CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
1001 I Street
Sacramento, CA 95814
California State Water Resources Control Board
http://www.waterboards.ca.gov

ORDER 2022-0033-DWQ
NPDES NO. CAS000003

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM STATEWIDE STORMWATER PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Department) is subject to waste discharge requirements set forth in this Order:

Table 1. Permittee Information

Permittee:	California Department of Transportation
Address:	1120 N St, Sacramento, CA 95814
Waste Discharge Identification Number:	5S34CT000001
Facility type and discharge type:	Stormwater and non-stormwater discharges from the California Department of Transportation's municipal separate storm sewer system.

Table 2. Administrative Information

This Order was adopted on:	June 22, 2022
This Order shall become effective on:	January 1, 2023
This Order shall expire on:	December 31, 2027
The Department shall file a Report of Waste Discharge as an application for reissuance of this Order in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) Permit no later than:	June 30, 2027

STATE WATER RESOURCES CONTROL BOARD
ORDER 2022-0033-DWQ
STATEWIDE NPDES MUNICIPAL STORMWATER PERMIT FOR THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board on June 22, 2022.

AYE: Chair E. Joaquin Esquivel
Vice Chair Dorene D'Adamo
Board Member Sean Maguire
Board Member Laurel Firestone
Board Member Nichole Morgan
NAY: None
ABSENT: None
ABSTAIN: None

Courtney Tyler for
Jeanine Townsend
Clerk to the Board

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List of Attachments

1. FACILITY INFORMATION AND SCOPE OF ORDER

1.1 Facility Information

The California Department of Transportation (Department) owns and operates the statewide transportation system that includes more than 50,000 miles of highway and freeway lanes, right-of-way, storm sewer systems, and maintenance, storage, and vehicle parking facilities.

1.2 Scope of Municipal Separate Storm Sewer System Order

1. This Order regulates the stormwater and non-stormwater discharges as follows:
    a. Stormwater discharges from all Department-owned municipal separate storm sewer systems;
    b. Stormwater discharges from Department-owned right of way, parking, storage and maintenance facilities, including equipment cleaning operations and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and
    c. Certain non-stormwater discharges as listed in section 3 of this Order.
2. This Order does not regulate stormwater or non-stormwater discharges from the following:
    a. Leased or Department-owned office spaces;
    b. Industrial facilities subject to the Statewide Industrial General Permit;
    c. Construction activities subject to the Statewide Construction General Permit;
    d. Other activities subject to another National Pollutant Discharge Elimination System (NPDES) permit; and
    e. Areas subject to tribal and federal jurisdiction.

2. FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

2.1 Background

Before July 1999, stormwater discharges and certain non-stormwater discharges to waters of the United States from Department-owned stormwater systems were regulated by individual NPDES permits issued by the Regional Water Quality Control Boards (Regional Water Boards). On July 15, 1999, the State Water Board adopted

statewide Order 99-06-DWQ regulating all stormwater discharges from Department-owned municipal separate storm sewer systems, maintenance facilities, and construction activities. Order 99-06-DWQ superseded all the individual NPDES permits issued by the Regional Water Boards. On September 19, 2012, the State Water Board adopted Order 2012-0011-DWQ, amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, WQ 2015-0036-EXEC and WQ 2017-0026-EXEC.

On December 29, 2017, the Department submitted a Report of Waste Discharge as an application to the State Water Board for reissuance of Order 2012-0011-DWQ.

2.2 Legal Authority

This Order serves as Waste Discharge Requirements pursuant to California Water Code (Water Code) division 7, chapter 4, article 4 (commencing with section 13260). This Order is also issued pursuant to federal Clean Water Act section 402 and implementing regulations adopted by the United States Environmental Protection Agency (U.S. EPA), and Water Code division 7, chapter 5.5, (commencing with section 13370) and serves as an NPDES permit for discharges to waters of the United States.

2.3 Rationale for the Requirements

The State Water Board developed the requirements for this Order based on the application for NPDES permit reissuance submitted by the Department in its December 29, 2017, Report of Waste Discharge to continue coverage of its stormwater discharges, information submitted by the Department through State Water Board Order 2012-0011-DWQ, and other available information.

THEREFORE, IT IS HEREBY ORDERED that Order 2012-0011-DWQ including amendments, is rescinded upon the Effective Date of this Order except for enforcement purposes, and that to comply with the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, the Department shall comply with the requirements in this Order. Attachments A through G are hereby incorporated by reference into this Order. This action in no way prevents the State Water Board or a Regional Water Quality Control Board from taking enforcement action for violations of Order 2012-0011-DWQ or previous Orders affiliated with Order 2012-0011-DWQ at the time these Orders were in effect.

3. DISCHARGE PROHIBITIONS AND CONDITIONALLY EXEMPT NON-STORMWATER DISCHARGES

3.1 Maximum Extent Practicable

Stormwater discharges regulated under this Order containing pollutants that have not been reduced to the maximum extent practicable are prohibited. The Department shall achieve the pollutant reductions described in this Prohibition through compliance with

the provisions of this Order and implementation of its approved Stormwater Management Plan, as described in Attachment C of this Order.

3.2 Discharges into Areas of Special Biological Significance

Stormwater and non-stormwater discharges into Areas of Special Biological Significance are prohibited unless conditionally exempt, as provided below. Conditionally exempt discharges are subject to the discharge prohibitions provided below.

3.2.1 Conditionally Exempt Stormwater Discharges into Areas of Special Biological Significance

Discharges composed of stormwater runoff shall not alter natural ocean water quality in an Area of Special Biological Significance. Stormwater discharges from existing stormwater outfalls that were constructed or under construction prior to January 1, 2005, are conditionally exempt provided that discharges comply with all applicable requirements of this Order and:

- Are essential for flood control and slope stability, including roof, landscape, road, and parking lot drainage;
- Are designed to prevent soil erosion;
- Occur only during wet weather; and
- Are composed only of stormwater runoff.

3.2.2 Conditionally Exempt Non-Stormwater Discharges into Areas of Special Biological Significance

The following non-stormwater discharges into Areas of Special Biological Significance are conditionally exempt provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally. Conditionally exempt non-stormwater discharges are discharges associated with:

- Emergency firefighting operations,
- Foundation and footing drains,
- Water from crawl space or basement pumps,
- Hillside dewatering,
- Naturally occurring groundwater seepage via a storm drain, and
- Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

Conditionally exempt non-stormwater discharges into Areas of Special Biological Significance, as specified above, shall not alter natural ocean water quality, or cause or contribute to exceedances of the water quality objectives in Chapter II of the California Ocean Plan.

3.2.3 Additional Conditionally Exempt Non-Stormwater Discharges into Areas of Special Biological Significance

1. Non-stormwater discharges from utility vaults and underground structures to the Department's municipal storm sewer system with a direct discharge to Areas of Special Biological Significance are conditionally exempt if the discharges are in compliance with the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES CAG990002. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure if the Regional Water Board determines that the discharge is causing the municipal separate storm sewer system discharge to alter natural ocean water quality or cause or contribute to an exceedance of a water quality objective in Chapter II of the California Ocean Plan.
2. Additional non-stormwater discharges to a segment of the Department's municipal separate storm sewer system with a direct discharge to an Area of Special Biological Significance are conditionally exempted only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the Area of Special Biological Significance or cause or contribute to an exceedance of a water quality objective in Chapter II of the California Ocean Plan.

3.2.4 Prohibited Discharges into Areas of Special Biological Significance

The following discharges into Areas of Special Biological Significance are prohibited, even if the discharges are otherwise conditionally exempt:

1. Discharges of trash;
2. Any discharge that alters natural ocean water quality; and
3. Discharges from existing stormwater outfalls (outfalls constructed or under construction prior to January 1, 2005) that result in any new contribution of waste (i.e., additional pollutant loading) beyond a discharge that would have occurred as of January 1, 2005.

3.2.5 Compliance Plan for Areas of Special Biological Significance

Discharges shall be in accordance with an approved Areas of Special Biological Significance Compliance Plan. Attachment C provides information for the Areas of Special Biological Significance Compliance Plan. The Areas of Special Biological

Significance Compliance Plan is subject to review and consideration of approval by State Water Board Executive Director.

3.3 Trash Control Requirements

The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited. Compliance with this discharge prohibition shall be achieved through compliance with the trash requirements in Attachment E of this Order.

3.4 Exceedances of Water Quality Objectives and Standards

Discharges that cause or contribute to an exceedance of a water quality objective or unreasonably affect a beneficial use are prohibited.

3.5 Pollution or Nuisance

The discharge of stormwater to waters of the United States in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050 is prohibited.

3.6 Maintenance Activities

Discharge of wastes or wastewater from road-sweeping vehicles or other maintenance activities to waters of the United States or to a storm drainage facility leading to waters of the United States is prohibited unless the discharge is in compliance with Attachment C of this Order, or the discharge is authorized under another NPDES permit.

3.7 Waste

The dumping, deposition, or discharge of waste as defined in Water Code section 13050(d) resulting from the Department’s activities directly into waters of the United States or adjacent to such waters in any manner that may allow its being transported into the waters of the United States is prohibited.

3.8 Earthen Materials

The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the United States or which unreasonably affect or threaten to affect beneficial uses of such waters is prohibited.

3.9 Non-Stormwater Discharges

Non-stormwater discharges, other than permitted discharges into Areas of Special Biological Significance, are prohibited unless authorized by a separate NPDES permit or are conditionally exempt in accordance with Order Provision 3.9.1.

