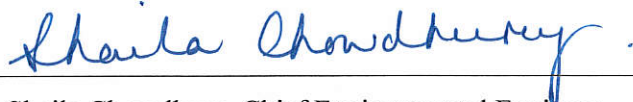
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Certification

**STORMWATER MANAGEMENT PROGRAM
ANNUAL REPORT**

October 1, 2018

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure 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. [40 CFR § 122.22(d)]



Shaila Chowdhury, Chief Environmental Engineer
Division of Environmental Analysis
California Department of Transportation

September 27, 2018

Date

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- *Report to the Legislature for Calendar Year 2016*, October 2017, which describes the status of Caltrans' progress on locating, assessing, and remediating project-related barriers to fish passage. This report was prepared pursuant to California Streets and Highway Code Section 156, Chapter 589, Statutes of 2005 (Senate Bill 857, Kuehl).
- *Year-End Performance Report, A Summary of Construction Compliance Reviews – July 1, 2017 – June 30, 2018*, September 2018 (CTSW-RT-18-366.04.3), which summarizes the results of construction compliance inspections.
- *Year-End Performance Report FY 2017-2018, A Summary of Maintenance Activity Storm Water Compliance Reviews*, September 2018 (CTSW-RT-18-366.04.1), which summarizes the stormwater compliance reviews of maintenance activities.
- *Year-End Performance Report FY 2017-2018, A Summary of Maintenance Facility Storm Water Compliance Reviews*, September 2018 (CTSW-RT-18-366.04.2), which summarizes the stormwater compliance reviews of maintenance facilities.
- *Total Maximum Daily Load Status Review Report*, October 1, 2018 (CTSW-RT-18-379.01.1), which describes the activities performed to implement Total Maximum Daily Loads (TMDLs) on a statewide basis, including the Stream Crossing Survey Workplan for Napa River and Sonoma Creek.
- *Treatment BMP Technology Report*, October 2018 (CTSW-RT-18-999), which discusses the approved and unapproved post-construction technologies Caltrans has evaluated.
- *Stormwater Monitoring and BMP Development Status Report: Fiscal Year 2017-2018*, October 2018 (CTSW-RT-18-350.01.02), which provides an update on the status of stormwater treatment technology studies, source control studies (including erosion control studies), and stormwater quality characterization for the 2017-2018 fiscal year.
- Caltrans certification of legal authority, signed by Jeanne Scherer, Chief Counsel, July 23, 2018.

For immediate access to these reports and data, see the enclosed compact disc (CD). For a complete list of these and all other Caltrans stormwater management and research reports, please see the Caltrans Headquarters Stormwater Division of Environmental Analysis (DEA) [website](#).

Executive Summary

The California Department of Transportation (Caltrans) *Stormwater Management Program Annual Report* (CTSW-RT-18-379.06.1) (Annual Report) describes the stormwater management activities Caltrans performed from July 1, 2017 to June 30, 2018. It complies with Provision E.3.a of the *National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State of California Department of Transportation* (Order Number 2012-0011-DWQ, NPDES Number CAS000003, effective July 1, 2013) (NPDES Permit). An updated “conformed” permit (Conformed NPDES Permit) was produced by the State Water Resources Control Board (SWRCB) and became effective on April 7, 2015. The NPDES Permit was further amended by Order WQ 2017-0026-EXEC on November 27, 2017. In addition, the Annual Report complies with the *Statewide Stormwater Management Plan* (SWMP) that was approved by the SWRCB in July 2016. Caltrans implemented the programs required under the NPDES Permit, and all reportable incidents are described herein.

Caltrans strives to maintain and improve water quality through implementation of its Stormwater Management Program, while fulfilling its mission to provide a safe, sustainable, integrated, and efficient transportation system to enhance California’s economy and livability. Water quality protection is a key component of Caltrans’ day-to-day business practices throughout the project delivery process, and during maintenance and operations activities.

This report describes the specific measures that Caltrans took during the year to maintain and improve runoff water quality and assesses the effectiveness of the water pollution control activities. Among the water quality control measures used were best management practices (BMPs), including treatment controls, training courses and guidance, institutional controls such as the Adopt-A-Highway program, the “Protect Every Drop” public education campaign, and public outreach efforts in all 12 Caltrans Districts. In addition, Caltrans continued to research pollution control technologies that are compatible with highway infrastructure and that effectively address pollutants from stormwater runoff from Caltrans facilities.

Caltrans completed an overall effectiveness evaluation of the stormwater management program following the procedures developed by the California Stormwater Quality Association® (CASQA). This methodology uses six categories of Outcome Levels representing a general progression of water quality protections. The program substantially met its annual goals that were evaluated using the CASQA methodology.

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Background and Purpose

The California Department of Transportation (Caltrans) *Stormwater Management Program Annual Report* (CTSW-RT-18-379.06.1) (Annual Report) describes the stormwater management activities Caltrans performed from July 1, 2017 to June 30, 2018 (reporting period). It complies with Provision E.3.a of the *National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State of California Department of Transportation* (Order Number 2012-0011-DWQ, NPDES Number CAS000003, Effective July 1, 2013) (NPDES Permit).

The NPDES Permit was amended by Orders WQ 2014-0006-EXEC (January 17, 2014), WQ 2014-0077-DWQ (May 20, 2014), and WQ 2015-0036-EXEC (April 7, 2015). An updated “conformed” permit (Conformed NPDES Permit) was produced by the State Water Resources Control Board (SWRCB) on April 7, 2015 and made publicly available on the SWRCB website¹ in March 2016. In addition, the Annual Report complies with the *Statewide Stormwater Management Plan (SWMP)*, which was approved by the SWRCB in July 2016.

The NPDES Permit was further amended by Order WQ 2017-0026-EXEC on November 27, 2017. This permit amendment describes the primary modifications to several Areas of Special Biological Significance (ASBS) sampling locations and incorporation of compliance units (CUs) crediting due to the SWRCB’s adoption of the trash provisions on April 7, 2015 (effective on December 3, 2015).

This Annual Report is organized consistent with the SWMP sections. The accomplishments achieved during the reporting period are discussed in each section, and the supporting data and additional detailed information are compiled in the appendices and attachments on the associated compact disc (CD). These activities protected water quality while maintaining motorist and worker safety and meeting Caltrans’ mission of providing a safe, sustainable, integrated, and efficient transportation system to enhance California’s economy and livability. Caltrans uses a variety of strategies and activities to control the discharge of pollutants from roadways, transportation facilities, and construction projects, while promoting consistency statewide, over diverse geographic, climatic, population, and regulatory conditions.

Status of Permit and SWMP Requirements

Table 1-1 lists Conformed NPDES Permit reporting requirements for the 2017-2018 reporting period.

Table 1-1: Caltrans Annual Reporting Requirements in Conformed NPDES Permit (from Order 2012-0011-DWQ)

Conformed NPDES Permit Section(s)	Requirement(s)	Location in Annual Report
E.1.a., Pg. 19, and Att. IX	Caltrans shall update, maintain and implement an effective SWMP that describes how Caltrans will meet requirements of this Order as outlined in E.1.b below. ... The SWMP shall be reviewed annually and modified as necessary to maintain an effective program in accordance with the procedures of this Order.	Section 2
E.2.b.1)b), Pg. 21	Caltrans shall include a MUNICIPAL COORDINATION PLAN in the SWMP. ... Caltrans shall report on the status and progress of interagency coordination activities in each Annual Report.	Section 2

¹ http://www.swrcb.ca.gov/board_decisions/adopted_orders/water_quality/2012/wq2012_0011_dwq_conformed_signed.pdf

**Table 1-1: Caltrans Annual Reporting Requirements in Conformed NPDES Permit
(from Order 2012-0011-DWQ)**

Conformed NPDES Permit Section(s)	Requirement(s)	Location in Annual Report
E.2.b.2)b), Pg. 22, and Att. IX	Caltrans shall submit annually, as part of the Annual Report, a CERTIFICATION OF THE ADEQUACY OF LEGAL AUTHORITY .	Section 2
E.2.b.3)b), Pg. 22, and Att. IX	Caltrans shall submit a FISCAL ANALYSIS of the storm water program annually. At a minimum, the fiscal analysis shall show: i) The allocation of funds to the Districts for compliance with this Order; ii) The funding for each program element; iii) A comparison of actual past year expenditures with the current year's proposed expenditures and next year's proposed expenditures; iv) How funding has met the goals specified in the SWMP and District work plans; v) Description of any cost sharing agreements with other responsible parties in implementing stormwater management program.	Section 2
E.2.b.6), Pg. 23	Incident Reporting – Non-Compliance and Potential/Threatened Non-Compliance: Caltrans shall report all known incidents of non-compliance with this Order... Caltrans shall include in the Annual Report a summary of all incidents by type and District, and report on the status of each.	Section 2
E.2.c.2)(a)i)(1)(b), Pg. 25	For storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width, including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the SWRCB. Report measurements annually for each precipitation season to the State and RWQCBs.	Section 3
E.2.c.5), Pg. 31, and Att. IX	Caltrans shall submit, separate from the Annual Report, a MONITORING RESULTS REPORT (MRR) by October 1 of each year.	Section 3
E.2.c.6)b), Pg. 32 E.2.f.6), Pg. 43	E.2.c.6)b) Caltrans shall summarize, by District, all non-compliance incidents, including construction, in the Annual Report. E.2.f.6) Caltrans shall provide in the Annual Report a summary of all construction project non-compliance.	Section 2
E.2.d.4), Pg. 40	Caltrans shall submit to the SWRCB by October 1 of each year the same report required under Article 3.5 of the Streets and Highways Code requiring Caltrans to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage.	Section 5
E.2.e., Pg. 40, and Att. IX	Caltrans shall submit updates to the STORM WATER TREATMENT BMP TECHNOLOGY REPORT and the STORM WATER MONITORING AND BMP DEVELOPMENT STATUS REPORT in the Annual Report.	Section 4
E.2.e.2)d) Pg. 41	Caltrans shall develop and utilize a watershed-based database to track and inventory treatment BMPs and treatment BMP maintenance within its jurisdiction. A summary of the tracking system data shall be included in the Annual Report along with a report on maintenance activities for post construction BMPs.	Section 4
E.2.h.2), Pg. 43, and Att. IX	Caltrans shall identify in each Annual Report the status of the FPPP (Facility Pollution Prevention Plan) for each Maintenance Facility by District and Region, including the date of the last update or revision and the nature of any revisions.	Section 8

**Table 1-1: Caltrans Annual Reporting Requirements in Conformed NPDES Permit
(from Order 2012-0011-DWQ)**

Conformed NPDES Permit Section(s)	Requirement(s)	Location in Annual Report
E.2.h.3)a)iii), Pg. 44	Identify road segments with slopes that are prone to erosion and sediment discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. This section does not apply to landslides and other forms of mass wasting which are covered under section E.2.h.3)d).	Section 8
E.2.h.3)b)i)(1)-(2), Pg. 44-45	Apply herbicides and pesticides in compliance with federal, state and local use regulations and product label directions. (1) Violations of regulations shall be reported to the County Agricultural Commissioners within 10 business days. (2) The Annual Report shall include a summary of violations and follow-up actions to correct them.	Section 8
E.2.h.3)b)vii) (1) through (7), Pg. 45-46	Include the following items in the Annual Report [regarding Vegetation Control]: (1) A summary of Caltrans' chemical use; (2) An assessment of long-term trends in herbicide usage; (3) A comparison of the statewide herbicide use with Caltrans' herbicide reduction goals; (4) An analysis of the effectiveness of implementation of vegetation control BMPs; (5) Justification of any increases in use of herbicides, pesticides, and fertilizers; (6) A report on the number and percentage of employees who apply pesticides and have been trained and licensed in Caltrans' Pesticide and Fertilizer Pollution Control Program policies; (7) Training materials, if requested by the SWRCB.	Section 8
E.2.h.3)d), Pg. 46, and Att. IX (1st Annual Report only)	Caltrans shall submit the LANDSLIDE MANAGEMENT PLAN with the Year 1 Annual Report and implement the LANDSLIDE MANAGEMENT PLAN for the remainder of the Permit term.	Section 8
E.2.h.4)c), Pg. 47	Reporting Requirements for Trash and Litter: ... Results shall be submitted as part of the Annual Report in a summary format by District. Prior year's data shall be included to facilitate an analysis of trends.	Section 8
E.2.k.3), Pg. 49	Caltrans shall provide a review and assessment of all training activities in the Annual Report.	Sections 11 and Section 14
E.2.l.2), Pg. 50, and Att. IX	A PUBLIC EDUCATION PROGRAM PROGRESS REPORT shall be submitted as part of the Annual Report.	Section 12
E.2.m.2), Pg. 50, and Att. IX	Field Activities SELF-AUDIT : ... The results of the field compliance evaluations for each fiscal year will be provided in the Annual Report.	Section 5, Section 6, Section 8, and Section 14
E.2.m.3), Pg. 50, and Att. IX	OVERALL PROGRAM EFFECTIVENESS EVALUATION : Each year, Caltrans shall submit an OVERALL PROGRAM EFFECTIVENESS EVALUATION together with the Annual Report.	Section 14
E.2.n., Pg. 51	Measurable Objectives: ... In the Annual Report, Caltrans shall report on its progress in meeting the measurable objectives.	Section 15

**Table 1-1: Caltrans Annual Reporting Requirements in Conformed NPDES Permit
(from Order 2012-0011-DWQ)**

Conformed NPDES Permit Section(s)	Requirement(s)	Location in Annual Report
E.3.a., Pg. 51-52	<p>Caltrans shall submit 13 copies of an ANNUAL REPORT to the SWRCB Executive Director by October 1 of each year. An electronic copy shall also be uploaded into SMARTS in the portable document format (PDF). The reporting period for the Annual Report shall be July 1 through June 30. The Annual Report shall contain all information and submittals required by this Order including, but not limited to:</p> <ol style="list-style-type: none"> 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 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 shall include an assessment of the effectiveness of any Caltrans 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 Caltrans' 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 this Order; 12) District Workplans (see below); and 13) Measures implemented to meet region-specific requirements. 	Section 16

**Table 1-1: Caltrans Annual Reporting Requirements in Conformed NPDES Permit
(from Order 2012-0011-DWQ)**

Conformed NPDES Permit Section(s)	Requirement(s)	Location in Annual Report
E.3.b., Pg. 52-53, and Att. IX	<p>DISTRICT WORKPLANS Caltrans shall submit DISTRICT WORKPLANS (workplans) for each District by October 1 of each year, as part of the Annual Report.... Workplans shall conform with the requirements of applicable RWQCB Basin Plans and shall include, at a minimum:</p> <ol style="list-style-type: none"> 1) A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this shall include a description of the construction and post construction controls to be implemented; 2) The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project; 3) The area of disturbed soil associated with each project or activity; 4) A description of other permits needed from the RWQCBs for each project or activity; 5) Potential and actual impacts of the discharge(s) from each project or activity; 6) The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with WLAs and LAs assigned to Caltrans for specific pollutants in specific watersheds or sub watersheds; 7) The elements of the statewide monitoring program to be implemented in the District; 8) 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); 9) Spill containment, spill prevention and spill response and control measures for high-risk areas; and 10) Proposed measures to be taken to meet Region-specific requirements included in Attachment V. 11) An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge. 	Section 16
E.4.b., Pg. 53, Att. IV Section I.B.1., Pg. IV-3 – IV-4, and Att. IX	<p>Status Review Report</p> <p>Caltrans shall prepare a TMDL STATUS REVIEW REPORT to be submitted with each Annual Report. The TMDL STATUS REVIEW REPORT shall include all the information required in Attachment IV.</p>	Section 16

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2 Management and Organization

Program Management

Caltrans internal meetings were held to discuss Conformed NPDES Permit requirements, new commitments, and resources. The Division of Environmental Analysis (DEA) collaborated with the Caltrans Legal Division on the SWMP implementation and its deliverables.

Caltrans continued to meet with SWRCB staff to discuss Conformed NPDES Permit ASBS monitoring, Cooperative Implementation, and Attachment IV, Total Maximum Daily Load (TMDL) Requirements, including the required TMDL Status Review Report.

Caltrans Management and each of the Headquarters and District Functional Units held briefings regarding Conformed NPDES Permit requirements and TMDL compliance, via the Headquarters Stormwater Management Team.

Caltrans participated in discussions with stakeholders regarding the requirements for the following:

- Statewide Trash Amendments and the *Caltrans Trash Load Reduction Workplan for the San Francisco Bay Region*
- Regional watershed programs, including Cooperative Implementation Agreements
- Caltrans Statewide Stormwater Strategic Efforts
 - Value Analysis Study of Caltrans' Stormwater Program (Roles and Responsibilities)
 - *Stormwater Management Plan – Construction Compliance Evaluation Plan (CTSW-PL-16-999)* (CCEP)
 - Enforcement Response Program (ERP) implementation
 - Cooperative Implementation Agreement Guidance
- ASBS and TMDL monitoring
- Development of a Stormwater Management Program Communication Plan

The Caltrans Stormwater Management Team continued to collaborate with the SWRCB to discuss the mission and objectives of the program. The Conformed NPDES Permit implementation expectations for all program functional elements were discussed with key members of the Caltrans Stormwater Management Program. The program elements discussed include Project Planning, Design, Construction, Maintenance, Region-Specific requirements, and new stormwater regulations (TMDL compliance, ASBS, the *Caltrans Trash Load Reduction Workplan for the San Francisco Bay Region*, reporting, and program effectiveness).

Municipal Coordination Activities

The Districts participated in municipal coordination activities by attending meetings, taking part in special studies, and collaborating with local agencies. District staff attended meetings statewide with municipal stormwater permittees to coordinate public education and outreach, regional planning, and other related activities. Appendix A: Management and Organization has detailed information on the municipal coordination activities performed during the reporting period. The cooperative agreement activities such as monitoring and task force involvement that Caltrans participated in during the reporting period are summarized in Appendix N: Reporting. In addition, the cooperative implementation agreements between Caltrans and local municipalities within TMDLs are further discussed in the attached TMDL Status Review Report.

Coordination with Statewide and National Associations

Caltrans actively participated as a member of the California Stormwater Quality Association® (CASQA); kept abreast and commented on NPDES-related initiatives, municipal separate storm sewer system (MS4) permits, and policy; participated in workgroups at quarterly meetings; and sponsored the Water Quality NewsFlash as part of its public education and outreach effort.

In addition, through coordination with CASQA and the SWRCB, Caltrans developed, launched, implemented, and continues to fund its statewide public education campaign, “Protect Every Drop.” Caltrans initiated a new phase in its pollution prevention outreach campaign that focuses not only on trash but also addresses pollutants such as pesticides and bacteria that may originate from non-highway sources. This effort includes market research to assess the public’s awareness, understanding, and behaviors toward protecting California’s water quality. A mid-campaign [report](#) was issued in June 2017. In addition, the campaign has partnered with 11 other government agencies including California Highway Patrol, Department of Motor Vehicles and California High Speed Rail Authority.

Caltrans coordinated nationally with other transportation departments on stormwater implementation strategies via the American Association of State Highway and Transportation Officials (AASHTO). DEA staff participated in the Standing Committee on the Environment (Natural Resources Subcommittee), in which members discussed the emerging water quality issues that are applicable to the highway environment. This subcommittee also provided recommendations to the National Cooperative Highway Research Program for stormwater research.

Fiscal Analysis

Caltrans’ Stormwater Management Program was supported by an appropriation of \$105,975,000 for compliance with the Conformed NPDES Permit and related activities in fiscal year 2017-2018. Total expenditures were \$106,169,259, with \$46,414,659 in personal services, \$59,754,600 in operating expenses, and 426.40 in Personnel Years exceeding its fiscal year 2017-2018 appropriation. Note that these expenditures do not include capital project costs, including State Highway Operation and Protection Program (SHOPP) projects and regular capital improvement projects with temporary and permanent treatment controls.

In fiscal year 2017-2018, Caltrans continued to implement the Conformed NPDES Permit requirements and assessed the programmatic and fiscal impacts. Consistent with the previous fiscal year, more than 100 sites (including cooperative monitoring sites) were monitored for stormwater quality. Caltrans’ stormwater quality monitoring activities will continue in future years as additional treatment best management practices (BMPs) are installed, and BMP retrofits are completed.

The SWRCB approved the SWMP on July 21, 2016, and on June 1, 2017, issued the 13383 Order requiring a Statewide Trash Plan be submitted by December 2018. Caltrans continued to implement the Cooperative Implementation Agreement (CIA) program by entering into new agreements for a total of 12 CIAs as of this fiscal year. This program provides funds to projects, in conjunction with local agencies, to achieve compliance with TMDLs. The 12 CIAs are in various project phases and are expected to use all the resources allocated to them. Resource limitations are likely to prevent the Stormwater Management Program’s ability to enter into additional agreements until some of the current projects funded by these agreements are completed in 2020. In summary, the Caltrans Stormwater Management Program’s needs are likely to increase to implement the Conformed NPDES Permit requirements, attain the annually required 1,650 CUs, and develop and implement a statewide trash implementation plan. Caltrans receives one CU for treating one acre of tributary drainage area for treatment BMPs installed within Caltrans’ right-of-way (ROW) that were implemented within TMDL watersheds to improve stormwater quality. Additionally, CU credit equivalence can be achieved through municipal coordination, cooperative implementation agreements, fish passage Projects, open/gap-graded asphalt pavements, slope stabilization, and the SWRCB’s grant program.

Legal Authority

The Conformed NPDES Permit requires Caltrans to review its legal authority and ensure it is adequate to comply with its provisions and with the SWMP. There were no changes in Caltrans’ legal authority regarding the protection of stormwater. Caltrans’ legal authority certification is attached to the Annual Report on the CD.

Incident Reporting – Non-Compliance and Potential/Threatened Non-Compliance

Caltrans reported known emergency, field, administrative, and anticipated (threatened) non-compliance incidents via the Storm Water Multiple Application Report and Tracking System (SMARTS) (Conformed NPDES Permit Section E.2.b.6 and SWMP Table 16-1: Notification Schedule for Actual Incidents of Non-Compliance). During the 2017-2018 fiscal year, Caltrans complied with this requirement as summarized in Appendix A: Management and Organization.

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3 Monitoring and Discharge Characterization Program

The Conformed NPDES Permit states in Section E.2.c, in part, that a minimum of 100 Tier 1 and Tier 2 sites (if needed) be monitored each year. The Conformed NPDES Permit defines Tier 1 sites as either ASBS or TMDL sites. Tier-2 sites are located outside of both ASBS and TMDL watersheds where further characterization monitoring may be of interest.

Tier 1 Site Monitoring

For the 2017-2018 season, 102 Tier 1 sites were monitored to address Section E.2.c requirements. These sites consisted of:

- ASBS monitoring, 48 sites
- TMDL monitoring, 38 sites
- Cooperative Monitoring Agreements, six sites
- BMP Pilot Monitoring Sites, 10 sites

Table 3-1 summarizes the monitoring performed during the reporting period at Tier 1 sites. Results of this monitoring effort are included in the Monitoring Results Report. The Monitoring Results Report will be submitted separately as required by the Conformed NPDES Permit, on October 1, 2018.

Table 3-1: Permit-Required Monitoring (Tier 1)

ASBS Core Monitoring Sites (47)
• 47 Core Monitoring sites in District 7
ASBS Ocean Receiving Water and Reference Monitoring Sites (1)
• 1 Ocean receiving water site in District 7
TMDL Monitoring Sites (38)
<ul style="list-style-type: none"> • 2 Monitoring sites in District 1 • 4 Monitoring sites in District 2 • 3 Monitoring sites in District 3 • 9 Monitoring sites in District 4 • 3 Monitoring sites in District 5 • 2 Monitoring sites in District 7 • 10 Monitoring sites in District 11 • 6 Monitoring sites in District 12
Cooperative Agreement Sites (6)
• 6 Monitoring agreements
BMP Pilot Monitoring Sites (10)
<ul style="list-style-type: none"> • 5 Monitoring sites in District 3 • 5 Monitoring sites in District 7

The ASBS Core Monitoring Sites are outfalls that capture stormwater effluents at priority discharge points that are located within ASBS areas.

ASBS Monitoring

The purpose of the ASBS monitoring is to assess if Caltrans discharges are compromising natural ocean water quality. Comparisons between 1) the Natural Water Quality (NWQ) values (also referred to as the 85th percentile threshold values at reference watersheds) and Caltrans ocean receiving water (ORW) values, and 2) pre-storm and during-storm ocean receiving water values are used to assess compliance.

Caltrans conducted monitoring at 48 ASBS sites consisting of 47 core discharge locations and one ORW site. The three ASBS regional monitoring groups (RMGs) did not monitor during the 2017-2018 wet season because their

respective monitoring had been completed. Caltrans conducted the stormwater monitoring consistent with the quality assurance project plans for each RMG.

The SWRCB has allowed Caltrans to suspend monitoring at all ASBS sites where the minimum number of events have been collected. This includes all sites in ASBS 5, 8, 9, 15, and 34. On July 27, 2017, the SWRCB issued a letter to Caltrans approving the ceasing of monitoring activities in ASBS 33. ASBS 24 is the only ASBS to be monitored during the 2017-2018 wet season. Caltrans has requested the SWRCB that further monitoring should be suspended in ASBS 24 since 2 consecutive seasons of sampling required under the ASBS Special Protections has been completed.

Table 3-2 lists the number of storm events successfully captured during the 2017-2018 wet season at the core discharge sites and ocean reference sites.

Table 3-2: 2017-18 ASBS Storm Event Summary

ASBS	Number of Forecasted Events	Number of Non-Mobilized Storm Events ^{1, 2}	Number of False Start Storm Events ^{2, 3}	Number of Successfully Captured Storm Events ^{2, 3}
ASBS 24 (Mugu to Latigo)	16	13	0	3

Notes:

¹ A non-mobilized storm event occurs when a forecasted storm event fails to meet the mobilization criteria at the point in time when a “Go” or “No-Go” decision needs to be made.

² Number of Non-Mobilized Storm Events + Number of False Start Storm Events + Number of Successfully Captured Storm Events = Number of Forecasted Events.

³ A false start or successfully captured storm event is a storm event that met the criteria for mobilization and resulted in (a) a successfully captured storm event, (b) an incomplete storm event, (c) a false start, or (d) a ground-truthing storm event. An incomplete storm event occurs when a field crew mobilizes to a site, collects the pre-storm samples, but is not able to collect the during-storm samples. A false start occurs when a field crew mobilizes to a site, but neither the pre-storm nor the during-storm samples are collected. A ground-truthing storm event occurs when a field crew mobilizes to a site to verify the approximate drainage area during a storm event—no samples are collected.

The 2017-2018 wet season is the sixth monitoring season for the ASBS monitoring effort. Table 3-3 lists the cumulative number of storm events captured over the five monitoring seasons. The Conformed NPDES Permit requires a minimum of three storm events per wet season to be captured at the ORW sites for two seasons (see Sections E.2.c.2)a)i)(2)(b)(i) and (iii)).

Table 3-3: Cumulative Number of Storm Events Captured 2012 through 2018

ASBS	Ocean Receiving Water Site ID	2017-18 Number of Successfully Captured Storm Events	Cumulative Number of Successfully Captured Storm Events	Target Number of Storm Events
ASBS 5 (Saunders)	1-338	0	9	6
ASBS 8 (Redwood)	1-323	0	6	6
ASBS 9 (Fitzgerald)	4-342	0	9	6
ASBS 15 (Año Nuevo)	4-346	0	8	6
ASBS 34 (Carmel Bay)	5-305	0	6	6
ASBS 24 (Mugu to Latigo)	7-407	3	7	6
ASBS 33 (Irvine Coast)	12-350	0	15	6

Notes:

Monitoring continued at ASBS 5, 9, 15, and 33 ORW sites beyond the minimum six storm events at the direction of SWRCB staff.

Seasonal runoff volumes were estimated at the monitored ASBS outfall locations. The runoff volume estimates were calculated based on the drainage area, depth of measured rainfall for the season at a nearby rain gage, and a

runoff coefficient that is a function of percent imperviousness. The drainage areas were estimated from maps and verified by direct field observations for selected sites. The runoff volume estimations and seasonal runoff volumes are included in Appendix P: Seasonal Runoff Volumes at ASBS Sites 18 inches or greater.

The NWQ values are assigned on a regional basis: Northern California, Central California, and Southern California regions. NWQ values for the Northern California and Central Coast RMG areas were finalized during the 2015-2016 season. The NWQ values for the Southern California region had previously been finalized.

Table 3-4 lists for each ASBS the constituents that have been identified to exceed NWQ based on monitoring conducted to date.

Table 3-4: ASBS Exceedances to Date

ASBS	Constituents that Exceed Natural Water Quality ¹
ASBS 5 (Saunders)	None
ASBS 8 (Redwood)	Total Suspended Solids, Arsenic, Copper, Lead, Mercury, Nickel, Selenium
ASBS 9 (Fitzgerald)	Dissolved Orthophosphate, Total Suspended Solids, Copper, Lead, Zinc, Toxicity
ASBS 15 (Año Nuevo)	Fecal Coliform, Enterococcus, Total Suspended Solids, Oil and Grease, Nitrate as N, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
ASBS 34 (Carmel Bay)	Cadmium, Lead, Mercury, Zinc
ASBS 24 (Mugu to Latigo)	Ammonia, Selenium
ASBS 33 (Irvine Coast) ²	-

Notes:

Exceedances were determined in accordance with Figure 2, Page 56 of the Conformed NPDES Permit and all storms sampled were included in the evaluation.

¹ In the 2015-2016 Annual Report, selenium and copper were listed as constituents that exceeded NWQ values in ASBS 33.

² In the 2016-2017 wet season, Caltrans determined that, with one exception, it does not have direct discharges to the ASBS.

Additional information on the Caltrans ASBS monitoring is in the Monitoring Results Report, which was submitted separately from this report.

TMDL Monitoring

Caltrans conducted stormwater monitoring within 21 Tier 1 TMDL watersheds, as shown in Table 3-5.