3.9.1 Conditionally Exempt Non-Stormwater Discharges

As allowed under 40 C.F.R. 122.26, the following non-stormwater discharges are conditionally exempt from the general prohibition of non-stormwater discharges unless the Department, State Water Board Executive Director, or a Regional Water Board Executive Officer identifies the discharges as sources of pollutants to receiving waters:

- Water line flushing,
- Minor incidental landscape irrigation,
- Diverted stream flows,
- Rising ground waters,
- Uncontaminated ground water infiltration (as defined at 40 C.F.R. section 35.2005(20)) to separate storm sewers,
- Uncontaminated pumped ground water,
- Dechlorinated discharges from potable water sources,
- Foundation drains,
- Air conditioning condensation,
- Irrigation water,
- Springs,
- Water from crawl space pumps,
- Footing drains,
- Minor incidental lawn watering,
- Individual residential car washing,
- Flows from riparian habitats and wetlands, and
- Dechlorinated swimming pool discharges.

Regional Water Boards may have separate NPDES discharge permits or Basin Plan requirements for non-stormwater discharges. The Department shall comply with requirements of the State Water Board or an applicable Regional Water Board for coverage under a separate NPDES Permit for a specific non-stormwater discharge, including a conditionally exempt non-stormwater discharge. Additionally, the Department may be subject to other Basin Plan requirements not specified in

this Order that are applicable to one or more specific non-stormwater discharge types.

Discharges associated with emergency firefighting (i.e., discharges due to activities necessary for the protection of life and property) do not require best management practices if the implementation of best management practices interferes with the urgency of firefighting responses. As feasible, the use of best management practices is recommended during emergency firefighting events.

4. EFFLUENT LIMITATIONS

The Department shall implement best management practices to reduce the discharge of pollutants in stormwater discharged from the Department's municipal separate storm sewer system to the maximum extent practicable, as necessary to comply with total maximum daily load (TMDL) waste load and load allocations established for the Department's discharges and to comply with the Special Protections for discharges to Areas of Special Biological Significance.

5. RECEIVING WATER LIMITATIONS

Discharges from Department-owned facilities and properties must comply with receiving water quality objectives, as specified in federal and state regulations, including State and Regional Water Board water quality control plans and policies. The discharge of stormwater from a facility or activity shall not cause or contribute to an exceedance of any applicable water quality standard.

Stormwater and non-stormwater discharges shall not cause the following conditions to create a condition of nuisance as defined in Water Code section 13050(m) or adversely affect beneficial uses of waters of the United States:

1. Bottom deposits or aquatic growth;
2. Floating or suspended solids, deposited macroscopic particulate matter, or foam;
3. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
4. Alteration of temperature, turbidity, or apparent color beyond present natural background levels; and/or
5. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

5.1 Implementation of Control Measures

The Department shall comply with this Order through timely implementation of control measures and other actions to reduce pollutant discharges in accordance with its Stormwater Management Plan, as approved by the State Water Board Executive Director, and other requirements resulting from amendments to this Order. If exceedances of water quality standards persist notwithstanding implementation of the approved Stormwater Management Plan and other requirements in this Order, the Department shall assure compliance with sections 3.4 and 5 by complying with the following:

5.1.1 Exceedance of Applicable Water Quality Standard

Upon a determination by the Department that a discharge is causing or contributing to an exceedance of an applicable water quality standard, the Department shall provide verbal notification, with electronic written follow-up notification (i.e., email), within five business days to the relevant Regional Water Board Executive Officer. Within 10 business days of the Department's notification, the Department shall submit a written detailed technical report of the discharge event causing or contributing to an exceedance of an applicable water quality standard, to the appropriate Regional Water Board Executive Officer and the State Water Board Executive Director.

If the State Water Board Executive Director or Regional Water Board Executive Officer determines that a Department's discharge has caused or contributed to an exceedance of an applicable water quality standard, the Department will be notified and shall submit a written detailed technical report within 30 days of that notification. The Department's technical report shall include an implementation schedule for the implementation of revised best management practices so that installed best management practices can effectively treat the subject pollutant and the stormwater discharge will cease to cause or contribute the exceedance of any receiving water quality objective. Where the pollutant causing the exceedance is subject to a waste load allocation listed in Table D-1 of Attachment D of this Order, the Department shall comply with the requirements of the relevant TMDL in lieu of this provision.

5.1.2 Technical Report

The detailed technical report required per section 5.4.1 of this Order shall describe best management practices that are currently implemented, additional best management practices proposed to be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance, necessary monitoring, and a corresponding implementation schedule. The Regional Water Board Executive Officer or State Water Board Executive Director may require modifications to the technical report.

5.1.3 Submittal of Technical Report Modifications

The Department shall submit a modified technical report as required by a subsequent notification from the State or Regional Water Board, within 30 days of the notification by the State Water Board Executive Director or Regional Water Board Executive Officer.

5.1.4 Implementation of Revised Best Management Practices Per Technical Report

In accordance with the implementation schedule of the technical report, the Department shall implement the revised best management practices and conduct additional necessary monitoring to demonstrate compliance with this Order.

5.1.5 Incorporation of Revised Best Management Practices into Stormwater Management Plan

If the Department complies with the above requirements and is implementing its approved Stormwater Management Plan that is modified to address the subject exceedances, the Department is not required to repeat the above technical report procedures in section 5.1.2 through 5.1.4 for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board Executive Director or a Regional Water Board Executive Officer to immediately implement additional best management practices.

5.2 Total Maximum Daily Loads (TMDLs)

The TMDLs listed in Attachment D of this Order identify the Department's stormwater discharges as contributing to the impairment of the corresponding water of the United States. The TMDLs are existing regulation established by the U.S. EPA and/or a Regional Water Quality Control Board. The Department shall comply with the TMDL-related requirements in Attachment D of this Order.

5.3 Water Code Compliance

Where the Department discharges waste to a water of the State that is not a water of the United States, compliance with the prohibitions, limitations, and provisions of this Order will constitute compliance with the requirements of the Porter-Cologne Water Quality Control Act within the Water Code, unless the State Water Board Executive Director or a Regional Water Board Executive Officer provides written notification to the Department stating otherwise.

6. NOTIFICATIONS, MONITORING AND REPORTING

The Department shall comply with the planning, implementation, notification, monitoring and reporting requirements in Attachments C, D, E, F, and G of this Order.

7. REOPENER PROVISIONS

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with the 40 C.F.R. sections 122.62, 122.63, 122.64, and 124.5. The State Water Board may reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

7.1 Present or Future Investigations

Present or future investigations demonstrate discharges regulated by this Order may have the potential to cause or contribute to adverse affects on water quality and/or beneficial uses.

7.2 New or Revised Water Quality Objectives or Total Maximum Daily Loads

If new or revised water quality objectives, or new or revised TMDLs, (that identify the Department as a responsible party) are adopted and become effective during the term of this Order, this Order may be modified to implement the new or revised water quality objectives or TMDLs.

7.3 State Water Board Actions

New or revised State Water Board precedential decisions, regulations, or policies are adopted or promulgated that address discharges regulated by this Order.

8. REGIONAL WATER BOARD-SPECIFIC REQUIREMENTS

Each Regional Water Board has adopted a Basin Plan(s) for the watersheds within its jurisdiction. Basin Plans identify prohibitions, and water quality standards for waters of the State within the corresponding watersheds, including/addressing: (1) the beneficial uses, (2) the water quality objectives necessary to protect the beneficial uses, and (3) antidegradation. The Department is subject to the prohibitions and requirements of each Basin Plan.

9. REGIONAL WATER BOARD AUTHORITIES

1. The Regional Water Boards enforce the requirements of this Order for receiving water bodies within its region. The Regional Water Board will determine compliance based on information gathered through: (1) reviewing plans, reports, and other information; (2) conducting compliance inspections; (3) conducting monitoring; and will pursue informal and formal enforcement actions as determined necessary.

2. Regional Water Boards may require submittal of Facility Pollution Prevention Plans through the issuance of a Water Code section 13267 or section 13383 Order.

3. Regional Water Boards may require retention of records for more than three years. In such cases, the Regional Water Boards will provide notice of such a requirement to the Department that specifies which records must be retained and for the amount of time retention is required.

4. To the extent authorized by the Water Code, Regional Water Boards may impose additional notification, monitoring, and reporting requirements.

5. Regional Water Board staff may inspect the Department's facilities, roads, highways, bridges, and construction sites, as detailed in section 13.9 of this Order.

6. Regional Water Boards may issue other individual NPDES permits or waste discharge requirements to the Department, specific to discharges beyond the scope of this Order.

10. REQUIREMENTS OF OTHER AGENCIES

This Order does not preempt or supersede the authority of other State or local agencies (such as the Department of Toxic Substances Control or the California Coastal Commission) or local municipal authorities to prohibit, restrict, or control stormwater discharges and conditionally exempt non-stormwater discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.

11. DISPUTE RESOLUTION

In the event of a disagreement between the Department and a Regional Water Board over the interpretation of any provision of this Order, the Department shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a resolution is not obtained with the Regional Water Board Executive Officer, the Department may submit a written request to the Executive Director of the State Water Board, or designee, for resolution, with a copy to the Executive Officer of the Regional Water Board.