Table 3-5: Summary of TMDL Watershed Monitoring for Priority Reaches

TMDL Watershed	Pollutant	Reach No.	Priority Ranking
Chollas Creek	Diazinon	1/2	80/82
Chollas Creek	Dissolved Copper, Lead and Zinc	1/2	80/82
Klamath River in California	Temperature, Dissolved Oxygen, Nutrient, and Microcystin	20/25	254/247
Shasta River	Dissolved Oxygen and Temperature	3	140
Los Angeles River	Trash	11	28
Los Angeles River and Tributaries	Metals	3/4/11	21/28
Los Angeles River Watershed	Bacteria	3/4/11	21/28
Lost River	Nitrogen, Biochemical Oxygen Demand, and pH	1	230
Lower Eel River	Temperature and Sediment	1	144
Mad River	Sediment and Turbidity	5	130
Napa River	Sediment	2	22
Richardson Bay	Pathogens	1	214
Sacramento – San Joaquin River Delta Estuary	Methyl mercury	1 / 2	75/191
Newport Bay, San Diego Creek	(Organochlorine Compounds (DDT ¹ , Chlordane, and PCBs ²))	1	64

Table 3-5: Summary of TMDL Watershed Monitoring for Priority Reaches

TMDL Watershed	Pollutant	Reach No.	Priority Ranking
San Diego Creek and Newport Bay, including Rhine Channel	Metals (Copper, Lead and Zinc)	3	65
San Diego Creek and Upper Newport Bay	Cadmium	2	66
San Diego Creek Watershed	Organochlorine Compounds (DDT ¹ , Chlordane, PCBs ² , and Toxaphene)	1	166
San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks)	Sediment	1	162
South Fork Eel River	Temperature and Sediment	1	125
San Francisco Bay	Mercury	5	189
San Francisco Bay	PCBs**	5	193

Notes:

¹ Dichlorodiphenyltrichloroethane

² Polychlorinated Biphenyls

Caltrans has completed stormwater monitoring in one TMDL watershed:

- Truckee River (Sediment)

Caltrans has no stormwater monitoring efforts planned in the following TMDLs (listed in Attachment IV) because it has met the monitoring obligations described in the Conformed NPDES Permit:

- **Rhine Channel Area of Lower Newport Bay (Chromium and Mercury):** Caltrans has no tributary area in the TMDL.
- **Rainbow Creek TMDL Monitoring Project.** In February 2017, after four years of monitoring, Caltrans submitted to the San Diego Basin Regional Water Quality Control Board (RWQCB or Regional Board) a letter with a document that summarized the monitoring activities. The document concludes that its runoff did not meet the 2013 and 2017 Nitrogen waste load allocations (WLAs) and is slightly more than the 2021 Nitrogen WLA. Caltrans runoff did not meet the 2013 Phosphorus WLA, but Caltrans runoff is well below the 2017 and 2021 Phosphorus WLA. The difference between the Caltrans result and the WLA are within normal limits of data variability and there is no consistent trend in the data. A comparison of Caltrans runoff concentrations with the upstream and downstream receiving water locations indicate that it is unlikely Caltrans discharges are providing significant nutrient contributions to Rainbow Creek. The Caltrans drainage area contains no known sources of nutrients, makes up approximately 2 percent of the total watershed, and is bordered by commercial growers, nurseries and orchards—operations that take up 21 percent of the watershed. Soil tests have shown that the installation of an infiltration-type BMP is not practical. Caltrans has requested that the San Diego Basin RWQCB adjust the permitting language accordingly based on the monitoring report conclusions. The San Diego Basin RWQCB responded to Caltrans indicating that it supports a reduction in monitoring frequency to once per permit term.
- **District 8 Coachella Valley TMDL Monitoring Project.** After two years of monitoring that concluded at the start of the 2015-16 wet season, Caltrans submitted its required monitoring report to the Colorado River Basin Water Board in November 2015. The monitoring report concludes that it is highly unlikely that Caltrans facilities represented by the monitoring sites have been responsible for contribution of bacteria to the Coachella Valley Stormwater Channel due to not enough runoff reaching the channel. At the time the monitoring report was submitted, Caltrans requested from the Colorado River Basin RWQCB to be removed from the TMDL due to lack of connectivity. The Colorado River Basin RWQCB responded on January 6, 2016 indicating that it was too early to determine exclusion of any groups/individuals from the responsible party list. When asked for an update on this monitoring project the Colorado River Basin RWQCB responded on May 31, 2018: “The TMDL Program hasn’t made any decision on phase 2 implementation of this TMDL because we are still analyzing the data and information

from phase 1 implementation to find the sources of impairments.” No further work is anticipated at this time until the Colorado River Basin RWQCB makes a determination of exclusion. The Phase I monitoring effort is complete. Caltrans is waiting for direction from the Colorado River Basin RWQCB on the next phase of the TMDL.

Additional information regarding Caltrans’ monitoring efforts is described in the Monitoring Results Report.

Cooperative Monitoring Agreements

Caltrans entered into six Cooperative Monitoring Agreements that are counted as Tier 1 sites and are listed in Table 3-6.

Table 3-6: Cooperative Monitoring Agreements Counted as Tier 1 Sites

Cooperative Monitoring Agreement Title
Aquatic Science Center
Ventura River Estuary Trash TMDL
Santa Monica Bay Dry and Wet Weather Bacteria TMDL Coordinated Shoreline Water Quality Monitoring Program
MOA for Contaminated Sediment Management Plan for the Dominguez Channel
MOA for Receiving Water Monitoring for Ventura River Algae TMDL
Lake Elsinore and San Jacinto Watersheds Authority (LESJWA)

Tier 2 Monitoring

Selection and monitoring of Tier 2 sites is only required when the number of Tier 1 sites being monitored falls below 100. The total number of Tier 1 sites exceeded the Conformed NPDES Permit minimum requirement of 100; therefore, no Tier 2 sites were monitored this reporting year.

Other Water Quality Monitoring

Other water quality monitoring efforts include independently funded projects, as well as collaborative efforts with other stakeholders, such as municipalities, the SWRCB and RWQCBs, and stormwater quality researchers. For the 2017-2018 season, Caltrans entered into Cooperative Monitoring Agreements for monitoring in the TMDL watersheds listed above in Table 3-6.

Caltrans is pursuing Cooperative Monitoring Agreements for the following TMDL watersheds:

- Ballona Creek Wetlands, Sediment and Invasive Exotic Vegetation
- Calleguas Creeks, its Tributaries and Mugu Lagoon, Metals and Selenium
- Calleguas Creeks, its Tributaries and Mugu Lagoon, Organochlorine Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation
- Dominguez Channel, Greater Los Angeles, and Long Beach Harbor Waters, Metals (Copper, Lead, Zinc), DDT, PAHs, and PCBs
- Long Beach City Beaches and Los Angeles River Estuary, Indicator Bacteria
- Los Angeles Area Echo Park Lake, Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash
- Machado Lake, Eutrophic, Algae, Ammonia, and Odors (Nutrients)
- Machado Lake, Pesticides and PCBs
- Malibu Creek Watershed, Bacteria
- San Gabriel River, Metals (Copper, Lead, Zinc) and Selenium
- Santa Clara River Estuary and Reaches 3, 5, 6, and 7, Coliform
- Santa Monica Bay Beaches, Bacteria
- Upper Santa Clara River, Chloride
- Colorado Lagoon, Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs and Metals (Pb and Zn)

- Los Angeles Area North, Center and Legg Lake, Nitrogen, Phosphorus
- Los Angeles Area Peck Road Park Lake, Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash
- Los Angeles Area Puddingstone Reservoir, Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, Dieldrin
- Malibu Creek Watershed, Trash
- Revolon Slough and Beardsley Wash, Trash
- Santa Monica Bay Nearshore and Offshore, Debris (trash and plastic pellets)

Table 3-7: 2017-2018 Fiscal Year Monitoring Efforts and Associated Reports

Document ID No.	Title/Description	Report Type
CTSW-RT-18-350.01.02	Stormwater Monitoring and BMP Development Status Report: Fiscal Year 2017-18	Report
CTSW-RT-18-350.01.03	Monitoring Results Report: Fiscal Year 2017-18	Report
CTSW-RT-18-371.03.1	Draft Monitoring Report District 3 Low Impact Development (LID) BMP Pilot Study	Report
CTSW-RT-18-999	Treatment BMP Technology Report October 2018 (2018 Edition)	Report
TBD	D3 Linear Filtration Pilot Study Monitoring	In progress
TBD	Lake Tahoe Sand Vault Retrofit Pilot Study Monitoring	In progress
TBD	D7 Linear Filtration Pilot Study Monitoring	In progress
TBD	D4 Net Type trash capture Devices Pilot Study	In progress
TBD	Chollas Creek Modular Infiltration BMPs Monitoring Study	In progress
TBD	Lake Tahoe Road-Rapid Assessment Methodology Verification and Traction Sand Monitoring Study	RAM Scores uploaded to online system
Cooperative Monitoring	Ventura River Estuary Trash TMDL	In progress
Cooperative Monitoring	Santa Monica Bay Dry and Wet Weather Bacteria TMDL Coordinated Shoreline Water Quality Monitoring Program	Monthly reporting
Cooperative Monitoring	MOA for Contaminated Sediment Management Plan for the Dominguez Channel	In progress
Cooperative Monitoring	MOA for Receiving Water Monitoring for Ventura River Algae TMDL	In progress
Cooperative Monitoring	Lake Elsinore and San Jacinto Watersheds Authority (LESJWA)	In progress

Notes:

TBD – To Be Determined

4 BMP Development and Implementation

BMP Development

Caltrans continued to track new and/or emerging post-construction stormwater treatment technologies. During the reporting period, a below-grade infiltration BMP (Maxwell IV or Maxwell Plus) was reviewed, and there was an update to the Stormwater Treatment BMP Technology Report. The *Treatment BMP Technology Report, October 2018*, (CTSW-RT-18-999) is an attachment to this Annual Report (CD attachment).

The *Stormwater Monitoring and BMP Development Status Report: Fiscal Year 2017-18* (CTSW-RT-18-350.01.02) is an attachment to this Annual Report (CD attachment). This report provides an update on the status of stormwater treatment technology studies, source control studies (including erosion control studies), and stormwater quality characterization for the 2017-2018 fiscal year.

Three new BMPs have been adopted for inclusion in the Caltrans approved BMP list: OGFC, bioretention, and the Austin media filter with alternative media. The next update to the SWMP will include these new BMPs.

OGFC is a routine Caltrans practice, and detailed guidance has been developed for its effective implementation for runoff water quality enhancement. Plans, specifications, and guidance will be developed for bioretention and alternate media filter BMPs. Inclusion of these BMPs will provide added flexibility for addressing stormwater treatment in Caltrans projects and in meeting Conformed NPDES Permit requirements.

Treatment BMP Inspection and Maintenance

Treatment BMPs that retain water for more than 96 hours are reported to the local vector control districts. An inventory of structural BMPs that retain water for more than 96 hours is maintained and updated every two years. Appendix B: BMP Development and Implementation contains data on the Treatment BMPs installed and inspected/maintained within each District. Table 4-1 summarizes the Treatment BMP inspection and maintenance activities that occurred during the fiscal year.

Table 4-1: Summary of 2017-2018 Fiscal Year Treatment BMP Inspection and Maintenance

District	Treatment BMP Type	Number of Treatment BMPs	Number of Treatment BMPs Inspected/Maintained
1	Traction Sand Trap	3	0
	Biofiltration Swale	2	0
	District 1 Total	5	0
2	Austin Sand Filter	2	2
	Biofiltration Strip	23	23
	Biofiltration Swale	29	29
	Detention Basin	13	23
	Infiltration Basin	7	7
	Infiltration Trench	5	5
	Traction Sand Trap	140	140
District 2 Total		219	219
3	Austin Sand Filter	2	0
	Biofiltration Strip	12	12
	Biofiltration Swale	51	40
	Detention Basin	131	24

Table 4-1: Summary of 2017-2018 Fiscal Year Treatment BMP Inspection and Maintenance

District	Treatment BMP Type	Number of Treatment BMPs	Number of Treatment BMPs Inspected/Maintained
	Infiltration Basin	79	30
	Infiltration Trench	13	3
	Traction Sand Trap	1,072	222
District 3 Total		1,360	331
4	Biofiltration Strip	52	49
	Biofiltration Swale	59	50
	Detention Basin	81	77
	Infiltration Basin	1	1
	Infiltration Trench	33	32
	Wet Basin	4	4
District 4 Total		230	213
5	Biofiltration Strip	44	18
	Biofiltration Swale	28	18
	Detention Basin	8	4
District 5 Total		80	40
6	Biofiltration Swale	21	17
	Detention Basin	366	348
District 6 Total		387	365
7	Austin Sand Filter	74	49
	Biofiltration Strip	18	14
	Biofiltration Swale	164	134
	Detention Basin	8	6
	Gross Solids Removal Device (Inclined Screen)	188	147
	Gross Solids Removal Device (Linear Radial)	80	64
	Infiltration Basin	10	7
	Infiltration Trench	2	2
	Media Filter	1	1
	Multi-Chambered Treatment Train	3	2
	VSCREN	2	2
District 7 Total		550	428
8	Austin Sand Filter	2	2
	Biofiltration Strip	40	40
	Biofiltration Swale	54	54
	Detention Basin	19	19
	Gross Solids Removal Device (Linear Radial)	1	1
	Infiltration Basin	18	18
	Traction Sand Trap	34	34

Table 4-1: Summary of 2017-2018 Fiscal Year Treatment BMP Inspection and Maintenance

District	Treatment BMP Type	Number of Treatment BMPs	Number of Treatment BMPs Inspected/Maintained
District 8 Total		168	168
9	Infiltration Basin	2	2
	Traction Sand Trap	11	11
District 9 Total		13	13
10	Traction Sand Trap	1	1
	Detention Basin	3	3
District 10 Total		4	4
11	Austin Sand Filter	4	4
	Biofiltration Strip	1	0
	Biofiltration Swale	99	92
	Detention Basin	17	4
	Gross Solids Removal Device (Linear Radial)	1	1
	Infiltration Trench	5	4
	Wet Basin	1	1
District 11 Total		128	106
12	Austin Sand Filter	2	1
	Biofiltration Strip	8	7
	Biofiltration Swale	49	48
	Detention Basin	46	41
	Gross Solids Removal Device (Linear Radial)	1	1
District 12 Total		106	98
Statewide Total		3,250	1,985

Post-Construction Treatment BMPs Tracking System and Maintenance

The Division of Construction provided the coordinates of permanent treatment BMPs to facilitate transfer to the Division of Maintenance using a designated handoff form. The Division of Maintenance uses its Integrated Maintenance Management System (IMMS) to track the maintenance records of treatment BMPs as provided by the Districts. Treatment BMPs are maintained according to Caltrans maintenance guidance. Data from the Caltrans Treatment BMP Database and from Treatment BMP maintenance activities are in Appendix B: BMP Development and Implementation, Table B-1. Table B-2 contains data for the locations where OGFC has been installed.

Non-Approved BMP Implementation

Caltrans did not implement any non-approved BMPs during the reporting period.

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5 Project Planning and Design

Re-use of Aerially Deposited Lead Contaminated Soils

The Department of Toxic Substances Control (DTSC) regulates activities involving the reuse of soils that contain aerially deposited lead (ADL), ensuring that management of these soils protects human health and the environment. Soil containing regulated levels of lead was reused in accordance with the Soil Management Agreement for ADL-Contaminated Soils (Agreement) between the DTSC and Caltrans (SWMP Section 6.7: Use of Lead-Contaminated Soils). Basically, these soils are placed where they will not contact groundwater and where they are not subject to infiltration from the surface. The Agreement was reviewed by the SWRCB and RWQCBs during its development and found to be protective of the waters of the U.S. If suitable locations for soil reuse were unavailable, the excavated soil containing regulated levels of lead was disposed of at appropriately permitted landfill facilities. Each Caltrans District notified the DTSC and the appropriate RWQCB prior to construction of each project involving excavation of soils containing regulated levels of lead. This provided the RWQCBs the opportunity to include additional controls if deemed appropriate. Caltrans recorded soil burial locations in a statewide database as required by the Agreement.

Design Consultation in the Lahontan Region

The Conformed NPDES Permit requires that Caltrans 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 prior to the Project Approval and Environmental Document, 60 percent design level, and 90 percent Plans, Specifications, and Estimates phases. No projects were designed in the East and West Forks Carson River or the Mammoth Creek Hydrologic Units during this reporting period. However, in the Truckee River and Lake Tahoe Hydrologic Units, District 3 participated in early design consultation with the Lahontan RWQCB. On a tri-annual basis, the District NPDES Unit provided the Lahontan RWQCB with a list of projects in the design and construction phases. If total soil disturbance information was available, the projects were identified as either Water Pollution Control Program (WPCP) or Stormwater Pollution Prevention Plan (SWPPP) projects.

For projects in the 60 percent design phase, the Drainage Plans, Drainage Profiles, Drainage Details, and Water Quality Treatment Strategy plan sheets were submitted to the Lahontan RWQCB for a 2-week review and comment period. Focus meetings were scheduled with permitting agencies (RWQCB and Tahoe Regional Planning Agency [TRPA] staff), the Caltrans Design Branch, the TRPA Coordinator, and the NPDES Coordinator to discuss water quality treatment strategies. Input from the permitting agencies was noted and considered to further refine the water quality treatment strategies. The same process occurred at the 90 percent design milestone. Finally, during the District's Plans, Specification, and Estimate (PS&E) circulation, a PS&E package for each project in consultation was submitted to the Lahontan RWQCB to show that all agreed upon water quality treatment strategies were incorporated into the contract plans, and to obtain treatment strategy concurrence. Caltrans met the requirements of Conformed NPDES Permit Attachment V for project review requirements in the Lahontan Region.

Stream Crossing Design Guidelines to Maintain Natural Stream Processes

Caltrans, in coordination with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service, the California Department of Fish and Wildlife (CDFW), and the United States Fish and Wildlife Service used the publication, "[Fish Passage Design for Road Crossings](#)" (Caltrans, August 2009) to ensure conformance with state and federal fish passage standards and regulations. Caltrans also relied upon the Highway Design Manual, Sections 800-890, "Highway Drainage Design," with the goal of preserving natural drainage while considering environmentally sensitive issues, such as fish passage.

In addition to Caltrans' "Fish Passage Design for Road Crossings" guidance document, Caltrans also used the CDFW's *California Salmonid Stream Habitat Restoration Manual* (Part XII: Fish Passage Design and

Implementation), CDFW's *Culvert Criteria for Fish Passage*, and NOAA's *Fisheries Service Guidelines for Salmonid Passage at Stream Crossings* document in the design and development of Caltrans fish passage projects. The guidance is currently being updated to include standard design details for common fish passage appurtenances.

Caltrans works with regulatory agencies in compliance with Article 3.5 of the Streets and Highway Code, documenting progress and compliance. The *Caltrans Hydromodification Requirements Guidance, Storm Water Best Management Practices, Rapid Assessment of Stream Crossings, and Higher Level Stream Stability Analysis* (CTSW-OT-14-314.05) (February 2015) serves as the status report for Caltrans fish passage projects. It provides guidance on assessing pre-project channel stability and implementing mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion.

Design Best Management Practices

During the reporting period, the Office of Hydraulics and Stormwater Management Design (OHSWMD) evaluated its program to ensure that it complies with the Conformed NPDES Permit.

The OSWMD continued to maintain an interactive website for the Caltrans-approved treatment BMPs that includes stand-alone design guidance, plans, specifications, and other pertinent information. An animated depiction with narration is provided for each type of treatment BMP to illustrate how it functions. Various improvements were made to certain BMPs based on lessons learned to improve their implementation and constructability. The website also includes information on the *Project Planning and Design Guide* (PPDG), which provides design guidance for BMPs, development of a Stormwater Data Report, and other tools and training to facilitate the inclusion of BMPs in Caltrans projects. The PPDG (July 2017) was updated during the fiscal year. Caltrans is currently updating the treatment BMP design guidance documents.

Treatment BMPs Planned for Projects

Figure 1 summarizes the percentage of treatment BMP types planned for projects during the Design phase for the reporting period. This information is based on estimated project completion end dates documented in the PS&E and the Stormwater Data Report (SWDR). Treatment BMPs are included to comply with the Conformed NPDES Permit post-construction treatment requirements and to implement TMDL WLAs, location-specific, and other requirements including compliance with water quality standards, by following the selection process defined in the PPDG. Appendix C: Project Planning and Design contains more information about the treatment BMPs planned for projects during the fiscal year.

Treatment BMP Summary By Device Type

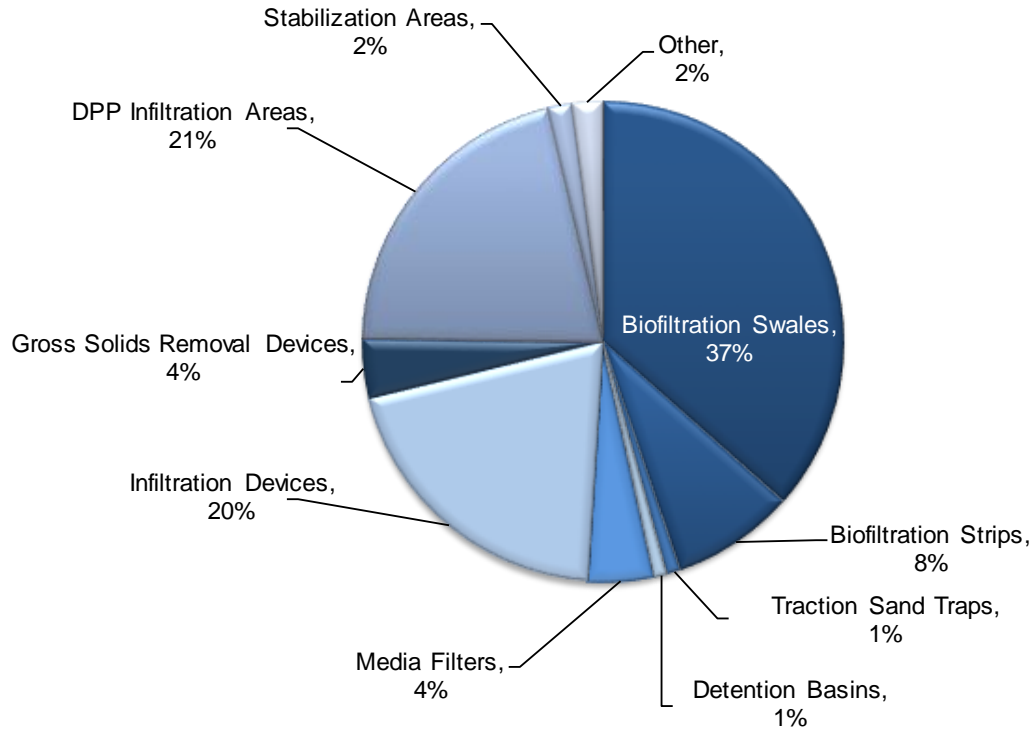


Figure 1: Treatment BMPs Planned Summary by Device Type

Design Self-Audit Program

The Caltrans Design Self-Audit Program uses the SWDR as a tool for evaluating the project planning and design process as required by Conformed NPDES Permit (E.2.a.7). SWDRs are reviewed by District staff to ensure that all BMP types are being considered and incorporated into Caltrans' projects. This review also ensures stormwater compliance throughout the project planning and design phases. The Headquarters Office of Hydraulics and Stormwater Design prepared the report with the assistance of the Districts this year and it is included in Appendix C: Project Planning and Design. Design uses this review to determine whether improvements are needed in the design program. The Caltrans "[Final Evaluation of Storm Water Data Reports for Fiscal Year 2017/2018](#)" (May 2018) shows that a total of 565 SWDRs were evaluated from 661 projects. Of those reviewed, 490 were determined to be valid and in compliance (overall 87 percent). It should be noted that Caltrans overall average compliance for the fiscal year 2016-2017 report was 98% for project SWDRs at the PS&E project milestone only. The report contains recommendations for changes to the SWDR and additional training to bring the non-conforming reports into compliance.

Landscape Architecture Program

The Landscape Architecture Program (LAP) Standards and Procedures office updates and improves standards and procedures used by Landscape Architects designing construction projects in the Districts. Specifically, the Standard Specifications updates related to stormwater quality and erosion control for the 2017-2018 fiscal year included the following:

- Erosion Control Toolbox: a web-based guidance tool that is currently being updated to match current standards and to revise and update references where appropriate.
- The LAP hosted and coordinated Landscape and Erosion Control Contractors meetings in Northern and Southern California to gather feedback from the green construction industry to improve contract documents and project success.
 - Standards Updates
 - Soil Testing Non-Standard Special Provision (NSSP) development
 - Topsoil Preservation Standard Special Provision (SSP) and bid item development
 - Updated Compost Revised Standard Specification (RSS): updated compost requirements
 - Updated Compost Sock SSP: to allow for additional sizes available from manufacturers.
 - Improved standard plan showing compost sock detail for Fiber roll and Compost Sock for more practical construction installation. Compost socks intercept runoff to reduce sediment and stormwater runoff volume and velocity. Compost also improves soil health and contributes to the increased success of long-term vegetation coverage.
- A representative from the LAP Standards and Procedures office co-chaired the Model Water Efficient Landscape Ordinance (MWELo) – Codes and Standards Applicability Stakeholder Advisory Group and provided final recommendations for improvement to the 2020 update of the MWELo in collaboration with the Department of Water Resources.
- The Landscape Architecture and Erosion Control New Products Committee reviewed and processed new products and evaluated those products in compliance with the Standard Specifications.

Implementation of Construction General Permit

The Conformed NPDES Permit defers to the reporting requirements of the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010) (Construction General Permit or CGP). All Caltrans construction projects with one acre or more of disturbed soil area, or that were part of a larger common project, fully implemented the CGP requirements by filing Permit Registration Documents (PRDs) in SMARTS. Details of each project's CGP compliance is provided on SMARTS including, but not limited to, SWPPPs; BMP implementation, inspection, annual reporting, and monitoring; and other reportable tasks required by the CGP.

For the reporting of stormwater discharges associated with construction activities, the Conformed NPDES Permit defers to the reporting requirements of the CGP. Full implementation of the CGP occurred during the fiscal year.

The CGP requires dischargers, including Caltrans, to electronically file Permit Registration Documents (PRDs) with the SWRCB via SMARTS. All Caltrans construction projects with one acre or more of disturbed soil area, or that were part of a larger common project, fully implemented the CGP requirements by filing PRDs in SMARTS. Details of each project's CGP compliance is provided on SMARTS including, but not limited to, SWPPPs; BMP implementation, inspection, annual reporting, and monitoring; and other reportable tasks required by the CGP.

Status of Construction Enforcement Actions

During fiscal year 2017-2018, 14 of the 31 enforcement actions issued for construction activities were resolved, and 17 are pending resolution or are in progress. Caltrans continuously strives to improve its enforcement action tracking procedures, and closely monitors all Districts and projects for enforcement activity. Caltrans tracks all enforcement actions on construction projects. Headquarters provides the Districts with a consultant contract to assist them, when needed, at problematic sites and for response to enforcement actions.

Construction Self-Audit Compliance Monitoring

The CCEP outlines the independent quality assurance portion of the self-audit program Caltrans implements to evaluate construction activities as required by the Conformed NPDES Permit. The plan assesses compliance with water quality requirements, evaluates stormwater contract administration, and incorporates independent quality assurance. The data gathered provide information to ascertain whether an appropriate level of stormwater pollution control is achieved at construction sites, as well as helping to evaluate trends and providing recommendations for program improvement.

In the third quarter of 2015, Caltrans revised the CCEP to meet regulatory changes over the past several years and implemented a new approach to assess the appropriate level of stormwater pollution control at construction sites. This revised CCEP received approval by the SWRCB on July 5, 2016. The Independent Quality Assurance (IQA) review process includes the following activities:

- Developing and maintaining a list of construction projects for review;
- Providing 24-hour notification of IQA site review to the RE, Senior RE, Construction Manager, and the District Construction Stormwater Coordinator;
- Conducting the site review and completing the Construction Review Report;
- Initiating the Corrective Action process;
- Collecting and tracking the IQA site review report, Project Construction Stormwater Review Report; and
- Initiating the ERP.

During the reporting period, Caltrans conducted 180 IQA reviews. A summary of the results from the inspections performed during the reporting period at each Caltrans District is included in Appendix D: Construction.

The IQA reviewer evaluated stormwater compliance at a construction site by comparing observed site conditions, including project stormwater contract administration, with the following:

- SWRCB regulatory drivers (e.g., the CGP and the Conformed NPDES Permit);
- Permits, Licenses, Agreements, Certifications, and Approvals, and the Lahontan RWQCB Permit, as applicable;
- Caltrans' current Standard Specifications and Standard Plans.

For detailed information on the CCEP and IQA review process, consult the *Year-End Performance Report, A Summary of Construction Compliance Reviews – July 1, 2017 – June 30, 2018 (CTSW-RT-18-366.04.3)* September 2018, and the data included in Appendix D: Construction on the CD.

Construction Best Management Practices

No new construction site BMPs were approved for use on Caltrans projects during the reporting period.

7 Compliance with the Industrial General Permit

Caltrans' stormwater discharges are regulated by the Conformed NPDES Permit, and it is not typically necessary to apply for coverage under the *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Industrial Activities* (Order No. 2014-0057-DWQ, NPDES No. CAS000001, effective July 1, 2015) (Industrial General Permit or IGP). However, three areas of Caltrans' operations that may involve industrial activities are:

- Construction activities administered by Caltrans;
- Caltrans activities subject to the IGP; and
- Requirements for lessees of Caltrans property that conduct activities subject to the IGP.

Caltrans contract specifications require the construction Contractor to obtain coverage for applicable general permits, including the IGP, if warranted.

Caltrans does not fall into any Standard Industrial Classification Code (SIC) specified within Attachment A of the IGP. Caltrans was not required to apply for coverage under the IGP during the reporting period for construction activities.

See Section 8: Maintenance Program Activities and Facilities Operations of the Annual Report for more information about the Waste Management Plan listing the status of the facilities. Caltrans standard leases include stormwater specifications requiring compliance with the IGP, if applicable, and Caltrans right-of-way agents make periodic site inspections to monitor compliance.

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8 Maintenance Program Activities and Facilities Operations

Illegal Connections/Illicit Discharges

During the reporting period, 22 illegal connections/illicit discharges (IC/IDs) were resolved and 2 are in the process of being resolved. Unresolved incidents are being researched, improvements are in progress, or further monitoring is required to indicate that the discharge has been eliminated. Detailed information about IC/ID investigations is provided in Appendix E: Maintenance Program Activities and Facilities Operations.

IC/ID and Illegal Dumping Response Plan

The *Illegal Connection, Illicit Discharge (IC/ID) and Illegal Dumping Response Plan* (CTSW-RT-13-999.02) was submitted to the SWRCB in December 2013. The plan describes the procedures and BMPs used to protect the Caltrans MS4 and stormwater quality from potential pollutant loading due to the illicit deposition of solid or liquid materials to Caltrans' right of way.

Vegetation Control

After reviewing the Districts' proposed Vegetation Control Plans for the upcoming fiscal year, Caltrans' Headquarters Roadside Maintenance Office allocates active ingredient (herbicide) for each District. Caltrans assists local agencies with fire suppression (fuel abatement) and in combating invasive and noxious weeds. To prevent the development of herbicide resistance in vegetation, chemical products with slightly different modes of action are used every two to three years, which can result in minor but noticeable fluctuations in active ingredient.

Caltrans evaluated its process to track the violations of herbicide and pesticide applications on a statewide basis during the reporting period. In future Annual Reports, Caltrans will report this information and the corrective actions taken to address the violations.

Herbicide, Pesticide, and Fertilizer Applications

The Conformed NPDES Permit requires that Caltrans report its chemical use in the Annual Report. This information is located in Appendix F: Chemical Use (on the attached CD) and includes monthly chemical usage by type. Appendix E: Maintenance Program Activities and Facilities Operations summarizes chemical use during the fiscal year and compared to the previous 11 years. Approximately 239,502 pounds of active ingredient were used to treat over 57,000 acres in Caltrans' Integrated Vegetation Management program during fiscal year 2017-2018. Seven Districts had an increase in the use of herbicides during the reporting period. See Appendix E: Maintenance Program Activities and Facilities Operations for explanations of the increases in chemical use in the Districts that exceeded their previous year's use.

Chemical Use on Vegetated Treatment BMPs

No chemicals were applied to any vegetated treatment BMPs.

Maintenance Self-Audit Compliance Monitoring

A third party (consultant) reviewed maintenance facilities and activities for compliance with the requirements of the SWMP and the Conformed NPDES Permit. Caltrans' goal is to inspect a minimum of 10 maintenance activities per District and a minimum of 20 percent of maintenance facilities per year. Each review consists of a documentation audit and a site inspection. The required review frequency for each facility is at least once every 5-year period. The Division of Maintenance staff provided support to the consultant and facilitated the inspections. In fiscal year 2017-2018, a total of 139 reviews were conducted across the 12 Districts. The goal of 10 maintenance activity compliance reviews per District was achieved or exceeded during this reporting period except for District 9. Only eight reviews were conducted in District 9. Appendix E: Maintenance Program

Activities and Facilities Operations contains the statistical information from the reviews. There was evidence of no release and no discharge to surface water of pollutants from any of the facilities during the reporting period.