12. REPORT OF WASTE DISCHARGE

In accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations, the Department shall file a report of waste discharge no later than 180 days before the Expiration Date of this Order. The report of waste discharge serves as the Department's application for reissuance of this Order and waste discharge requirements. The application shall be accompanied by an updated Stormwater Management Plan and a summary of all available water quality data for the discharges regulated under this Order, and receiving waters, including conventional pollutant data from at minimum the most recent three years and toxic pollutant data from at least the most recent five years in the discharge and receiving water. Additionally, the Department shall include the final

results of all studies that may have a bearing on the requirements of a subsequent reissued Order.

If the Effective Date of a subsequently-adopted State Water Board reissuance to this Order is after the Expiration Date of this Order, the Department shall continue to implement the requirements of this Order until the reissued Order becomes effective.

13. STANDARD PROVISIONS

The Department shall comply with all Standard Provisions of this Order as listed below.

13.1 Duty to Comply

1. The Department shall comply with all the conditions of this Order. Any permit noncompliance constitutes a violation of the Clean Water Act and the Water Code, which may be grounds for enforcement action or denial of permit coverage. (40 C.F.R. section 122.41(a); Water Code sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385, and 13387).

2. The Department shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. section 122.41(a)(1)).

13.2 Modification, Revocation and Reissuance, or Termination

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Department for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition.

13.3 Enforcement Provisions

1. The standard provisions of this section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Boards.

2. Any violation of the Order constitutes a violation of the Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for an enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance, or a combination thereof.

3. The State and Regional Water Boards may impose administrative civil liability, may refer the Department to the State Attorney General to seek civil monetary penalties,

may seek injunctive relief, or may take other appropriate enforcement action as provided in the Water Code or federal law.

4. All applications, reports, or information submitted to the State Water Board or Regional Water Boards shall be signed and certified under penalty of perjury. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. (40 C.F.R. section 122.41(k)).

5. All Attachments of this Order are an integral part of this Order, and enforceable.

13.4 Need to Halt or Reduce Activity not a Defense

The Department shall not use as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this Order. (40 C.F.R. section 122.41(c)).

13.5 Duty to Mitigate

The Department shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. section 122.41(d)).

13.6 Proper Operation and Maintenance

The Department shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Department, or by a contractor to the Department, to achieve compliance with the conditions of this Order. Proper operation and maintenance include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by the Department only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. section 122.41(e)).

13.7 Property Rights

This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. (40 C.F.R. sections 122.41(g) and 122.5(c)).

13.8 Duty to Provide Information

Within a reasonable time specified by the State Water Board, Regional Water Boards, or U.S. EPA, the Department shall furnish records, reports, or information required to be kept by this Order, and shall furnish any information requested to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order or to determine compliance with this Order. (40 C.F.R. section 122.41(h)).

The Department shall notify the State Water Board and the applicable Regional Water Board when its contractors fail to obtain required regulatory coverage under the Statewide Construction Stormwater General Permit and/or the Lake Tahoe Construction Stormwater General Permit.

13.9 Inspection and Entry

Upon the presentation of credentials and other documents as may be required by law, the Department shall allow the State Water Board, Regional Water Boards, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative) (33 United States Code section 1318(a)(4)(B); 40 C.F.R. section 122.41(i); Water Code sections 13267 and 13383) to:

13.9.1 Enter Premises

Enter upon the Department's premises where a regulated facility or activity is located or conducted, or where records are required to be kept under the conditions of this Order.

13.9.2 Access to and Copy Records

Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order.

13.9.3 Inspect

Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.

13.9.4 Sample or Monitor

Sample or monitor at reasonable times for the purposes of assuring permit compliance, or as otherwise authorized by the Clean Water Act, any substances, or parameters at any location.

13.10 Monitoring and Records Provisions

1. Samples and measurements taken for monitoring shall be representative of the monitored activity. (40 C.F.R. section 122.41(j)(1)).

2. The Department shall retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by the State Water Board Executive Director or a Regional Water Board Executive Officer at any time. (40 C.F.R. sections 122.41(j)(4) and 122.44(i)(1)(iv)).

3. Records of monitoring information shall include the following (40 C.F.R. section 122.41(j)(3):
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

4. Monitoring must be conducted according to test procedures approved under 40 C.F.R. section 136 unless another method is required under 40 C.F.R. subchapters N or O. (40 C.F.R. sections 122.41(j)(4) and 122.44(i)(1)(iv)).

13.11 Monitoring Enforcement Provisions

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. (40 C.F.R. sections 122.41(j)(4) and 122.44(i)(1)(iv)).

13.12 Signatory Requirements

All applications, reports, certifications, and records required by this Order or requested by the State Water Board, Regional Water Boards, or U.S. EPA shall be signed by either a principal executive officer or by a duly authorized representative. A person is a duly authorized representative only if:

1. The authorization is made in writing by the principal executive officer; and
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an

individual or position having overall responsibility for environmental matters for the Department. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, the Department shall provide a new authorization prior to submittal of any reports, certifications, or records signed by the newly authorized representative. (40 C.F.R. sections 122.22 and 122.41(k)).

13.13 Certification

Any person signing documents under section 13.16 above shall include the following certification statement with the submittal to the State Water Board or Regional Water Board (40 C.F.R. section 122.22(d)):

"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 assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

13.14 Reporting Requirements

13.14.1 Planned Changes

The Department shall give advance notice to the State Water Board and the appropriate Regional Water Board of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. (40 C.F.R. section 122.41(*l*)(1))

13.14.2 Anticipated Noncompliance

The Department shall give advance notice to the appropriate Regional Water Board of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this Order. (40 C.F.R. section 122.41(*l*)(2)).

13.14.3 Compliance Schedules

The Department shall submit reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order no later than 14 days following each scheduled date. (40 C.F.R. section 122.41(*l*)(5)).

13.14.4 Other Information

If the Department becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or in any required report, it shall promptly submit such facts or information. (40 C.F.R. section 122.41(*l*)(8)).

13.15 Oil and Hazardous Substance Liability

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Department from any responsibilities, liabilities, or penalties to which the Department is or may be subject to under Section 311 of the Clean Water Act.

13.16 Severability

The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

13.17 Availability

A copy of this Order shall always be maintained at the facility and be available to the appropriate facility personnel and to representatives of the Regional Water Boards, State Water Board, or U.S. EPA.

13.18 Training and Education

The Department shall ensure that all personnel whose decisions or activities could affect stormwater quality and compliance with this Order, are properly trained and educated of the requirements of this Order.

14. STORMWATER MANAGEMENT PLAN

The Department shall update and implement the Stormwater Management Plan developed per the requirements of Order 2012-0011-DWQ (previous permit), as described in Attachment C of this Order. This Order requires the Department to implement and update its Stormwater Management Plan consistent with the requirements of this Order. This Order requires the Department to submit the updated Stormwater Management Plan within 12 months of the Effective Date of this Order to the State Water Board Executive Director for review and consideration of approval. Upon approval, this Order requires that the Department to implement the approved Stormwater Management Plan.

15. AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE PROVISIONS

The Department shall implement Areas of Special Biological Significance requirements in Attachment C of this Order.

ATTACHMENT A – FACT SHEET

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ATTACHMENT A – FACT SHEET

A1. INTRODUCTION

This Fact Sheet contains the legal, factual, and technical rationale that serve as the basis for the requirements in this Order. This Fact Sheet additionally provides detailed information regarding Total Maximum Daily Loads for implementation through this Order. All Attachments to this Order, including this Fact Sheet, are incorporated by reference into this Order.

A2. UPDATED PERMIT REQUIREMENTS

The following provides a summary of the major updates incorporated into this Order as compared to the previous statewide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit for the California Department of Transportation (Department), Order 2012-0011-DWQ as amended by Order WQ 2014-0006-EXEC, 2014-0077-DWQ, 2015-0036-EXEC, and 2017-0026-EXEC (collectively referred to as the previous permit):

1. The Department's Tier 1 and Tier 2 discharge characterizing monitoring required by the previous permit are replaced with TMDL-focused monitoring requirements that encourage the Department's participation in Regional Water Quality Control Board (Regional Water Board) regional monitoring programs, local agency cooperative monitoring programs and/or equivalent individual monitoring designed to demonstrate attainment of applicable waste load and load allocations.
2. The Department is required to demonstrate compliance with applicable TMDLs through compliance with its waste load allocations and load allocations provided in this Fact Sheet and Attachment D of this Order;
3. The Department is required to use analytical laboratory methods that detect and measure pollutants at or below the permit limits and/or applicable water quality criteria, per the United States Environmental Protection Agency (U.S. EPA) 2014 Sufficiently Sensitive Test Methods Final Rule;
4. The Department is required to comply with the statewide Trash Provisions by identifying significant trash generating areas and implementing controls to address trash in these areas by no later than December 2, 2030;
5. The Department is required to address infrastructure resiliency and stormwater management program adaptation necessary to address impacts from climate change through implementation of asset management and improved best management practices;

6. The Department is required to electronically submit all permit deliverables to the State Water Board, Stormwater Multiple Application and Report Tracking System (SMARTS) per the U.S. EPA NPDES Electronic Reporting Rule, dated October 22, 2015, Final Rule (Federal Register Volume 80 Number 204);
7. The Department is required to install best management practices and controls at pavement grinding (e.g., concrete and asphalt grindings) stockpiles to prevent: (1) stormwater run-on to, and run-off from, pavement grindings stockpiles, and (2) discharges of leachate, polluted stormwater, and non-stormwater; and
8. The Department is required to update its storm sewer mapping in its Stormwater Management Program per 40 Code of Federal Regulations (C.F.R.) section 122.26(d)(1)(iii)(B)*(1)*.