At each facility, the following areas are reviewed for compliance:

- Building and Grounds Maintenance
- Storage of Hazardous Materials (Working Stock)
- Material Storage Control (Hazardous Waste)
- Outdoor Storage of Raw Materials
- Vehicle and Equipment Fueling
- Vehicle and Equipment Cleaning
- Vehicle and Equipment Maintenance and Repair
- Aboveground and Underground Tank Leak and Spill Control
- Presence and adequacy of a Facility Pollution Prevention Plan (FPPP).

This is the second year of the Annual Maintenance and Operation Compliance Review Plan (AMOCRCP) describing the IQA portion of the self-audit program implemented for maintenance activity sites and maintenance facilities. The AMOCRCP provides Caltrans with the information necessary to ensure that the appropriate level of stormwater pollution control is being achieved at maintenance activity sites and maintenance facilities including vehicle maintenance facilities, salt and sand storage facilities, material and equipment storage facilities, safety roadside rest areas, agricultural stations, border stations, highway patrol weigh stations, and sweeper and roadway waste and decanting storage or disposal locations.

A summary of the compliance review methodology is found in the AMOCRCP (CTSW-PL-13-299.02.5 D12) dated June 2017. The system consists of a rating from 1 to 5, where 1 or 2 indicates that BMPs are effective and compliant with stormwater requirements, and a 3, 4, or 5 indicates that BMPs were not implemented, potentially allowing a release of pollutants to outside the Caltrans' right of way, or discharge to surface water. BMPs that received a 3, 4, or 5 indicate the need for immediate corrective action and may initiate a Level 2 Maintenance Enforcement Response Program action.

A History of Maintenance Facility Inspections from the 2002-2003 fiscal year to the 2017-2018 fiscal year is included in Appendix G: Historical Maintenance Facilities Inspections on the CD.

Facility Pollution Prevention Plans

Caltrans is required to develop an FPPP for each of its maintenance facilities. Each FPPP describes the activities conducted at the facility and the BMPs used to reduce or eliminate the discharge of pollutants in stormwater runoff from the facility. All FPPPs are updated or revised as needed during the year. Presently, there are 882 completed FPPPs for maintenance yards, storage and material sites, California Highway Patrol (CHP) and Border Protection Stations, rest areas, and equipment shops. However, the number may vary as sites open or close in future operations. An inventory of FPPPs is included in Appendix J: Facility Pollution Prevention Plans on the attached CD.

Erosion Control and Stabilization Activities in Areas Prone to Erosion

District staff is responsible for ensuring that work orders are properly prepared and submitted for major/minor erosion repair activities. The work order defines the limits of the activity. Areas prone to erosion are defined as segments of highway requiring erosion control and stabilization activities for the past three consecutive years.

Caltrans has also established a program to inspect roadside slopes for erosion on a five-year cycle. Road segments identified as prone to erosion and sediment discharge are prioritized for stabilization. For road segments that are in sensitive watersheds (watersheds impaired for sediment or turbidity), or where there is an existing or potential threat to water quality, slope stabilization activities will be prioritized for implementing appropriate controls to

the maximum extent practicable based on available resources. Based on the review of the slopes, remedial measures are developed and can include minor grading, seeding, and installation of major slope stabilization systems. For smaller erosion repair activities, District Maintenance will prioritize implementing control measures, while for large erosion repair activities, the District will identify and prioritize the stabilization schedule within the SHOPP.

The Headquarters Division of Maintenance staff conducts a geographic information system analysis of the submitted work orders for erosion work. The IMMS data for three consecutive years are mapped to define the segments of highway where continuous work has been needed. Slides and slip-outs encountered during routine surveillance and inspections are evaluated for repair with priority given to eroding slopes in Environmentally Sensitive Areas (ESAs)². Recommendations were developed for site-specific remedial measures, from minor grading or seeding to installation of major slope stabilization systems to maintain slope and soil stability. Detailed information about Caltrans' erosion control and stabilization activities performed in areas prone to erosion during the reporting period is provided in Appendix H: Slope Stabilization and Inspection Activities.

Waste Management Plan

The *Waste Management Plan* describes Division of Maintenance field crew activities and BMPs that are used to protect the environment from waste stored within Caltrans' right of way. It fulfills the Conformed NPDES Permit requirement to develop a *Waste Management Plan* that includes a comprehensive inventory of waste storage, transfer, and disposal sites; the source(s) of waste and the physical and chemical characterization of the waste retained at each site; estimated annual volumes of material; and existing or planned waste management practices for each waste and facility type. Caltrans characterized its waste according to the procedures described in the *Waste Management Plan*.

Landslide Management Plan

The *Landslide Management Plan* (CTSW-OT-13-999.02) describes the Division of Maintenance field crew activities and BMPs used to protect stormwater quality from potential pollutant loading due to landslide (earth, rock, or debris), debris flows, rockfall, and post-wildfire events within Caltrans' right of way. Summaries of the activities that Caltrans committed to in the Landslide Management Plan and that were completed during the reporting period to meet these requirements are discussed in the following sections. The data for these activities are available in Appendix E: Maintenance Program Activities and Facilities Operations and Appendix H: Slope Stabilization and Inspection Activities.

Enhanced Storm Drain Inspection and Cleaning Activities

The Division of Maintenance implements an Enhanced Annual Storm Drain Inlet Inspection and Cleaning Program in the metropolitan areas of Los Angeles and Ventura (District 7), Orange (District 12), and San Diego (District 11) counties. Detailed information about Caltrans' enhanced storm drain inspection and cleaning activities during the reporting period is provided in Appendix E: Maintenance Program Activities and Facilities Operations.

Slope Inspections

Caltrans' Division of Maintenance has an ongoing program in accordance with the Conformed NPDES Permit Section E.2.h.3)a)iii) and the SWMP to inspect roadside vegetated slopes for erosion. This requirement is led by District Maintenance Stormwater Coordinators who are members of the Maintenance Stormwater Advisory Team. The inspections are conducted on a five-year cycle. In addition to the SWMP-mandated program, the Division of

² The California Public Resources Code defines Environmentally Sensitive Area as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and development.

Maintenance conducts a storm patrol and erosion control program. Maintenance Supervisors and delegated staff patrol the state's highway system to inspect for any issues related to safety, facility preservation, and erosion control remediation needed due to storm events.

The Division of Maintenance also investigates public complaints related to stormwater damage. The Division of Maintenance will normally conduct minor storm damage repair on projects in which the cost does not exceed \$1,000 per site or \$15,000 per mile. During the fiscal year, the Districts identified 296 minor and 103 major slope problems. Detailed information about slope inspections conducted by District Maintenance Stormwater Coordinators during the fiscal year is available in Appendix H: Slope Stabilization and Inspection Activities.

Trash and Litter Removal Activities

Caltrans collects trash through several activities that District Maintenance personnel perform or oversee on a regular basis. These activities include storm drain maintenance, roadway sweeping, the Caltrans Parolee Program, the Adopt-A-Highway Program, and public education emphasizing trash and litter prevention. Appendix E: Maintenance Program Activities and Facilities Operations shows the amount of trash and litter removed by Caltrans' activities.

The Division of Maintenance has several integrated categories in its activities to reduce and eliminate trash and litter from affecting surface waters.

Storm Drain Maintenance

The Division cleans storm drainage system inlets and culverts of accumulated materials. These activities are conducted manually and by Vactor trucks.

Road Sweeping

The Division conducts ongoing road sweeping activities with mechanized sweepers to collect and dispose of materials from the roadway surfaces.

District Crew Collection

District Maintenance crews conduct manual cleanup of trash and litter from Caltrans' right of way.

Caltrans Parolee Program

The Division of Maintenance has an interagency agreement with the California Department of Corrections and Rehabilitation. Parolees assist in the removal of trash and litter from Caltrans' right of way and participate in an educational program that provides them with skills for reentering society. This program results in reduced recidivism rates for parolees and addressing stormwater mandates.

Adopt-A-Highway Program

The Caltrans [Adopt-A-Highway](#) Program provides an avenue for individuals, organizations, or businesses to help maintain sections of roadside through various activities including litter removal within California's State Highway System.

Public Education

The Division of Maintenance is a co-sponsor for the California Statewide Litter Collection, Enforcement, and Beautification Day event held in the spring on or around Earth Day each year. Caltrans staff volunteers to collect litter and raise public awareness of the issue. Caltrans participates in supporting the state's "Keep California Beautiful" campaign and its "Protect Every Drop" campaign. Section 12: Public Education and Outreach contains more information on the public education initiatives in each District.

The estimated annual volumes of trash and litter removed by District are summarized in Table E-10 (Appendix E: Maintenance Program Activities and Facilities Operations), including the Adopt-A-Highway program totals. The litter reduction and elimination protocols established by Caltrans are defined in its *California Department of Transportation Litter Abatement Plan* (2007).

Drain Inlets/Culverts Inspected and Cleaned

Caltrans inspected and cleaned over 141,000 drainage system facilities, inlets and culverts, during fiscal year 2017-2018. These activities are conducted manually and by Vactor trucks. Detailed information about drain inlets and culverts inspected and cleaned during the fiscal year is provided in Appendix I: Drain Inlet Inspection and Cleaning.

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9 Non-Departmental Activities

Encroachment Permits Implementation Activities

The Districts implemented the established guidelines for encroachment permit review and inspection, which include ensuring the quality of documentation and field verification of construction activities under Caltrans Encroachment Permits. The District permit writers and inspectors received stormwater management training during processing of the Encroachment Permit Application package. Processing the Encroachment Permit Application package may involve preliminary engineering review, plan review, field evaluation and communication with the Permittee during the Encroachment Permit review for municipalities, developers, utilities, and private entities, and monitoring and documentation of the Permittee's implementation and maintenance of BMPs during construction activities.

Illegal Connections/Illicit Discharges

The permit applicant is responsible for controlling discharges of stormwater and non-stormwater from their construction site. Under contract delegation by the permit applicant, the contractor ensures that appropriate conveyance systems are in place to minimize or eliminate uncontrolled run-ons through the construction activity. Illegal connections or illicit discharges are referred by the Permit Inspector to the Area Maintenance Manager until the discharge has been eliminated. Detailed information about IC/ID investigations is provided in Appendix E: Maintenance Program Activities and Facilities Operations.

Implementation of Construction General Permit

The CGP requires dischargers, including third parties under the Caltrans Encroachment Permit, to electronically file Permit Registration Documents (PRDs) with the SWRCB via SMARTS. Third party construction projects with one acre or more disturbed soil area or that were part of a larger common project under the Caltrans Encroachment Permit implemented the CGP requirements by filing PRDs in SMARTS. Details of each project's CGP compliance is provided on SMARTS including, but not limited to, SWPPPs, BMP implementation, inspection, annual reporting, monitoring, and other reportable tasks required by the CGP.

Implementation of the NPDES Permit

Caltrans requires the permit applicant to submit the Caltrans Water Pollution Control Plan (WPCP) or conform to the Caltrans Encroachment Permit guidelines when the permit project does not need to seek coverage under the CGP or the *General Waste Discharge Requirements and National Pollutant Discharge Elimination System General 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-2016-0010, NPDES No. CAG616002, effective January 1, 2017) (Lake Tahoe Construction General Permit or LTCGP). The permit applicant may be directed to seek CGP or LTCGP coverage in SMARTS, even if the project soil disturbance is less than 1 acre when directed by RWQCB and by the District NPDES Coordinator.

Status of Construction Enforcement Actions

During fiscal year 2017-2018, there were no enforcement actions issued to Caltrans for construction activities conducted by third parties under Caltrans Encroachment Permits. Caltrans continuously strives to improve its enforcement action tracking procedures and closely monitors all Districts and projects for enforcement activity.

Construction Self-Audit Compliance Monitoring

The Encroachment Permit construction projects were not included in the independent contractor evaluation of the CCEP during fiscal year 2017-2018, but selected projects that are deemed sensitive may be required in the future to be included in the Caltrans self-audit and CCEP.

Caltrans issued a statewide memorandum for implementation of the Caltrans Enforcement Response Program (ERP). The districts were notified to conform to the Encroachment Permit ERP as described in SWMP Section 2.8: Stormwater Quality Assurance Program. There is a pilot project for tracking and monitoring field checklists during inspections and during notifications of non-compliance. The goal of the pilot project is to reduce the response time during communication between the contractor’s QSP, the permittee, and the permit inspector.

Airspace Leases

As required by the SWMP, this section summarizes progress on the review and revision of existing air space leases each year, with the objective of including a requirement to comply with the NPDES Permit as the leases are renewed. Airspace leases are legal documents defining areas within the state highway right of way that can safely accommodate privately managed uses, and they outline terms agreed upon at the time of their execution. Table 20 lists the approximate number of leases, including new and renewed leases by District, as of June 30, 2018. Only the overall totals are shown since the Right-of-Way Property Management System does not distinguish between new and renewed leases.

Table 9-1: Airspace Leases Modified to Include SWMP Requirements 2017-2018

District	Total Number of Leases (New and Existing as of June 30, 2018)	Total Number of Leases with Stormwater Language (New and Renewed as of June 30, 2018)
1	1	1
2	7	6
3	45	42
4	198	167
5	8	2
6	2	2
7	141	119
8	3	3
9	0	0
10	10	5
11	48	28
12	18	4
Total	481	379

There were 481 airspace leases statewide as of June 30, 2018, 379 (79 percent) of which have stormwater compliance requirements. Those with no stormwater requirements incorporated are long-term leases that were executed before the SWMP was established. Caltrans incorporates stormwater requirements when these leases expire, the tenant vacates, a new tenant and lease are established, or the leases are renewed. All renewed and new leases contain the stormwater management clause, which did not change during the reporting period.

10 Non-Stormwater Activities/Discharges

Exempt and Conditionally Exempt Non-Stormwater Discharges

The SWRCB and Caltrans reviewed the list of exempt and conditionally exempt non-stormwater discharges and their requirements as the SWMP was developed. No additional exempt or conditionally exempt discharges were proposed by Caltrans during the reporting period.

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Training

A summary of all training sessions and the total personnel trained per division is available in Appendix L: Training. An assessment of all training activities is available in Appendix O: Overall Program Effectiveness Evaluation.

Encroachment Permits Office

In concert with DEA and the Districts, the Division of Traffic Operations Office of Encroachment Permits developed and delivered video conferencing and training workshops for Encroachment Permit inspectors and writers. A total of 309 staff participated in video-conferencing and training workshops. The delivery of ten short online tutorials or modules to assist new or existing employees is being implemented through the project delivery e-Learning center. The e-Learning Center ensures that staff use our onramp CT-PASS and learning management system (LMS) process to access the online presentation of the training workshop.

The training workshop focused on the purpose and implementation of best practices to control pollution discharges from encroachment permit activities and on roles and responsibilities for writers, inspectors and coordinators during review, inspection, non-compliance reporting and permit close-out.

Design

The Design Stormwater Program continued to focus on curriculum development during fiscal year 2017-2018. Online training is available for the following: PPDG Online, Treatment BMPs, Construction Site BMPs, SWDR Workshop, Caltrans RUSLE2, and Risk Level Determination.

Staff received this training within the 2017-2018 fiscal year using both face to face and video conferencing. A recorded presentation and refresher will be available to the District staff.

Construction

During the 2017-2018 fiscal year, construction stormwater classes on stormwater topics were offered to Construction personnel. Staff will receive future training within the 2018-2019 fiscal year using both face to face and video conferencing. A recorded presentation and refresher will be available to the District staff.

Construction Contractor Training

During the reporting period, contractor personnel received training on BMP implementation, non-stormwater management, SWPPP development, soil stabilization, and other stormwater management best practices to comply with the Conformed NPDES Permit, CGP, and LTCGP. Details about the training activities for construction contractors are provided in Appendix L: Training.