A3. PERMITTING AND FEDERAL REGULATORY BACKGROUND

A3.1 Federal Regulatory Background

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharger obtains an NPDES permit, and the discharges comply with an NPDES permit. In 1987, the Clean Water Act was amended, adding section 402(p) and establishing stormwater discharges as point source discharges. Section 402(p) of the Clean Water Act provides a framework for regulating municipal and industrial stormwater discharges under the NPDES program.

On November 16, 1990, U.S. EPA promulgated final regulations requiring NPDES stormwater permits for discharges from a municipal separate storm sewer system. Federal regulations define a municipal separate storm sewer system as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State or other public body designed or used for collecting or conveying stormwater which is not a combined sewer and not part of a Public Owned Treatment Works. (40 C.F.R. section 122.26(b)(8)). The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of stormwater and non-stormwater discharges from state-owned right-of-way.

U.S. EPA, as the permitting authority, delegated the NPDES permitting program for California to the Water Boards; therefore, the State and Regional Water Boards issue NPDES permits for the regulation of municipal stormwater

discharges; the State Water Board issues statewide NPDES permits and the Regional Water Boards issue individual and regionwide NPDES permits. The process for U.S. EPA authorization of states, tribes, or territories to administer the NPDES program is defined in Clean Water Act section 402(b) and 40 C.F.R. section 123.

A3.2 Permitting Background

Before July 1999, stormwater discharges from the Department's separate storm sewer systems were regulated by individual NPDES permits issued by the Regional Water Boards. On July 15, 1999, the State Water Board adopted statewide permit Order 99-06-DWQ that regulated all stormwater discharges from Department-owned municipal separate storm sewer system, maintenance facilities, and construction activities; Order 99-06-DWQ superseded the individual NPDES permits issued by the Regional Water Boards. On September 19, 2012, the State Water Board adopted Order 2012-0011-DWQ, which superseded Order 99-06-DWQ. This Order supersedes Order 2012-0011-DWQ.

Clean Water Act section 402(p) and 40 C.F.R. section 122.26(a)(1)(v) allows the State to regulate discharges from a municipal separate storm sewer system on a system-wide or jurisdiction-wide basis. The State Water Board considers all stormwater discharges from all municipal separate storm sewer systems and activities under the Department's jurisdiction as one system to be regulated by this Order.

A4. APPLICABLE PLANS, POLICIES, AND REGULATIONS

A4.1 Legal Authorities

This Order serves as waste discharge requirements pursuant to California Water Code (Water Code) division 7, chapter 4, (commencing with section 13260) for discharges to waters of the State. This Order is also issued pursuant to Clean Water Act section 402 and implementing regulations adopted by U.S. EPA and Water Code division 7, chapter 5.5, (commencing with section 13370) for discharges to the waters of United States. Therefore, this Order serves as an NPDES permit and as waste discharge requirements for point source discharges to waters of the State and waters of United States.

A4.2 California Environmental Quality Act

Per Water Code section 13389, the action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21100 et seq.).

A4.3 Federal and State Regulations, Policies and Plans

A4.3.1 Antidegradation Policy

Federal regulations at 40 C.F.R. section 131.12 require water quality standards to include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Water Quality Control Plans implement, and incorporate by reference, both the State and federal antidegradation policies. Permitted discharges shall be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

This Order is consistent with the above-stated antidegradation policies and provisions. This Order regulates the Department's statewide MS4; this Order may authorize discharges to at least some surface waters that are high quality with regard to some pollutants. The State Water Board expects that the controls in this Order would not permit degradation in high quality waters, but to the extent that degradation does occur, this Order would comply with antidegradation requirements for discharges to any high quality waters. This Order continues the previous level of water quality protection for waters of the United States and any affected non-federal waters of the state as the previous Order, and further protects water quality in the following ways:

- This Order implements trash control measures statewide per the 2015 State Water Board, Statewide Trash Provisions. The Trash Provisions require the Department to install full capture systems or achieve full capture system equivalency in all significant trash generating areas throughout its municipal separate storm sewer system;
- This Order contains new asset management, best management practice retrofit, and other stormwater program measures to ensure resiliency of best management practices installed to manage stormwater discharges;
- In contrast to the previous Order's compliance unit system, which required implementation of best management practices on acres of TMDL right-of-way under the presumption that compliance with TMDL waste load allocations would ultimately be achieved in all or most cases, this Order requires the Department to specifically plan for and demonstrate compliance with applicable TMDL waste load allocations;

- The previous Order only required implementation of its post-construction best management practices requirements for construction projects that involved one acre or more of land disturbance activities. This Order reduces that threshold to 10,000 square feet, less than one quarter of the previous threshold.

Because of these improvements to the water quality protections afforded by the previous Order and the fact that the state highway system is not substantially expanding, only minor increases, if any, in discharges beyond those authorized by the previous Order are expected. As a result, a simple antidegradation analysis is warranted.

This Order is designed to make maximum use of the Department's limited budget. As discussed in section A4.5 of this Fact Sheet, this Order will almost certainly increase the cost of compliance compared to the previous Order. Other more expensive controls would take away from the Department's other beneficial projects. The construction and maintenance of the statewide highway system supports important economic and social development. The highway system allows for the efficient distribution of goods and services to people throughout the state. The highway system also provides a primary transportation option for people to travel throughout the state for social reasons, including experiencing new environs and connecting with each other.

As a statewide public transportation system agency, the Department's projects are all designed to serve the public. The State Water Board understands that given the Department's limited budget, increases in the cost of stormwater compliance will result in less funding available for other projects and programs that serve the public. State Water Board staff has engaged in extensive discussions with Department and California Transportation Commission staff on how the Department's budget may be used to achieve maximum benefit to the people of the State.

The discharges authorized by this Order are necessary, and there are no cost-effective alternatives that would prevent or lessen any degradation associated with permitted discharges to high quality waters. A complete prohibition of discharges to high quality waters is not practicable because the Department's MS4 is associated with essential statewide roadway infrastructure that cannot be relocated. Unlike other systems and projects regulated by NPDES stormwater permits, the Department's jurisdiction is already largely developed. While there will of course be additions to the Department's highway system, much of the activity regulated by this Order consists of redevelopment of and adjustments to the existing highway footprint. Thus, while the requirements listed above will of course apply to any expansion of the Department's highway system, the Department will primarily

have the effect of building upon the previous Order's requirements to further reduce pollutant discharges to receiving waters.

Importantly, the Department's right-of-way, and therefore the area available to implement stormwater best management practices, in most cases only expands slightly beyond the existing paved highway footprint. Therefore, while this Order increases the requirements placed upon the Department to address its stormwater discharges, it does not prescribe or strongly incentivize large-scale stormwater retention as other NPDES stormwater permits have due to the limited land/opportunities available for retention structures that would not compromise motorist safety due to potential ponding on the roadway. While the State Water Board supports retention where possible, this Order is designed to allow the Department to adapt its stormwater program to the wide variety of environments through which its highway system passes to make the most use of its budget to achieve the maximum benefit to water quality.

This Order was developed with ample opportunity for public participation, including a written comment period, public workshops in July 2021 and June 2022, a State Water Board hearing in July 2021, and a State Water Board meeting in June 2022. During the development of this Order, State Water Board staff met repeatedly with stakeholders, including staff from the Department and California Transportation Commission, and representatives of municipalities and environmental non-governmental organizations.

The State Water Board finds that this Order protects existing uses by requiring implementation of best management practices as well as compliance with receiving water limitations, and Trash and TMDL-related requirements. In addition, the Regional Water Boards retain the ability to impose additional sampling and monitoring requirements if necessary.

This Order complies with Resolution No. 68-16 as it applies to high quality waters because any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies. As explained above, the Department's activities are essential to economic and social development, and consistent with the maximum benefit to the people of the State to authorize stormwater discharges associated with those activities, so long as the discharges comply with statutory and regulatory requirements. This Order includes requirements that will result in treatment or control of the discharges to the maximum extent practicable, to assure that a pollution or nuisance will not occur, and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

A4.3.2 Anti-Backsliding Requirements

Section 1342(o) of the Clean Water Act and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be at least as stringent as those in the previous permit, with some exceptions that limitations may be relaxed based on new information made available since the adoption of the previous permit. All effluent limitations and other requirements in this Order are at least as stringent as the requirements in the previous permit.

A4.3.3 Endangered Species Act Requirements

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Acts (Fish and Game Code, sections 2050-2097) or the Federal Endangered Species Act (16 United States Code sections 1531-1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for complying with all requirements of the applicable Endangered Species Act.

A4.3.4 Water Quality Control Plan

Each Regional Water Board has adopted water quality control plans specific to its region. The region-specific water quality control plans, referred to as Basin Plans, designate receiving water beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Department is subject to the prohibitions and requirements of each Basin Plan. Requirements in this Order implement the Regional Water Board Basin Plans.

A4.3.5 Impaired Waters on the Clean Water Act 303(d) List

Clean Water Act section 303(d) requires identification of specific waters where data indicate water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The Department is identified to have contributing responsibility for the TMDLs listed in this Order for water bodies in Clean Water Act section 303(d) list. TMDLs establish waste load allocations for point source discharges and load allocations for non-point source discharges. TMDLs are established to achieve the water quality standards for the impaired waters.

A4.3.6 Enforcement and Non-Compliance

The State and Regional Water Boards will enforce the provisions and requirements of this Order. NPDES regulations require the Department to notify the State or appropriate Regional Water Board of anticipated non-compliance with this Order (40 C.F.R. section 122.41(l)(2)) or of instances of non-compliance that endanger human health or the environment (40 C.F.R. section 122.41(*l*)(6)).

A4.3.7 Public Participation

The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for stormwater discharges and have been provided an opportunity to submit their written comments and recommendations and receive responses to these written comments. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

A4.4 Local Jurisdictions and Preemption

Stormwater and non-stormwater discharges from municipal separate storm sewer systems that are owned and managed by local jurisdictions may discharge to stormwater conveyance systems owned and managed by the Department; likewise, stormwater and non-stormwater discharges from the Department's right-of-way, properties, facilities, and activities may discharge to stormwater conveyance systems managed by local jurisdictions. This Order does not supersede the authority of the Department or the authority of the local jurisdiction to prohibit, restrict, or control stormwater discharges, and conditionally exempt non-stormwater discharges, to storm drain systems or other watercourses within its jurisdiction as allowed by state and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and state agencies regarding discharges of stormwater to separate storm sewer systems or other watercourses under those jurisdictions.

A4.5 Consideration of Cost of Compliance

The State Water Board has considered the requirements for the Department to implement best management practices to meet the minimum "maximum extent practicable" standard required by federal law and has determined that the costs reflect this standard. Consistent with State Water Board Order WQ 2000-11 (www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2000/wq2000_11.pdf), cost is simply one relevant factor that should be considered in determining whether a permit reflects the maximum extent practicable standard. The maximum extent practicable standard is an evolving, flexible, and advancing concept that considers technical and economic feasibility. Because of the

numerous advances in stormwater regulation and management and the size of the Department's municipal separate storm sewer system, this Order does not require the Department to fully incorporate and implement all advances in a single permit term; this Order takes an incremental approach that allows for ongoing prioritization and effective use of limited Department funds. While costs associated with the statewide Trash Provisions (https://www.waterboards.ca.gov/water_issues/programs/trash_control/documentation.html) and TMDL requirements are discussed below, they are not subject to the maximum extent practicable standard.

Per the continued regulatory compliance approach of the previous Order and prior permit iterations, the Department will continue to incur costs in complying with TMDL-related waste load allocations and implementing the iterative process as required by this Order.

Consistent with State Water Board Resolution 2013-0029 (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0029.pdf), State Water Board staff considered the cost of permit compliance during the development of this Order. State Water Board staff held regular and routine meetings, often up to twice weekly, from 2017-2022, to develop permit requirements that protect water quality per federal and state regulations and law and that are compatible with the Department's existing protocols and established Stormwater Management Plan. During these meetings, State Water Board staff provided Department staff and staff of the California Transportation Commission guidance in understanding permit requirements and the various options this Order provides the Department to demonstrate compliance.

Where appropriate, this Order continues requirements from the previous Order.

1. Potential Additional Compliance Costs to Maintain Water Quality Protection

This Order may increase the Department's cost of permit compliance due to the following changes from the previous Order:

a. Revised Trigger for Post-Construction Treatment

The previous Order required the Department to install permanent post-construction best management practices for projects of 1-acre or greater. This Order reduces the trigger for post-construction best management requirements from 1-acre to 10,000 square feet. The trigger reduction provides for the necessary water quality protection dependent on permanent stormwater management after construction and is consistent with the standards established in other regional water quality control board Phase I permits for post-construction stormwater requirements that apply

to transportation projects, as discussed in more detail in Section A9.3.10 of this Fact Sheet.

b. New Requirements for an Asset Management Plan and a Best Management Practices Retrofit Plan

Similar to other NPDES permits, this Order requires the Department to develop and implement an Asset Management Plan and a Best Management Practices Retrofit Plan that focus on the Department's stormwater assets (in contrast to its transportation assets). The new asset management and retrofit requirements were developed in coordination with Department staff to incorporate the Department-specific stormwater management elements in the Department's existing Transportation Asset Management Plan, Maintenance Staff Guide, and State Highway System Management Plan. While this Order adds some new requirements, the asset management and retrofit plan requirements are customized to be compatible with the Department's existing protocols.

The State Water Board anticipates that the stormwater-specific Asset Management Plan and the Retrofit Plan will result in cost savings in the long term. In the March 2017 Asset Management Programs for Stormwater and Wastewater Systems: Overcoming Barriers to Development and Implementation (https://www.epa.gov/sites/default/files/2018-01/documents/overcoming-barriers-to-development-and-implementation-of-asset-management-plans.pdf), U.S. EPA states that asset management plan benefits will vary by utility, but potential benefits include reduced overall costs for both operations and capital expenditures, prolonged asset lifecycle and enhanced long term asset performance, and confidence in capital planning regarding rehabilitation, repair, and replacement decision making.

c. New Requirements to Implement 2015 Statewide Trash Provisions

This Order includes trash management-related requirements to implement the statewide Trash Provisions. While costs associated with implementing the Trash Provisions are expected to be significant, these new costs are for actions that directly improve water quality. The Trash Provisions were adopted by the State Water Board in 2015, and the Department participated in the Trash Provision development and adoption process. During the State Water Board's consideration of the Trash Provisions, the State Water Board complied with the Water Code (https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf) sections 13170 and 13241, subdivision (d) requirements to consider economics when establishing water quality objectives. The Department's

capital expenditures and annual costs were considered for compliance, as detailed in the Trash Provisions' Economic Considerations (https://www.waterboards.ca.gov/water_issues/programs/trash_control/docs/trash_c_040715.pdf)

Economic considerations are not a cost-benefit analysis, but a consideration of potential costs of foreseeable measures to comply. The cost considerations provided during the development and adoption of the Trash Provisions determined that the Department's expenditures were estimated to increase by $34.5 million in total capital costs and almost $15 million per year for operation and maintenance of structural controls. The State Water Board understands that the initial cost estimates in 2015 may not represent final implementation costs for a variety of reasons, including inflation and a greater-than-expected number of hot spots related to unhoused communities. In an effort to make the most use possible of the time available under the Trash Provisions, the State Water Board began working with the Department shortly after the adoption of the Trash Provisions to plan implementation of those requirements. The incorporation of the Trash Provisions into this Order is the next step in the implementation process, and it continues the Department's implementation efforts as initially order through the State Water Board's June 2, 2017 Water Code section 13383 Order (https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml) as SMARTS Attachment ID 1937083 under WDID 5S34CT000001) issued to the Department.

Conversely, the State Water Board anticipates that the costs of the continued implementation of the Trash Provisions standardized statewide requirements in this Order will be offset at least in part through prevention of potential costs related to future impairments and/or additional trash TMDLs with requirements applicable to the Department. In summary, the Department is required to:

i. Develop and implement a Trash Assessment Methodology subject to State Water Board Executive Director review and consideration of approval, to accurately identify significant trash generating areas within the Department's right-of-way, as previously required by the June 1, 2017, Water Code section 13383 Order. A requirement in the 13383 Order required the Department to include the following elements in its Trash Assessment Methodology:

   - Identification of all locations or facilities within the Department's jurisdiction that are located outside of the jurisdiction of permitted municipal separate storm sewer systems where trash accumulates in substantial amounts;

- A visual assessment of all highway segments, highway on-ramps, and highway off-ramps within or adjacent to the jurisdiction of permitted municipal separate storm sewer systems to identify where trash accumulates in substantial amounts; and
- An assessment of all known unhoused communities within the Department's right-of-way.

ii. Install, operate, and maintain any combination of certified full capture systems, other treatment controls, and/or institutional controls for all storm drains that capture runoff from Significant Trash Generating Areas (as previously required in the June 1, 2017, 13383 Order);

iii. Develop and implement a Trash Monitoring Plan, subject to State Water Board Executive Director review and consideration of approval, that:

- Demonstrates that such combination of certified full capture systems, other treatment controls, and/or institutional controls achieve full capture system equivalency;
- Estimates the trash generation in all Significant Trash Generating Areas based upon trash assessments;
- Demonstrates compliance with interim milestones, and
- Provides an assessment of the amount of annual trash reduction.

2. Reduced and Minimized Compliance Costs

In contrast to the potential increases in permit compliance costs discussed above, many changes have been made from the previous Order that may offset, at least in part, any potential increased costs. This Order provides clarity to the Department's regulatory obligations, including TMDL-related obligations, and eliminates or modifies the following requirements found in the previous Order:

a. Termination of Two-Tier Monitoring Requirements

This Order does not continue the Tier 1 and Tier 2 monitoring requirements. The previous Order required the Department to conduct monitoring in two tiers as follows:

i. Sites required to be monitored under the General Exception to the California Ocean Plan's prohibition of discharge into Areas of Special Biological Significance and sites in impaired watersheds for which the Department has been assigned a waste load allocation, and

ii. Monitoring of all locations where the Department has previously conducted characterization or other types of monitoring.