Maintenance

The Maintenance Stormwater Program continued to focus on curriculum development during fiscal year 2017-2018 based on updates to the Maintenance Staff Guide. As part of the New Employees Maintenance Orientation, training was given to new field personnel who joined the Division of Maintenance. Basic introduction topics include regulatory framework, BMP implementation for maintenance activities, inspections, lessons learned, and waste management with pre- and post-training assessments.

The Maintenance Stormwater Bulletin is a one- to two-page BMP implementation discussion published by the Headquarters Maintenance Division. Primarily created for Maintenance field personnel, the Maintenance Stormwater Bulletin covers topics that are relevant for the period and current incidents where stormwater may be an issue. The Maintenance Stormwater Bulletin is disseminated statewide every month to be used as a training material by Maintenance crews during their BMP Tailgate Meetings held every 10 working days.

Staff received training during the 2017-2018 fiscal year both in-person and through video conferencing. A recorded presentation and refresher is available to the District staff.

District personnel training totals are summarized in Appendix L: Training.

Landscape Architecture Program

The LAP continued to support Caltrans Landscape Architects in obtaining their Certified Professional in Erosion and Sediment Control certification.

During the reporting period, the LAP:

- Delivered training on compost specifications and on the benefits and success of compost for permanent erosion control.

New Training Courses (Statewide)

DEA developed new training for District Permit Engineers, Writers, and Inspectors.

12 Public Education and Outreach

Public Education Activities

Caltrans' public education program encompasses the "Protect Every Drop" Campaign, Adopt-A-Highway, and partnerships with local organizations. The statewide "Protect Every Drop" campaign, led by Caltrans' Stormwater Management Program, seeks to educate Californians about the sources and pathways of stormwater pollution, and to encourage consumer behavior that reduces pollutants to improve water quality in our streams, rivers, lakes, and coastal waters to keep them swimmable, and fishable. The campaign launched in February 2016 in cooperation with the SWRCB and CASQA. During this fiscal year, the "Protect Every Drop" Campaign was extended an additional year to provide for full participation and completion of the campaign activities before execution of the final report. The final report is anticipated to be completed early next year, once all metrics are collected from the media runs and the outreach events completed.

The campaign addresses key actions the public can take, including:

- Properly disposing of common trash and recycling items during everyday travel/commutes
- Properly disposing of common trash and recycling items stored inside a vehicle or in a truck bed
- Covering and securing loads to prevent items that may fall out or fly off during travel
- Performing routine vehicle and tire maintenance to address potential fluid leaks and minimize tire wear
- Keeping vehicles clean of pollutant residue that can wash off vehicles into runoff
- Avoid the application of pesticides and fertilizers when rain is forecasted

The four-year, multilingual campaign also addresses other pollutants found in highway stormwater that may originate from non-highway sources such as pesticides and bacteria. Caltrans has worked with other municipalities and nonprofits who share similar objectives and goals to create a partnership and to share the campaign's messaging, tools, and public materials toolkit. Caltrans collaborated with the SWRCB on the statewide public education program, and the objectives and scope to be conducted under the public education contract. Appendix K: Public Education Program summarizes the public education activities performed statewide. The public can find additional information on the following website: <http://www.protecteverydrop.com/>.

Caltrans co-sponsors CASQA's Water Quality NewsFlash, a bi-weekly, electronically distributed update of stormwater and related news for CASQA members, as a public education and outreach partnership. The NewsFlash provides the stormwater community with timely and relevant water quality regulatory information from the federal, state, and regional levels for statewide consistency.

Adopt-A-Highway Statewide Program

[Adopt-A-Highway](#) is a cooperative program between organizations that volunteer to collect trash along the highways and is recognized for helping to keep the environment and highways clean. The statewide program's accomplishments during the fiscal year include the collection of 13,117 cubic yards of material along adopted highways.

Public Education Efforts by District

Highlights of achievements by the Districts' public education programs during the fiscal year include the following:

- **District 1** – The District did not participate in public education events during the fiscal year.
- **District 2** – The District participated in outreach by displaying "Don't Trash California/Protect Every Drop" campaign posters at Safety Roadside Rest Areas.
- **District 3** – The District partnered an event with the Girl Scouts, participated in the Annual Ride the Parkway event, and hosted a table at several local summer concerts.
- **District 4** – The District participated in a "Tarp your Load" event, Port Fest, Pumpkins in the Park, World Water Day, two Oakland Museum Block Party events, Surfrider Foundation's Beach Clean Up, the San Mateo County Fair, and several festivals.

- **District 5** – The District attended the Dia del Niño at Pacheco Elementary School in San Luis Obispo on Friday April 27, 2018.
- **District 6** – The District hosted Kid’s Day and participated in the Keep America Beautiful Great American Clean Up event.
- **District 7** – The District participated in events such as hosting a booth that promoted litter awareness and at Environmental Charter Middle School’s ribbon cutting ceremony.
- **District 8** – The District hosted “Bring Your Child to Work Day” and presented information to the participants regarding the importance of water quality to the health of California’s environment.
- **District 9** – The District held its Annual Trash Cleanup Day and hosted a Bring your Child to Work Day.
- **District 10** – The District did not participate in public education events during the fiscal year.
- **District 11** – The District participated in the Annual California Cleanup Day/Caltrans Adopt-A-Highway program, and in a local San Diego River Cleanup Day.
- **District 12** – The District hosted an activity for the 2018 Children’s Water Education Festival at the University of California – Irvine. Over 300 students participated in an activity where the children were taught the effects of litter on our water resources.

13 Region-Specific Activities

TMDL Requirements

Caltrans monitored 38 sites within 21 Tier 1 TMDL locations throughout the state to comply with the requirement to monitor water quality at a minimum of 100 Tier 1 sites (see Section 3: Management and Organization). Monitoring details and results are included in the Monitoring Results Report due on October 1, 2018.

Caltrans submitted the Comprehensive TMDL Monitoring Plan to the SWRCB on January 1, 2015. SWRCB staff reviewed and commented on the plan within the reporting period, and Caltrans submitted a revised draft to the SWRCB. The SWRCB approved the plan in February 2017.

North Coast Region

Sources of Sediment

Caltrans quantified and prepared an inventory of excess sources of sediment and threatened discharges in the North Coast Region. The inventory was submitted to the North Coast RWQCB on September 19, 2014. Field verification was completed and the revised inventory was submitted to the SWRCB in December 2015.

Riparian Vegetation Removal

The removal of riparian vegetation may result in a discharge or cause an exceedance of water quality objectives. Caltrans protected and restored riparian vegetation on a project-by-project basis in the North Coast Region. If vegetation removal required a permit from the RWQCB, a permit was obtained and its requirements were implemented.

San Francisco Bay Region

Trash Load Reduction Reporting

The Caltrans Trash Load Reduction Workplan for the San Francisco Bay Region was submitted to the RWQCB on March 7, 2018. Caltrans and the San Francisco Bay Regional Board have had several meetings to discuss effective implementation strategies and to develop an acceptable workplan for controlling trash in the San Francisco Bay Region. Caltrans has also been working with local permittees to identify opportunities for cooperative implementation, including funding projects in the City of Richmond (treating 234 acres/70 Caltrans ROW acres), the City of Atherton (2,875 acres/24 Caltrans ROW acres), and the City of South San Francisco (6,300 acres/408 acres). Caltrans has begun a pilot study to investigate the use of netting trash capture devices along the I-880.

Stormwater Pump Stations

Caltrans has started a five-year program to inspect and monitor pump stations in the San Francisco Bay Region pursuant to Conformed NPDES Permit, Attachment V (Region Specific Requirements). The Conformed NPDES Permit requires an inspection and collection of dissolved oxygen (DO) data for all pump stations within five years. The pump stations are all located within District 4. The Conformed NPDES Permit requires monitoring be conducted after a minimum two-week antecedent dry period with no precipitation. The permit requires maintaining a DO concentration of the discharge above 3 mg/L. Separate communication from the RWQCB clarified that the ideal monitoring period would be during July and August.

During 2017-2018 (the fourth and final year of the program), Caltrans monitored 12 pump stations within the Region to inspect the wet well area and collect dissolved oxygen (DO) data. None of the pump stations had a DO

level below 3 mg/L in the dry weather discharge. Most pumping activities were due to localized groundwater discharge.

Table 13-1 summarizes the 12 pump stations that were monitored for DO during the 2017-2018 reporting period.

Table 13-1: District 4 Pump Station Dissolved Oxygen Monitoring (2017-2018) Results Summary

Pump Number	Pump Station Name	Location	Latitude (North) ^a	Longitude (West) ^a	Receiving Water Body ^b	Inspection Date	Monitoring Results ^c	Dissolved Oxygen [mg/L]		
								Min.	Max.	Average
1	7 th Street Seal Slab	04-ALA-0880-33.5	37°48'30"N	122°18'19"W	City of Oakland	9/19/2017	ND, NCA	NA	NA	NA
2	16 th Street	04-ALA-0980-0.79	37°48'30"N	122°16'40"W	City of Oakland	9/19/2017	ND, NCA	NA	NA	NA
3	45 th Street UC	04-ALA-024-R2.47	37°50'00"N	122°16'01"W	City of Oakland	9/19/2017	DO+, NCA	5.29	5.29	5.29
4	San Pablo Avenue	04-ALA-0123-0.13	37°49'42"N	122°16'50"W	City of Oakland	9/19/2017	DO+, NCA	9.0	9.27	9.16
5	SFOBB PS 4B	04-ALA-0080-2.77	37°49'42"N	122°17'38"W	San Francisco Bay	9/19/2017	ND, NCA	NA	NA	NA
6	Folger Avenue UP	04-ALA-0013.13.68	37°50'58"N	122°17'42"W	City of Oakland	9/19/2017	ND, NCA	NA	NA	NA
7	Erlandson OC/ Meeker	04-CC-0580-R2.10	37°55'11"N	122°20'00"W	City of Richmond	9/25/2017	DO+, NCA	8.38	8.38	8.38
8	South 23 rd Street OC	04-CC-0580-R2.91	37°55'16"N	122°20'52"W	City of Richmond	9/25/2017	DO+, NCA	9.14	9.14	9.14
9	Harbour Way	04-CC-0580-R3.68	37°55'29"N	122°21'39"W	City of Richmond	9/25/2017	DO+, NCA	9.0	9.37	9.15
10	Railroad Avenue	04-CC-0004-23.25	38°00'56"N	121°53'10"W	City of Pittsburg	9/25/2017	ND, NCA	NA	NA	NA
11	Loveridge UP	04-CC-0004-24.31	38°00'45"N	121°52'01"W	City of Pittsburg	9/25/2017	ND, NCA	NA	NA	NA
12	Trancas Street OC	04-NAP-0029	38°19'13"N	122°18'27"W	Napa River	9/22/2017	DO+, NCA	8.87	8.97	8.93

a. Longitude and latitude were obtained during site reconnaissance and are based on the North American Datum of 1983 (NAD83)

b. Receiving Water Body determined during site reconnaissance and through interviews with Caltrans Maintenance staff

c. ND = No discharge, NCA = No corrective action needed, DO+ = DO levels meet or exceed minimum levels [Min=3 mg/L], NA = Not applicable/not available

This is the last and final report for the activity required to monitor all 62 pump stations in District 4. None of the 62 pumps stations monitored had a DO level of less than 3 mg/L. Five years of monitoring activity was completed in four years.

Central Valley Region

Erosion Control and BMP Implementation Activities in the Clear Lake Watershed

In 1986, Clear Lake was added to the Clean Water Act Section 303(d) List of Impaired Water Bodies due to the nuisance of algal blooms. On June 23, 2006, the Central Valley RWQCB amended the Basin Plan, which included the elements of a TMDL for Clear Lake that established numeric allocations to reduce the amount of phosphorus. Caltrans was given a WLA of 100 kg per year. The goal of the pollutant control program is to reduce phosphorus loads from entering Clear Lake.

In 2008, Central Valley Water Board staff approved an implementation plan to install monitoring stations at Caltrans facilities near the lake. Based on monitoring results and the implemented management measures, Caltrans conclude the annual rate of phosphorus/sediment discharged from its ROW to Clear Lake fulfills the TMDL WLA. Therefore, Caltrans has met its WLA for the Clear Lake watershed. The Central Valley RWQCB agreed to Caltrans' determination of its compliance.

Although there has been significant progress in reducing nutrient loads from discharges entering Clear Lake, the Central Valley RWQCB indicated that there is insufficient data to verify if any of these efforts have resulted in compliance with assigned TMDL allocations, or if further activities are necessary. The Central Valley RWQCB indicated that besides Caltrans, no other stakeholder of this TMDL has quantified its reductions of phosphorus to Clear Lake. Therefore, RWQCB staff will evaluate the appropriate next steps for the TMDL, which include determining how additional information on load allocations and compliance can be provided by the stakeholders. The staff indicated that load allocation Information may be requested from stakeholders through 13267 orders, cleanup and abatement orders, or requests for additional monitoring. Upon a full assessment of compliance by each stakeholder, Central Valley RWQCB Staff will determine whether a Basin Plan amendment or a watershed-based management plan will be required.

Appendix M: Region Specific Activities provides additional information on the Past, Current, and Planned Erosion Control and BMP Implementation Activities within the Clear Lake watershed.

Lahontan Region

The Lahontan Region numeric sizing criteria for stormwater treatment control BMPs was applied to projects that met the criteria specified in Provision E.2.d. of the Conformed NPDES Permit (Project Planning and Design). This requirement pertains to the Truckee River, East Fork Carson River, West Fork Carson River, and Mammoth Creek Hydrologic Units. This information is discussed in the Stormwater Data Report prepared for the individual projects.

ASBS Compliance Plan

At the end of the 2016-2017 season, Caltrans had successfully collected the minimum number of storm events at six of the seven ASBS that Caltrans discharges to:

- ASBS 5 (Saunders)
- ASBS 8 (Redwood)
- ASBS 9 (Fitzgerald)
- ASBS 15 (Año Nuevo)
- ASBS 33 (Irvine Coast)
- ASBS 34 (Carmel Bay)

Caltrans continued the ASBS monitoring effort in the 2017-2018 season to collect the remaining required storm events at ASBS 24 (Mugu to Latigo) for which two additional storm events were needed. In addition, the NWQ values, also referred to as the 85th percentile values, were finalized for the dischargers in the Northern California and Central Coast RMGs in June 2016. With these values, Caltrans can compare its ocean receiving water data

with the NWQ values to identify if exceedances have occurred. Caltrans has requested that the SWRCB suspend further monitoring in ASBS 24 since two consecutive seasons of sampling required under the ASBS Special Protections has been completed.

The SWRCB has informed Caltrans that evaluation of statewide ASBS data is in progress, and compliance strategies will be discussed after the evaluation is completed.

14 Overall Program Effectiveness Evaluation

Caltrans' approach to its program effectiveness evaluation is comparable to the *Approach to Planning for and Assessing the Effectiveness of Stormwater Programs* (CASQA 2015)³. The CASQA effectiveness evaluation approach, as described in the 2015 CASQA Guidance Manual, uses a series of six categories of Outcome Levels representing a comprehensive assessment of conditions. The Outcome Levels identified in the 2015 CASQA Guidance Manual are as follows:

- **Outcome Level 6 (Receiving Water Conditions):** Level 6 Outcomes describe receiving water conditions. They can apply either to existing conditions or to improvements that will be sought over time through program implementation.
- **Outcome Level 5 (MS4 Contributions):** Level 5 Outcomes may be measured within the MS4, or as discharges from it. Evaluation typically focuses on pollutant concentrations and/or loads. Level 5 Outcomes provide a direct linkage between upstream sources and receiving waters and are a critical expression of program success.
- **Outcome Level 4 (Source Contributions):** Level 4 Outcomes measure reductions in the discharge of pollutants from sources.
- **Outcome Level 3 (Target Audience Actions):** Level 3 Outcomes address the actions of target audiences and whether or not changes are occurring over time. The major categories of target audience actions are pollutant-generating activities, BMPs, and supporting behaviors.
- **Outcome Level 2 (Barriers and Bridges to Action):** Level 2 Outcomes provide a means of gauging whether activities are producing changes in the awareness, knowledge, or attitudes of target audiences. Level 2 Outcomes are often used to gauge progress in, or to refine approaches for, achieving Level 3 Outcomes.
- **Outcome Level 1 (Stormwater Management Program Activities):** Level 1 Outcomes, which are often defined by specific stormwater permit requirements, address a variety of stormwater management program activities. This outcome level measures the *implementation* of the program, not the *impact* that the stormwater management program is having.

The Outcome Levels help to categorize and describe the desired results or goals of the program. The Outcome Levels represent ways in which the effectiveness of the program can be determined using a broad array of metrics. The ultimate goal of the SWMP is improving runoff quality (Level 5) and improving receiving water conditions (Level 6). In general, Levels 1, 2, 3, and 4 may be considered Implementation Outcomes, and Levels 5 and 6 may be considered Water Quality Outcomes.

The components required by the Conformed NPDES Permit for an Overall Program Effectiveness Evaluation include the following:

- Assessment of program effectiveness in achieving permit requirements and measurable objectives.
- Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
- Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.
- Identification of how Caltrans will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness assessments identify BMPs or programs that are ineffective or need improvement.

In future Annual Reports, Caltrans will update its program effectiveness evaluation approach for consistency with the Conformed NPDES Permit requirements, the approved SWMP, and the 2015 CASQA Guidance Manual. The results of the 2017-2018 effectiveness evaluation are reported in Appendix O: Overall Program Effectiveness Evaluation.

³ California Stormwater Quality Association. *A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs*. February 2015

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15 Measurable Objectives

Caltrans' Conformed NPDES Permit and SWMP require the implementation of Measurable Objectives. Caltrans made progress in implementing or completing many of the Measurable Objectives. A summary of implementation status is provided in Table 15-1 and Appendix O: Overall Program Effectiveness Evaluation.

During the next reporting period, Caltrans will continue implementing the necessary tasks and activities to achieve the Measurable Objectives and will report on the status of the Measurable Objectives during each reporting period within this section.

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Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
a	"Fish Passage Design for Road Crossings" (CT, 2009)	A. Develop Program	Review/revise guidance	E.2.d.4), p. 40	Year 1	Complete
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	Complete
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	Complete
b	Adequacy of CT Legal authority	C. Evaluate Program	Evaluate legal authority	E.2.b.2)a)-b), p. 21	Annually	Complete
b	Agricultural Return Flows	C. Evaluate Program	Evaluate guidance implementation	E.2.j.2), p. 49	Annually	Complete
d	Annual Report	B. Implement Program	Prepare report	E.3.a, p. 51	Annually	Complete
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	Complete
a	ASBS Compliance Plan	A. Develop Program	Prepare plan	E.5.d.2), p. 55	Year 1	Complete
a	ASBS Compliance Plan	B. Implement Program	Implement plan	E.5.c.2), p. 54	Year 2	Complete
a	Comprehensive TMDL Monitoring Plan	A. Develop Program	Develop plan	ATT IV, Section III.A.1, p. IV-24	Year 2	Complete
d	Construction guidance	C. Evaluate Program	Evaluate guidance	E.2.f.2)-6), p. 42	Annually	Complete
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 and III.A.3.a., p. IV-25	Year 2	Complete
a	Design Guidance	A. Develop Program	Update guidance	E.2.d.3), p. 37	Annually	Complete
C	Design Guidance	C. Evaluate Program	Evaluate guidance	E.2.d., p. 33	Annually	Complete
a	District Work Plans	B. Implement Program	Prepare plan	E.3.b., p. 52	Annually	Complete
d	District Work Plans	C. Evaluate Program	Evaluate plan	E.3.b., p. 52	Annually	Complete

Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
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	Complete
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	In Progress
a	Effective Stormwater Management Plan (SWMP) that describes how the 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	Complete
a	Fiscal Analysis	C. Evaluate Program	Evaluate fiscal analysis	E.2.b.3)a)-c), p. 22	Annually	In Progress
a	Fiscal Analysis	C. Evaluate Program	Prepare budget	E.2.b.3)c), p. 22	Year 4	Complete
a	FPPP Template and Guidance	C. Evaluate Program	Evaluate plan implementation	E.2.h.2), p. 43	Annually	In Progress
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	In Progress
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	In Progress
a	IC/ID and Illegal Dumping Response Plan	A. Develop Program	Develop plan	E.2.h.4)b)ii), p. 47	Year 1	Complete

Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
b	IC/ID and Illegal Dumping Response Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.4)b)ii), p. 47	Annually	In Progress
b	Implementation of SWMP, including practices and policies, and propose revisions in the 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	Complete
a	Inspect and collect 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	Complete
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 a rain event (except per NPDES Permit)	C. Evaluate Program	Evaluate records	E.2.e.1)a), p. 40	Ongoing	In Progress
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	Complete
a	Lake Tahoe Pollutant Load Reduction Plan	A. Develop Program	Develop plan	ATT IV, Table IV.2, p. IV-20	Year 2	Complete
b	Lake Tahoe Pollutant Load Reduction Plan	C. Evaluate Program	Evaluate plan implementation	ATT IV, Table IV.2, p. IV-19	Year 2	Complete
a	Lake Tahoe Stormwater Monitoring Plan	C. Evaluate Program	Develop plan	ATT IV, Table IV.2, p. IV-21	Year 1	Complete
a	Landslide Management Plan	A. Develop Program	Develop plan	E.2.h.3)d), p. 46	Year 1	Complete
b	Landslide Management Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.3)d), p. 46	Annually	In Progress
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	Complete

Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
a	Monitoring Program – Proposed Tier 2 prioritized monitoring locations	A. Develop Program	Develop/submit	E.2.c.1)-4), p. 23	Year 1	Complete
a	Monitoring Program – Quality Assurance Project Plan	A. Develop Program	Develop plan	E.2.c.4), p. 31	Year 1	Complete
b	Monitoring Program	B. Implement Program	Conduct monitoring	E.2.c.1)-4), p. 23	Annually	In Progress
a	Monitoring Program – Monitoring Results Report	B. Implement Program	Prepare and submit report	E.2.c.5)a)-d), p. 31	Annually	Complete
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	In Progress
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	In Progress
a	Municipal Coordination Plan	A. Develop Program	Develop plan	E.2.b.1)a)-b), p. 21	Year 1	Complete
c	Municipal Coordination Plan	C. Evaluate Program	Evaluate plan implementation	E.2.b.1)a)-b), p. 21	Annually	Complete
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	In Progress
c	Overall Program Effectiveness	C. Evaluate Program	Evaluate effectiveness	E.2.m.3), p. 50	Annually	Complete
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	Complete
c	Public Education Program	C. Evaluate Program	Evaluate Public Education Program	E.2.l.2), p. 50	Annually	In Progress
a	Pump station inspection and monitoring results (San Fran Bay Region)	C. Evaluate Program	Report results	ATT V, Part 2, 7, p. V-3	Annually	In Progress
a	Road Segments Prone to Erosion and Sediment Discharge inventory	B. Implement Program	Maintain inventories	E.2.h.3)a)iii), p. 44; E.3.b.11), p. 53	Annually	In Progress

Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
b	Self-Audit	C. Evaluate Program	Evaluate/prepare report	E.2.m.2), p. 50	Annually	In Progress
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	Complete
a	Sources of Sediment Discharge in North Coast Region inventory	B. Implement Program	Maintain inventories	ATT V, Part 1.a., p. V-1	Annually	In Progress
a	Stormwater Pump Stations (San Fran Bay Region) inventory	A. Develop Program	Develop inventory	ATT V, Part 2, 7.a, p. V-3	Year 3	Complete
c	Stormwater Treatment BMP Technology Report and Stormwater Monitoring and BMP Development Status Report in Annual Report	C. Evaluate Program	Prepare and submit updates	E.2.e., p. 40	Annually	Complete
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	In Progress
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	Complete
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	In Progress
a	TMDL – Reach Prioritization	A. Develop Program	Develop inventory	ATT IV, Section I.A.4, p. IV-2	Year 1	Complete
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	Complete
c	TMDL – Progress Report	C. Evaluate Program	Evaluate/prepare report	ATT IV, III.A.3.c, p. IV-25	Year 5	Complete
c	TMDL – TMDL Status Review Report	C. Evaluate Program	Evaluate/prepare report	E.4.b., p. 53; ATT IV, Section I.B.1-2., p. IV-3; ATT V, Part 2, 1.-6., p. V-2	Annually	Complete
c	Training	C. Evaluate Program	Review/assess training	E.2.k.3), p. 49	Annually	Complete

Table 15-1: Status of Measurable Objectives

Program Effectiveness Evaluation (a-d)	Measurable Objective	Goal	Task	Conformed NPDES Permit Section/Page #	Frequency	Status
c	Trash and litter activities (report and evaluate)	C. Evaluate Program	Evaluate activities	E.2.h.4)c), p. 47	Annually	In Progress
c	Trash Reduction Reporting	C. Evaluate Program	Evaluate reporting	ATT V, Part 2, 4 and 6., p. V-2	Annually	In Progress
a	Treatment BMP Design guidance as necessary to ensure it requires BMPs which retain stormwater are designed to minimize mosquito production and to drain within 96 hours of rain event (except per NPDES Permit)	A. Develop Program	Review/update guidance	E.2.e.1)a), p. 40	Year 1	Complete
a	Update Lake Tahoe Pollutant Load Reduction Plan on strategy to achieve pollutant load reduction requirements for second five-year TMDL implementation period (10-year load reduction milestone)	C. Evaluate Program	Develop plan	ATT IV, Table IV.2, p. IV-20	Year 5	In Progress
c	Vegetation controls (applications of pesticides, herbicides, and fertilizers) program	C. Evaluate Program	Evaluate controls	E.2.h.3)b), p. 44	Annually	In Progress
a	Waste Management Plan	A. Develop Program	Develop plan, inventory	E.2.h.3)c)iii), p. 46	Year 1	Complete
d	Waste Management Plan	C. Evaluate Program	Evaluate plan implementation	E.2.h.3)c)iii), p. 46	Annually	In Progress
a	Alternative compliance plan (include banking) and process	A. Develop Program	Develop Plan and obtain Regional Board or designee approval in lieu of statewide process	E.2.e.2)d), p. 41	Ongoing	In Progress
a	Watershed-based treatment BMPs and Maintenance inventory	B. Implement Program	Maintain inventories	E.2.e.2)d), p. 41	Ongoing	In Progress
a	Watershed-based Treatment BMPs inventory	A. Develop Program	Develop inventory	E.2.e.2)d), p. 41	Annually	In Progress

Annual Report

On October 1, 2017, Caltrans submitted the Annual Report for the 2016-2017 reporting period. It described the activities performed during the reporting period in compliance with the Conformed NPDES Permit reporting requirements and SWMP.

This Annual Report was prepared to meet the Conformed NPDES Permit reporting requirements for the current reporting year. Table 1-1 (on Page 1) briefly summarizes the annual reporting requirements and the Annual Report section in which they are discussed. The Annual Report, and its corresponding appendices and attachments (on the enclosed CD), describes the activities completed by Caltrans and contains the supporting data to meet the annual reporting requirements.

District Work Plans

In October 2016, the Districts submitted District Work Plans (DWPs) that describe the stormwater-related activities for the reporting period. During fiscal year 2017-2018, the Districts completed and worked on the activities they had planned for the fiscal year. See Appendix N: Reporting on the CD for a summary of DWP activities.

The DWPs, published in October 2018, summarize the activities that each of the 12 Caltrans Districts plan to perform during the next reporting period (fiscal year 2019-2020) to comply with the Conformed NPDES Permit and the SWMP.

Total Maximum Daily Load Status Review Report

Caltrans continued its efforts to reduce pollutant discharges to receiving waters through ongoing compliance activities and by implementing a consistent statewide approach to address the Conformed NPDES Permit Attachment IV (TMDL) requirements for the named pollutants. Each year, Caltrans is required to achieve a minimum of 1,650 CUs to meet the TMDL and special requirements identified within Attachment IV. To achieve this, Caltrans has implemented a combination of strategies, including capital construction, improvement of institutional practices, and participation in regional control efforts. In addition, Caltrans maximized opportunities to incorporate treatment control devices where feasible as part of capital roadway improvement projects, or standalone retrofit projects. For the fiscal year 2017-2018 TMDL Status Review Report a total of 1,174 CUs were achieved. The TMDL Status Review Report provides the details and accounting of Caltrans' efforts towards achieving the 1,650 CUs per year requirement. More information is located on the CD as an attachment.

Non-Approved BMP Implementation

Caltrans adopted two new BMPs into its toolbox based on results on pilot studies conducted at field locations. These are Bioretention and Open Graded Friction Overlay.

Caltrans has implemented, as pilot studies, non-approved BMPs in District 3 and District 7. Due to their design and based on LID principles, they are also considered "green infrastructure" BMPs. These pilot studies are ongoing.

The LID pilot BMPs installed in District 3 include the following:

- Linear Filtration Trench
- Media Filter Drain
- Bioretention Trench
- Linear Sand Filter (LSF)

In District 7, the pilot projects include the following:

- Media Filter Drain
- Linear Sand Filter 5 (LSF 5)
- Linear Filtration Trench
- Linear Sand Filter 5a (LSF 5a)

LSF 5 and LSF 5a differ in the gradation of permeable material used in the media.

Monitoring Results Report

The evaluation of monitoring results is ongoing for the 2017-2018 season and will be presented in the Monitoring Results Report. As mentioned in Section 3: Management and Organization, Caltrans conducted monitoring at 102 Tier 1 sites, including 48 ASBS sites, 38 TMDL sites, six Cooperative Monitoring Agreement sites, and 10 BMP Pilot Monitoring sites.

ASBS Monitoring

During the 2017-2018 wet season, 47 core discharge sites and one receiving water site was monitored. The purpose of the ASBS monitoring is to assess if Caltrans discharges are maintaining natural ocean water quality. Comparisons between the natural water quality values (also referred to as the 85th percentile threshold values) and Caltrans ocean receiving water values, and pre-storm and during-storm ocean receiving water values are used to assess compliance.

The NWQ values are assigned on a regional basis: Northern California, Central Coast, and Southern California regions. The NWQ values for the Northern California and Central Coast regions were finalized during the 2016-2017 season. The NWQ values for the Southern California region were finalized previously. Table 16-1 lists the exceedances identified to date at each ASBS.

Table 16-1: ASBS Exceedances Identified to Date

ASBS	Constituents that Exceed Natural Water Quality ¹
ASBS 5 (Saunders)	None
ASBS 8 (Redwood)	Total Suspended Solids, Arsenic, Copper, Lead, Mercury, Nickel, Selenium
ASBS 9 (Fitzgerald)	Dissolved Orthophosphate, Total Suspended Solids, Copper, Lead, Zinc, Toxicity
ASBS 15 (Año Nuevo)	Fecal Coliform, Enterococcus, Total Suspended Solids, Oil and Grease, Nitrate as N, Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc
ASBS 34 (Carmel Bay)	Cadmium, Lead, Mercury, Zinc
ASBS 24 (Mugu to Latigo) ²	Ammonia, Selenium, Total PAHs ³
ASBS 33 (Irvine Coast) ³	-

Notes:

Exceedances were determined in accordance with Figure 2, Page 56 of the Conformed NPDES Permit, and all storms sampled were included in the evaluation.

¹ In the 2015-16 Annual Report, selenium and copper were listed as constituents that exceeded NWQ values in ASBS 33.

² During the 2016-2017 wet season, Caltrans determined that, with one exception, it does not have direct discharges to the ASBS.