With regard to the characterization monitoring and Areas of Special Biological Significance monitoring, the Department's monitoring data submitted under the existing Order has fulfilled its obligations and no additional such monitoring is needed. Similarly, monitoring for many TMDLs is still required and may be needed for other specific TMDLs to make the demonstrations required under the TMDL Demonstration of Compliance Plan, discussed below. As part of its Areas of Special Biological Significance Compliance Plan, the Department may demonstrate compliance through one of the following mechanisms: modeling, receiving water monitoring, discharge monitoring, or a demonstration of no discharge.

b. Choice of Methods to Demonstrate Compliance with TMDL Pollutant Waste Load Allocations

This Order allows the Department to demonstrate compliance with TMDL waste load allocations through implementing one or more of the methods listed below, as appropriate and consistent with the requirements of the applicable TMDL waste load allocations. These methods maximize the use of existing information and minimize monitoring and reporting costs. By including the following methods (described in more detail in Attachment D, section D3.3), the State Water Board anticipates that the Department will be able to demonstrate that it is currently in or approaching compliance with waste load allocations through cost-effective methods, thus reducing the overall cost of implementing this Order:

- Modeling analysis,
- Receiving water quality monitoring,
- Loads from other sources,
- Discharge sampling,
- Mass-based waste load,
- Allowable exceedance days,
- No discharge, and
- Other miscellaneous factors

c. Removal of Compliance Units Process

The previous Order required implementation of a compliance unit process as a tracking mechanism for the Department's implementation of projects intended to ultimately achieve compliance with waste load allocations. As discussed in the Fact Sheet of the previous Order, this process established a 20-year timeframe (through 2034) for implementation of activities aimed at addressing an estimated 33,000 acres of Department TMDL right-of-way, or 1,650 acres per year. At the time, the State Water Board estimated that this would cost $176,000 per acre, resulting in an

annual compliance cost of up to $290,000,000. The previous Order also allowed the Department to accumulate compliance units through its contributions to collaborative efforts at a cost of $88,000 per compliance unit, resulting in a minimum annual cost based on these contributions of $145,000,000. Through this process, the Department was expected to have achieved compliance with its TMDL-related requirements. This Order does not continue the compliance unit tracking process. Although the projects were designed to, and did positively impact watersheds, the compliance unit tracking process allowed the Department to accumulate compliance units for work related to TMDLs which in some cases did not correlate to the Department's responsibility under the TMDL.

The requirements in this Order focus the Department's responsibility on contributing to work in TMDL watersheds that will satisfy its specific obligations under the TMDLs. For 14 TMDLs, no work beyond implementation of the baseline requirements of the Order is required by the Department (Attachment D, Table D-1). For the remaining TMDLs and TMDL water-body pollutant combinations, the Order requires that the Department develop its own strategies to demonstrate actual compliance with TMDL requirements. In some instances, this Order provides much greater specificity regarding what exactly each TMDL requires. Once compliance is achieved for each individual TMDL, and a demonstration of compliance is approved by the State Water Board Executive Director, the Department is required to maintain that compliance and focus its TMDL implementation budget on TMDLs that require additional compliance activities.

The State Water Board anticipates some additional increased costs in the short term associated with the Department's development and submittal of a TMDL Compliance Plan. However, the State Water Board anticipates that elimination of the compliance unit tracking process in the previous Order, combined with the implementation of Department-specific TMDL requirements in Attachment D of this Order, will result in a net cost savings because the Department's expenditures will be focused directly on attaining compliance with applicable a waste load allocations and because the Order establishes clear methods by which the Department can demonstrate final compliance with TMDL requirements. Importantly, while the programmatic requirements have changed, both this Order and the previous Order required the Department to ultimately comply with its waste load allocations.

d. Clarified Department-specific TMDL Waste Load Allocations

During the development of this Order, State Water Board staff held numerous meetings with Department representatives and individual

Regional Water Board staff to determine the Department's regulatory obligation under each TMDL in which the Department is identified as a contributor to the associated receiving water impairment. This Fact Sheet identifies in detail the group or Department-specific waste load allocations to which the Department is subject. In some cases, it provides further discussion to clarify or make more specific the Department's TMDL obligations. These requirements and the compliance approaches were developed with Department input and allow the Department to fund or implement projects that directly address compliance with its waste load allocations.

e. Identified Compliance with 14 TMDL Pollutants through Permit Compliance

As mentioned above, this Order identifies 14 TMDLs or TMDL water body-pollutant combinations in Table D-1 of Attachment D with which the Department is in full compliance through its compliance with the non-TMDL requirements of this Order. Therefore, the Department is not required to conduct additional TMDL-specific compliance projects for these identified TMDLs.

f. Specific TMDL-Compliance Requirements or Plans for 82 TMDL Water Body-Pollutant Combinations

This Order identifies 82 TMDL water body-pollutant combinations in Tables D-2 and D-3 of Attachment D with which the Department will be in compliance upon its fulfillment of specific compliance actions or through demonstrations made and approved under the TMDL Compliance Plan. During the development of this Order, State Water Board staff held numerous meetings with Department representatives and individual Regional Water Board staff to develop the specific compliance actions for many TMDLs that are compatible with the Department's existing protocol and established stormwater management programs. Additionally, for 63 of these TMDLs and TMDL water body-pollutant combinations, the State Water Board adopted Time Schedule Order 2022-0089-DWQ, providing the Department until December 31, 2034, to comply with the applicable TMDL requirements. This continues the time schedule provided under the prior iteration of this Order for the Department's TMDL compliance.

3. Department Reporting of Compliance Costs

As with the previous Order, the State Water Board notes that costs associated with regulatory municipal stormwater permit compliance are not easily tracked, nor are those costs solely attributable to compliance with an NPDES municipal stormwater permit. Requirements such as storm drain maintenance, street sweeping, and trash and litter collection predate the

Department's NPDES municipal stormwater permits. Additionally, many structural best management practices installed in the Department's right-of-way are standard engineering practice for highway drainage and other transportation facility needs, including infrastructure operations and maintenance. Therefore, the costs that are often associated with regulatory municipal stormwater management are not implemented solely to comply with permit requirements. The 2005 NPDES Stormwater Cost Survey (https://www.owp.csus.edu/research/papers/papers/NPDES_Stormwater_costsurvey.pdf) developed by the California State University, Sacramento - Office of Water Programs found that only 38 percent of program costs were new costs solely attributable to compliance with NPDES municipal stormwater permit requirements; the remainder were either pre-existing or resulted from enhancement of pre-existing programs.

Following the State Water Board's August 12, 2020 Guidance for Obtaining MS4 Permit Compliance Costs (https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/docs/ms4costrptguide.pdf), this Order requires the Department to submit its the actual cost of implementation of the Department's storm water management program. Due to the extensive, distributed nature of the Department's highway system, its municipal stormwater system, and stormwater discharges, this Order provides the Department with options to demonstrate compliance, allowing for regional environmental variables, effectiveness data for best management practices including treatment controls, modeling capabilities, that as implemented, will vary in compliance costs. Though no precise estimates can be drawn, the State Water Board anticipates that the changes it has made and the requirements it has crafted in consultation with the Department and other stakeholders will help offset increased costs of compliance incurred relative to the prior iteration of this Order.

A5. GENERAL DISCHARGE PROHIBITIONS

A5.1 Maximum Extent Practicable

Stormwater discharges from the Department's municipal separate storm sewer system containing pollutants that have not been reduced to the maximum extent practicable are prohibited, as required by Clean Water Action section 402(p)(3)(B)(iii). See the section on Effluent Limitations, below, for more information.

A5.2 Stormwater and Non-Stormwater Discharges into Areas of Special Biological Significance

The Water Quality Control Plan for Ocean Waters of California regulates territorial marine waters of the state for use and enjoyment by the people of the

State. The Water Quality Control Plan for Ocean Waters of California includes designations for 34 coastal marine waters as Areas of Special Biological Significance, defined as a coastal area requiring protection of species or biological communities. The Department discharges into the following Areas of Special Biological Significance:

- Redwood National Park,
- Saunders Reef,
- James V. Fitzgerald,
- Año Nuevo,
- Carmel Bay,
- Point Lobos,
- Julia Pfeiffer Burns,
- Salmon Creek Coast,
- Laguna Point to Latigo Point, and
- Irvine Coast.

The Water Quality Control Plan for Ocean Waters of California prohibits stormwater discharges to Areas of Special Biological Significance unless the discharges comply with State Water Board Resolution No. 2012-0012, Approving Exceptions to the California Ocean Plan for Selected Discharges into Areas of Special Biological Significance, Including Special Protections for Beneficial Uses. The Department has applied for and been granted an exception to the prohibition on the condition the Department complies with the special protections specified in the General Exception and contained in this Order.

Non-stormwater discharges to Areas of Special Biological significance are prohibited except where specifically authorized as specified in State Water Board Resolution No. 2012-0012 and section 3.9 of this Order.

This Order requires the Department to submit an updated Areas of Special Biological Significance Compliance Plan to the State Water Board Executive Director for review and consideration of approval within 12 months after the adoption date of this Order. The Department is required to install best management practices per the locations described in Table C-1, Attachment C, Stormwater Management Plan. Table C-1 lists the relevant locations where monitoring indicates that stormwater discharges are causing or contributing to alterations of natural ocean water qualities in Areas of Special Biological Significance.

A5.3 Non-Stormwater Discharge Prohibition and Conditionally Exempt Non-Stormwater Discharges

Non-stormwater discharges are prohibited unless authorized by a separate NPDES permit or conditionally exempt under provisions of this Order consistent with 40 C.F.R. section 122.26(d)(2)(iv)(B). Non-stormwater discharges that are not conditionally exempt by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-stormwater discharges that are found to be significant sources of pollution are to be effectively prohibited.

A5.4 Discharge Prohibition for Exceedances of Water Quality Objectives and Standards

This Order prohibits discharges that cause or contribute to exceedances of water quality objectives or that unreasonably affect beneficial uses.

A5.5 Maintenance Activities

This Order continues the previous permit requirements for implementation of maintenance plans to reduce the discharge of wastes or wastewater from road-sweeping vehicles or other maintenance activities to waters of the United States or to a storm drainage facility leading to waters of the United States. Federal NPDES stormwater regulations (40 C.F.R. sections 122.41(e) and 122.26(d)(2)(iv)) provide the regulatory basis for incorporating provisions related to maintenance activities into this Order.

A5.6 Discharge Prohibition of Waste

This Order prohibits the discharge of waste directly or adjacent to waters of the United States unless authorized by the State Water Board or a Regional Water Board. Waste includes “sewage and any and all other waste substances, liquid, solid, gaseous, radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.” (Water Code section 13050(d).)

A5.7 Discharge Prohibition of Earthen Material

This Order prohibits the discharge of earthen material (e.g., landslides and mass wasting such as slumps, mud flows, and rockfalls) to receiving waters. Inadequate controls at sites subject to mass wasting and landslides may result in sediment runoff rates that greatly exceed natural erosion rates of undisturbed lands. This may result in excess siltation, bottom deposits, turbidity, discoloration, and temperature elevation, any of which may adversely affect beneficial uses stipulated in Regional Water Board Basin Plans.

A6. EFFLUENT LIMITATIONS

Section 301(b)(1)(A) of the Clean Water Act and 40 C.F.R. section 122.44 generally require that NPDES permits include technology based effluent limitations. Pursuant to Clean Water Act section 402(p)(3)(B)(iii), however, municipal stormwater dischargers are required to comply with the technology-based standard to "reduce the discharge of pollutants to the maximum extent practicable."

Maximum extent practicable is generally achieved by emphasizing pollution prevention and source control best management practices as the first lines of defense in combination with structural and treatment methods where appropriate. The maximum extent practicable approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. Knowledge about controlling urban runoff and what constitutes the maximum extent practicable continues to evolve. The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, not by the discharger.

In State Water Board Order WQ 2000-11, the State Water Board stated that while the Clean Water Act and its implementing regulations do not define "maximum extent practicable," its use in the context of other laws indicates that the focus is "mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of [best management practices], a permittee chooses only a few of the least expensive methods, it is likely that [maximum extent practicable] has not been met. On the other hand, if a permittee employs all applicable [best management practices] except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. [Maximum extent practicable] requires permittees to choose effective [best management practices], and to reject applicable [best management practices] only where other effective [best management practices] will serve the same purpose, the [best management practices] would not be technically feasible, or the cost would be prohibitive. Therefore, while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis."

The individual and collective activities required by this Order and contained in the Department's Stormwater Management Plan meet the maximum extent practicable standard.

These effluent limitations are achieved through implementation of best management practices in lieu of numeric effluent limitations, as authorized by 40 C.F.R. section 122.44(k)(2). In 2005, the State Water Board assembled a panel to address the feasibility of including numeric effluent limits as part of NPDES

municipal, industrial, and construction stormwater permits. The panel issued a report dated June 19, 2006, that included recommendations as to the feasibility of including numeric limitations in stormwater permits, how such limitations should be established, and what data should be required. The report concluded that "It is not feasible at this time to set enforceable numeric effluent criteria for municipal best management practices and urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target." Consistent with the findings of the Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement best management practices to comply with the requirements of this Order.

A7. RECEIVING WATER LIMITATIONS

Under federal law, a municipal separate storm sewer system permit must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants" (Clean Water Act section 402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to comply with water quality standards are appropriate for the control of pollutants discharged by municipal separate storm sewer systems and shall be included in municipal separate storm sewer system permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (Ninth Circuit 1999) 191 F.3d 1159.). This Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

This Order further sets out that upon determination that the Department is causing or contributing to an exceedance of applicable water quality standards, the Department shall engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board Order WQ 99-05 and required by that Order to be included in all municipal stormwater permits. Substantially identical provisions are found in the proposed statewide Phase II municipal separate storm sewer system NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (Ninth Circuit 2011) 673 F.3d 880 that engagement in the iterative

process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in a municipal separate storm sewer system permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits. The State Water Board reaffirmed this position in State Board Order WQ 2015-0075, stating, “we will continue to read those provisions consistent with how the courts have: engagement in the iterative process does not excuse exceedances of water quality standards.” (State Water Board Order WQ 2015-0075, p. 15.)

A8. STANDARD PROVISIONS

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are included in this Order. The Department shall comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

40 C.F.R. sections 122.41(a)(1) and (b) through (n) establish conditions that apply to all State issued NPDES permits. These conditions shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations shall be included in the Order. 40 C.F.R. section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

A9. PERMIT-SPECIFIC PROVISIONS

The following sections discuss the rationale and regulations for permit-specific provisions.

A9.1 Stormwater Management Plan

Per the requirements of the previous permit, the Department submitted a stormwater management plan that was approved in July 2016. This Order requires the Department to submit an updated Stormwater Management Plan for a 30-day public review period and for subsequent consideration of approval by

the State Water Board Executive Director. The Stormwater Management Plan is the Department's mechanism to describe the procedures and practices that the Department will implement to reduce or eliminate the discharge of pollutants to receiving waters.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in Environmental Defense Center versus U.S. EPA (9th Circuit, 2003) 344 F.3d 832 held that NPDES "notices of intent" that required the inclusion of a proposed stormwater management program are subject to public participation requirements of the federal Clean Water Act. The public participation requirements of the Clean Water Act may also apply to proposals to revise the Department's Stormwater Management Plan. This Order provides for public participation in the Stormwater Management Plan revision process by requiring public notifications of the updated Stormwater Management Plan for 30 days on the State Water Board's website. During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the Stormwater Management Plan revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the Stormwater Management Plan revision if it complies with the conditions set forth in this Order. Any Stormwater Management Plan revision approved by the Executive Director will be posted on the State Water Board's SMARTS website.

The Department references various policies, manuals, and other guidance related to stormwater management in the Stormwater Management Plan. These documents are intended to facilitate implementation of the Stormwater Management Plan and shall be consistent with all requirements of this Order.

A9.2 General Requirements of the Stormwater Management Plan

This Order requires the Department to implement its stormwater management plan as developed to comply with the previous permit and as required by the federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)). The Department shall update its stormwater management plan as necessary to comply with this Order. The Department's compliance with its stormwater management plan is enforceable as the Plan is an integral part of this Order.

A9.3 Elements of the Stormwater Management Plan

The rationale for the stormwater management plan requirement and required elements of the plan is provided below.

A9.3.1 Overview

The Stormwater Management Plan consolidates all the Department's compliance programs, requirements, procedures, standard forms, and references into one document. The Stormwater Management Plan provides the process for the selection, design, installation, inspection, and maintenance of stormwater best management practices to reduce pollutants in stormwater discharges to the maximum extent practicable. Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)) require the development of a stormwater management plan.

A9.3.2 Management and Organization

A9.3.2.1 Legal Authority

This Order requires an annual certification of adequate legal authority to implement the stormwater management program and a description of the existing legal authority to control discharges to the Department's municipal separate storm sewer system (40 C.F.R. section 122.26(d)(2)(i)). If it becomes clear that the legal authority is not adequate to fully implement the stormwater management program and the requirements of this Order, the Department shall seek the authority necessary for implementation of the program.

Adequate legal authority is required to implement and enforce most parts of the stormwater management program. Without adequate legal authority, the Department would be unable to perform many vital stormwater management functions, such as performing inspections and installing best management practices.

A9.3.2.2 Fiscal Analysis

This Order requires the Department to include a description of financial resources to comply with this Order. Federal NPDES regulations (40 C.F.R. section 122.26(d)(1)(vi)) require stormwater dischargers to include a description of financial resources currently available to implement the stormwater management plan, including an overview of financial resources and budget and sources of funds for stormwater programs.

A9.3.3 Pollution Prevention Program for Construction Activities

A9.3.3.1 Statewide or Lake Tahoe Construction Stormwater General Permits

The Department's construction activities that disturb one or more acres of land are subject to the requirements of the State Water Board Statewide NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities and General Waste Discharge Requirements, NPDES Permit No. CAS000002 (Construction Stormwater General Permit) throughout the state except in the Lahontan region. In the Lahontan region, the Department is subject to the Lahontan Regional Water Board's NPDES General Permit for Stormwater Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer, NPDES Permit No. CAG616002 (Lake Tahoe Construction Stormwater General Permit).

A9.3.3.2 Lead-Contaminated Soil

The Department's construction projects may involve soils that contain lead in quantities that meet the state definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control issued variance V09HQSCD006 effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. For purposes of the variance, lead-contaminated soil means soil that meets the criteria for hazardous waste but contains less than 3,397 milligrams per kilogram total lead and is hazardous primarily because of aerially deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. Hazardous waste that is the subject of this variance is regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in the variance.