³ In the previous 2015-2016 Annual Report, selenium and copper were listed as constituents that exceeded NWQ values in ASBS 33. During the 2016-2017 wet season, Caltrans determined that, with one exception, it does not have direct discharges to the ASBS.

Total PAHs was exceeded in the 2016-2017 wet season but was identified after the 2016-2017 Annual Report was finalized and so was not included in that report.

The SWRCB has allowed Caltrans to suspend monitoring at all ASBS sites where the minimum number of events have been collected. This includes all sites in ASBS 5, 8, 9, 15, and 34. On July 27, 2017, the SWRCB issued a letter to Caltrans approving the ceasing of monitoring activities in ASBS 33.

TMDL Monitoring

Caltrans has prepared a prioritized list of reaches within the 84 TMDL watersheds where it is a responsible party. The TMDL Reach Prioritization List is intended to establish the order of BMP implementation in the 84 TMDL watersheds. The Caltrans TMDL Monitoring Program consists of multiple monitoring projects. For the 2017-2018 season, there were two projects:

- District 11 Chollas Creek TMDL Monitoring Project (Diazinon and Dissolved Metals TMDLs)
- Tier 1 TMDL Monitoring Project

The District 11 Chollas Creek TMDL Monitoring Project consists of BMP sites and receiving water sites—for a total of 10 sites. Water quality samples were successfully captured for two storm events except for one location that could not be sampled during the first event due to ongoing construction at the location. In addition, both storm events did not produce outflow from some of the BMP sites. A summary evaluation of the monitoring results using the revised site-specific water effects ratios proposed for incorporation in the Basin Plan is provided below:

Diazinon was not reported at concentrations above the MDL during the 2017-2018 monitoring season, which is consistent with monitoring results from the previous season. Reported results met both the acute and chronic TMDL thresholds for diazinon at all monitoring stations.

CTR criteria for dissolved copper and zinc were calculated using the recently approved site-specific WERs. CTR criteria for dissolved lead were calculated using the standard (default) WER of 1.0. TMDL acute and chronic thresholds were calculated using hardness event mean concentrations from receiving water monitoring stations. For chronic criteria to apply, storm events must be longer than four days in duration. No storm event that resulted in a chronic WLA exceedance was longer than four days, and therefore, calculated chronic thresholds are displayed for comparative purposes only. Zinc concentrations during both storm events at the SR-94E/Median Austin sand filter influent were the only reported acute WLA exceedances during the 2017-2018 monitoring season. After BMP treatment, reported concentrations were below TMDL thresholds.

During the 2016-2017 and 2017-2018 monitoring seasons, monitoring data indicate that the SR-94E/Bridge modular infiltration trench, the bio-swales at SR-94E/Mass and SR-94E/College, and the Austin sand filter at the SR-94E/Median successfully reduced dissolved metals TMDL constituents when comparing results between influent samples to those from effluent samples.

The SR-94E/College bio-infiltration swale and the SR-94E/Median Austin sand filter reported elevated effluent concentrations for dissolved copper during Storm Event 2. It is possible that these elevated concentrations are the result of legacy pollutants resuspending and exporting when the BMPs reach capacity and discharge; additional monitoring is necessary to formulate a definitive conclusion. Although concentrations were elevated during this storm event, both BMPs significantly reduced overall dissolved copper loads when comparing influent results to effluent results.

The Tier 1 TMDL Monitoring Project consists of BMP sites and characterization sites for a total of 38 sites. These 38 sites are in the following TMDL watersheds:

- Chollas Creek Diazinon TMDL
- Chollas Creek Dissolved Copper (Cu), Lead (Pb) and Zinc (Zn) TMDL
- Klamath River Temperature, Dissolved Oxygen, Nutrient, and Microcystin TMDL
- Shasta River Dissolved Oxygen and Temperature TMDL
- Los Angeles River Metals TMDL
- Los Angeles River Trash TMDL
- Los Angeles River Watershed Bacteria TMDL
- Lost River Nitrogen Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments TMDL
- Lower Eel River Sediment and Temperature TMDL

- Mad River Sediment and Turbidity TMDL
- Napa River Sediment River TMDL
- Richardson Bay Pathogens TMDL
- Sacramento-San Joaquin River Delta Estuary Methyl Mercury TMDL
- Newport Bay, San Diego Creek Organochlorine Compounds (Dichlorodiphenyltrichloroethane or DDT, Chlordane, and Polychlorinated Biphenyls or PCBs)
- San Diego Creek and Newport Bay, including Rhine Channel (Metals (Copper, Lead, and Zinc) TMDL
- San Diego Creek and Upper Newport Bay (Cadmium) TMDL
- San Diego Creek Watershed (Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene) TMDL
- San Lorenzo River (includes Carbonera, Lompico, and Shingle Mills Creeks) Sediment TMDL
- South Fork Lower Eel River Temperature and Sediment TMDL
- San Francisco Bay Mercury TMDL
- San Francisco Bay PCBs TMDL

Rainbow Creek TMDL Monitoring Project. After four years of monitoring, Caltrans submitted a letter with a document that summarized the monitoring activities to the San Diego Basin RWQCB in February 2017. The document concludes that its runoff did not meet the 2013 and 2017 Nitrogen WLAs and is slightly in excess of the 2021 Nitrogen WLA. Caltrans runoff did not meet the 2013 Phosphorus WLA, but Caltrans runoff is well below the 2017 and 2021 Phosphorus WLA. The difference between the Caltrans result and the WLA are within normal limits of data variability and there is no consistent trend in the data. A comparison of Caltrans runoff concentrations with the upstream and downstream receiving water locations indicate that it is unlikely Caltrans discharges are providing significant nutrient contributions to Rainbow Creek. The Caltrans drainage area contains no known sources of nutrients, makes up approximately 2 percent of the total watershed, and is bordered by commercial growers, nurseries and orchards—operations that take up 21 percent of the watershed. Soil tests have shown that the installation of an infiltration-type BMP is not practical. Caltrans has requested that the San Diego Basin RWQCB adjust the permitting language accordingly based on the monitoring report conclusions. The San Diego Basin RWQCB responded to Caltrans indicating that it supports a reduction in monitoring frequency to once per permit term.

District 8 Coachella Valley TMDL Monitoring Project. After two years of monitoring that concluded at the start of the 2015-16 wet season, Caltrans submitted its required monitoring report to the Colorado River Basin Water Board in November 2015. The monitoring report concludes that it is highly unlikely that Caltrans facilities represented by the monitoring sites have been responsible for contribution of bacteria to the Coachella Valley Stormwater Channel due to not enough runoff reaching the channel. At the time the monitoring report was submitted, Caltrans requested from the Colorado River Basin RWQCB to be removed from the TMDL due to lack of connectivity. The Colorado River Basin RWQCB responded on January 6, 2016 indicating that it was too early to determine exclusion of any groups/individuals from the responsible party list. When asked for an update on this monitoring project the Colorado River Basin RWQCB responded on May 31, 2018: “The TMDL Program hasn’t made any decision on Phase 2 implementation of this TMDL because we are still analyzing the data and information from Phase 1 implementation to find the sources of impairments.” No further work is anticipated at this time until the Colorado River Basin RWQCB makes a determination of exclusion. The Phase 1 monitoring effort is complete. Caltrans is waiting for direction from the Colorado River Basin RWQCB on the next phase of the TMDL.

Caltrans continues efforts to enter into TMDL cooperative agreements throughout the state. As of the 2017-2018 fiscal year, Caltrans participated in 12 cooperative agreements covering activities within TMDL watersheds. Some of these cooperative agreements include provisions to perform monitoring activities related to adopted TMDLs.

In 2017 Caltrans requested SWRCB for suspension of monitoring in ASBS 24 and several watersheds where sufficient data has been collected. In several watersheds Caltrans has partnered in Cooperative Implementation

Programs. The SWRCB obtained input from RWQCBs and in July 2018 provided Caltrans a list of 25 watersheds where monitoring must be continued. SWRCB expects to issue a letter advising Caltrans about watersheds where monitoring may be suspended.

SWRCB, Central Valley RWQCB and North Coast RWQCB have suggested that Caltrans enter into regional cooperative monitoring programs, and those would be considered towards meeting the Permit required monitoring for the San Joaquin Delta and North Coast watersheds. Discussions on these are ongoing.

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Abbreviations and Acronyms

The following abbreviations and acronyms are found in the Annual Report and Appendices.

A. Catchment Area	DR. Drive
A-A-H. Adopt-A-Highway	Drainfall. Seasonal Precipitation
AASHTO. American Association of State Highway and Transportation Officials	DS. Design Standard
AC. Asphalt Concrete	DTSC. Department of Toxic Substances Control
ACL. Administrative Civil Liability	DWP. District Work Plans
ACOE. Army Corps of Engineers	DWQ. Division of Water Quality
ADA. Americans with Disabilities Act	EA. Expenditure Authorization
ADL. Aerially Deposited Lead	EB. Eastbound
ALA. Alameda	ED. El Dorado
ALP. Alpine	ERP. Enforcement Response Program
AMA. Amador	EPA. Environmental Protection Agency
AMOCR. Annual Maintenance and Operation Compliance Review Plan	ESA. Environmentally Sensitive Areas
APS. Accessible Pedestrian Signals	EXT/OTH. Extended/Other
ASBS. Areas of Special Biological Significance	FHWA. Federal Highway Administration
ATS. Active Treatment System	FPPP. Facility Pollution Prevention Plan
AWS. Automated Warning System	FRE. Fresno
BMP. Best Management Practice	FY. Fiscal Year
BR. Bridge	GLE. Glenn
BUT. Butte	GP. General Purpose
CAL. Calaveras	GSRD. Gross Solids Removal Device
CASQA. California Stormwater Quality Association	HA. Hydrologic Area
CBSM. Community Based Social Marketing	HMA. Hot Mix Asphalt
CC. Contra Costa	HOV. High-Occupancy Vehicle
CCC. California Conservation Corps	HQ. Headquarters
CCEP. Construction Compliance Evaluation Plan	HSA. Hydrologic Sub-Area
CD. Compact Disc	HST. High Speed Train
CDFW. California Department of Fish and Wildlife	HU. Hydrologic Unit
CGP. Construction General Permit (Statewide)	HUM. Humboldt
CHP. California Highway Patrol	I. Percent Imperviousness
CIA. Cooperative Implementation Agreement	IC. Interchange
CIMP. Coordinated Integrated Monitoring Plan	IC/ID. Illegal Connection/Illicit Discharge
CIWQS. California Integrated Water Quality System	IGP. Industrial General Permit
CMS. Changeable Message Sign	IMMS. Integrated Maintenance Management System
CNCRT. Concrete	IMP. Imperial
COL. Colusa	INY. Inyo
CU. Compliance Unit	IQA. Independent Quality Assurance
CPS. Countdown Pedestrian Signal	IVM. Integrated Vegetation Management
CVEF. Commercial Vehicle Enforcement Facility	KER. Kern
CVRWQCB. Central Valley Regional Water Quality Control Board	KIN. Kings
CVWAC. Central Valley Water Awareness Committee	KM. Kilometer(s)
DCSWC. District Construction Stormwater Coordinator	KP. Kilometer Post
DD. Deputy Director	LA. Los Angeles
DEA. Caltrans Headquarters Stormwater Division of Environmental Analysis	LAK. Lake
DI. Drainage Inlet	LAP. Landscape Architecture Program
DN. Del Norte	LAS. Lassen
DNC. District NPDES Coordinator	LID. Low Impact Development
DO. Dissolved Oxygen	LMS. Learning Management System
	LN. Lane
	LTCGP. Lake Tahoe Construction General Permit
	MAD. Madera
	MBGR. Metal Beam Guard Rail

ME3C. Maintenance Environmental Conserve California Circular

MEN. Mendocino

MER. Merced

MNO. Mono

MOA. Memorandum of Agreement

MOD. Modoc

MON. Monterey

MPA. Mariposa

MPRO. Maintenance Probation

MRN. Marin

MRP. Monitoring and Reporting Program

MS4. Municipal Separate Storm Sewer System

MWELo. Model Water Efficient Landscape Ordinance

NAL. Numeric Action Level

NAP. Napa

NB. Northbound

NEAT. Natural Environment as Treatment

NEL. Numeric Effluent Limit

NEV. Nevada

NMFS. National Marine Fisheries Service

NNC. Notice of Non-Compliance

NOAA. National Oceanic and Atmospheric Administration

NOD. Notice of Determination

NOV. Notice of Violation

NPDES. National Pollutant Discharge Elimination System

NR. Not Recorded

NSSP. Non-Standard Special Provision

NWQ. Natural Water Quality

NTU. Nephelometric Turbidity Unit

OAL. Office of Administrative Law

OC. Oral Communication

OCFA. Orange County Fire Authority

OGAC. Open Grade Asphalt Concrete

OH. Overhead

ORA. Orange

ORW. Ocean Receiving Water

OSWMD. Office of Stormwater Management Design

PA/ED. Project Approval/Environmental Document

PCB. Polychlorinated Biphenyl

PCC. Portland Concrete Cement

PCSRR. Project Construction Stormwater Review Report

PEAIP. Program Effectiveness Assessment and Improvement Plan

PID. Project Initiation Document

PLA. Placer

PLU. Plumas

PM. Post Mile

PPDG. Project Planning and Design Guide

PRD. Permit Registration Document

PS&E. Plans, Specifications, and Estimate

PVC. Polyvinyl Chloride

PY. Personnel Years

R_v. Dimensionless Volumetric Runoff Coefficient

RAM. Rapid Assessment Methodology

RB. RWQCB

RE. Resident Engineer

RHMA. Rubberized Hot Mix Asphalt

RIV. Riverside

RMG. Regional Monitoring Group

ROW. Right of Way

RSP. Rock Slope Protection

RTE. Route

RUSLE2. Revised Universal Soil Loss Equation 2

RWQCB. Regional Water Quality Control Board

SAC. Sacramento

SB. Southbound

SBCAMM. Santa Barbara County Association of MS4 Managers

SBD. San Bernardino

SBR. Santa Barbara

SBT. San Benito

SCEHD. Siskiyou County Environmental Health Department

SCL. Santa Clara

SCR. Santa Cruz

SCRN. Screen

SD. San Diego

SE. Southeast

SEL. Staff Enforcement Letter

SF. San Francisco

SFOBB. San Francisco-Oakland Bay Bridge

SHA. Shasta

SHOPP. State Highway Operation and Protection Program

SIE. Sierra

SIS. Siskiyou

SJ. San Joaquin

SLO. San Luis Obispo

SM. San Mateo

SMARTS. Storm Water Multiple Application and Report Tracking System

SMR. Self-Monitoring Report

SOL. Solano

SON. Sonoma

SR. State Route

SRRA. Safety Roadside Rest Area

SS. Sanitary Sewer

STA. Station

STAN. Stanislaus

STBMP. Structural Treatment Best Management Practice

SUT. Sutter

SW. Southwest

SWDR. Stormwater Data Report

SWMP. Stormwater Management Plan

SWPPP. Stormwater Pollution Prevention Plan

SWQIC. Storm Water Quality Improvement Committee

SWRCB. State Water Resources Control Board

TCA. Transportation Corridor Agency

TDC. Targeted Design Constituent

TEH. Tehama

TEL_R. Tool to Estimate Load Reductions

TM. Technical Memorandum

TMDL. Total Maximum Daily Load

TMS. Transportation Management System

TRI. Trinity
TRPA. Tahoe Regional Planning Agency
TSS. Total Suspended Solids
TUL. Tulare
TUO. Tuolumne
UNK. Unknown
USACE. US Army Corps of Engineers
USFS. US Forest Service
USGS. US Geological Survey
VC. Verbal Communication
VEN. Ventura
V_{runoff}. Runoff Volume
WB. Westbound
WLA. Waste Load Allocation
WDR. Waste Discharge Requirement
WMP. Watershed Management Plan
WPC. Water Pollution Control
WPC. Water Pollution Control Coordinator
WPCP. Water Pollution Control Program
YOL. Yolo
YUB. Yuba

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