A9.3.3.3 Stockpiles of Portland Cement Concrete and Asphalt Concrete Grindings

Leachate generated through stormwater contact with pavement grinding stockpiles (i.e., portland cement concrete and asphalt concrete grindings) has the potential to discharge pollutants to the Department's storm sewer system. Leachate may have typical pollutants found on highways, in asphalt, and in portland cement, such as polycyclic aromatic hydrocarbons, heavy metals, sediment, and high pH. A technical report, Leaching Characteristics of Recycled Asphalt Pavement, addressing these pollutants was issued by the Virginia Department of Transportation in December 2006. This Order requires best management practices to

prevent the formation and discharge of leachate to the Departments storm sewer system to the maximum extent practicable.

A9.3.3.4 Contractor Compliance

This Order requires the Department to ensure its contractors comply with the applicable requirements of this Order and regulatory coverage is obtained under the Construction Stormwater General Permit and Lake Tahoe Construction Stormwater General Permit, as required.

A9.3.3.5 Environmentally Friendly Best Management Practices

This Order continues the previous permit's requirements for environmentally friendly erosion control best management practices. Use of synthetic and plastic materials is prohibited through the Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game.

While erosion control best management practices are typically used on construction sites, some are used as permanent, post-construction best management practices. Typical erosion control best management practices involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash, and an entrapment hazard to wildlife. A relevant article, Versatility in Control, was published in the Erosion Control Journal in November to December 2009. For erosion control products used as permanent, post-construction best management practices, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when the materials are no longer needed. Biodegradable materials are required in erosion control products used by the Departments of Transportation in the states of Delaware and Iowa.

A9.3.4 Statewide General Permit for Stormwater Discharges Associated with Industrial Activities

This Order requires the Department to file a Notice of Intent for coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities, Order NPDES NO. CAS000001 (Industrial Stormwater General Permit) for industrial facilities.

This Order requires that discharge of pollutants from facilities not covered by the Industrial General Permit be reduced to the maximum extent practicable through the appropriate implementation of best management practices.

Facilities and operations outside the Department's right-of-way may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing, or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. This Order requires the Department to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's right-of-way when these facilities are active for the primary purpose of accommodating Department activities.

A9.3.5 Maintenance and Operations

A9.3.5.1 Maintenance and Non-Maintenance Facilities Pollution Prevention Plans

The Department's maintenance and non-maintenance facilities have the potential to discharge pollutants to the Department's storm sewer system. Federal NPDES stormwater regulations (40 C.F.R. 112.26(d)(2)(iv)(A)) requires a description of methods to control pollution. This Order requires the Department to implement source control measures for its facilities through implementation of a pollution prevention plan.

A9.3.5.2 Maintenance Facility Inspection Program Plan

Federal NPDES stormwater regulations (40 C.F.R. 122.26(d)(2)(iv)(A)) require maintenance procedures to reduce pollutants in discharges to storm sewer systems.

A9.3.5.3 Highway Maintenance Activities

Federal NPDES stormwater regulations (40 C.F.R section 122.26(d)(2)(iv)(A)(3)) require a description of the practices for operating and maintaining public streets, roads, and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities. This Order carries over the previous permit's requirements for highway maintenance activities procedures. This Order requires the Department to operate and maintain its highway systems to reduce impact on receiving waters.

A9.3.5.4 Runoff Management

This Order continues the previous permit requirement for procedures on runoff management. In the 1999 Preliminary Data Summary of Urban Stormwater Best Management Practices, Chapter 4, U.S. EPA reports that

stormwater runoff is a leading source of pollutants causing water quality impairment in ocean shoreline waters, is the second leading cause of water quality impairment in estuaries, and is a significant source of impairment in rivers and lakes. The report lists three major categories of adverse impacts: (1) short-term changes in water quality during and after storm events including temporary increases in the concentration of one or more pollutants, toxics or bacteria levels; (2) long-term water quality impacts caused by the cumulative effects associated with repeated stormwater discharges from a number of sources; (3) physical impacts due to erosion, scour, and deposition associated with increased frequency and volume of runoff that alters aquatic habitat.

A9.3.5.5 Vegetation Control Plan

Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)(A*)(6)*) require a program to reduce to the maximum extent practicable pollutants in discharges associated with the application of pesticides, herbicides, and fertilizers. This Order requires the Department to develop and implement a vegetation management plan and to limit, track, and report the use of herbicides, pesticides, and chemicals.

A9.3.5.6 Waste Management Plans

To comply with the prohibition of waste discharged to receiving waters (described above in section A5.7), this Order requires the Department to develop and implement procedures to prevent such discharges of waste.

A9.3.5.7 Landslide Management Plan

This Order continues the previous permit requirement for plans to prevent discharge of earthen material to receiving water. Portions of the Department's highway system are prone to mass wasting (e.g., landslides, slumps, and mud flows of earthen material), which may result in the discharge of earthen material to receiving waters. Discharge of earthen material may cause adverse effects on beneficial uses, such as fish and spawning habitat. Discharge of earthen material is prohibited.

A9.3.5.8 Contractor Activities Outside the Right-of-Way

This Order continues the previous permit requirement to include contract provisions that require the contractor to obtain regulatory coverage and comply with applicable permits for project-related facilities and operations outside the Department's right-of-way. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing, other

material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

A9.3.5.9 Asset Management Plan and Retrofit Program

This Order requires the Department to maintain and improve its existing asset management plan and to prepare and implement a Retrofit Plan. The asset management plan will ensure ongoing installation, maintenance, and operation of its assets. The Clean Water Act requires that NPDES permits include requirements to develop and implement operation and maintenance procedures and financial plans sufficient to ensure their future operational integrity to comply with permit discharge conditions. Although NPDES regulations do not include a requirement for a specific item called an "Asset Management Plan," the regulations at 40 C.F.R. 122.41(e) do require "proper operation and maintenance" of all facilities and systems for controlling pollutant discharges that are used by a permittee to achieve compliance with permits. U.S. EPA has encouraged stormwater, drinking water, and wastewater utilities to develop and implement asset management plan tools to provide the tracking and planning framework needed to meet these requirements. U.S. EPA has also encouraged water utilities to use modern analytical planning tools to support deployment of greener, more sustainable, better integrated water infrastructure improvements to help implement NPDES permit requirements. Asset Management Plans are useful tools for achieving more consistent performance of the pollutant control systems used to achieve compliance with permits, thereby providing improved protection of the environment, while also minimizing the costs associated with the operation of these systems.

A retrofit program identifies, prioritizes, upgrades, or replaces existing best management practices where there is a lack of adequate stormwater treatment. Retrofit also includes the correction of prior design or performance deficiencies, improving recharge and infiltration performance, addressing pollutants of concern, and demonstrating new technologies. A retrofit program is necessary to mitigate the ongoing effects of pollutants discharged in runoff from existing Department roadways. Such programs are a recommendation of EPA's MS4 Permit Improvement Guide (EPA 833-R-10-001).

A9.3.6 Non-Departmental Activities

This Order continues the previous permit requirements for oversight of non-Departmental projects and activities. The Department's responsibility includes oversight of construction projects or other activities conducted by a third party

within the Department's right-of-way. The Department is responsible for runoff from all non-Department projects and activities in its right-of-way unless a separate permit is issued to the other entity. At times, local municipalities or private developers may undertake construction projects or other activities within the Department's right-of-way. The Department may exercise control or oversight over these third-party projects or activities through encroachment permits or other means.

A9.3.7 Non-Stormwater Discharges

A9.3.7.1 Spills, Illegal Connections, Illicit Discharge, and Illegal Dumping

U.S. EPA defines non-stormwater discharges (40 C.F.R. 122.26(b)(2)) as dry weather flows that do not originate from precipitation events. Non-stormwater discharges are illicit discharges and are prohibited by federal regulation (40 C.F.R. section 122.26(d)(2)(iv)(B)(1)) unless exempted or separately permitted. This Order requires the Department to develop and implement procedures for all non-stormwater discharges, including spills, illegal connections, illicit discharge, and dumping. This Order requires that the Department include procedures for response to report of illicit discharges.

A9.3.7.2 Agricultural Return Flows

U.S. EPA regulations (40 C.F.R section 122.26(b)(2)) conditionally exempt municipal separate storm sewer systems from the requirement to prohibit "irrigation water" discharges to the municipal storm sewer system. The term "irrigation water" is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department's right-of-way. Agricultural return flows cannot be regulated by an NPDES permit (40 C.F.R section 122.3(f)); therefore, it is unlikely that agricultural return flows were intended to be treated as "illicit discharges" under the federal municipal separate storm sewer system regulations.

In discussing illicit non-stormwater discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: "The CWA prohibits the point source discharge of non-stormwater not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal." (55 Federal Register 47996). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition

of a point source discharge (33 United States Code 1362(14)) 33 United States Code section 1342(l)(1) states that an NPDES permitting agency "shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture." Accordingly, agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-stormwater discharges. First, the illicit discharge prohibition acts to prevent non-stormwater discharges "into the storm sewers." (33 United States Code section 1342(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language, a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the municipal separate storm sewer system. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the municipal separate storm sewer system, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 C.F.R section 122.26(d)(2)(iv)(B)(1), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the municipal separate storm sewer system does not render it an illicit discharge subject to the effective prohibition. See *Fishermen Against the Destruction of the Environment, Inc. v. Closter Farms, Inc.* (Eleventh Circuit 2002) 300 F.3d 1294.

Second, even assuming that the agricultural return flow co-mingling with a point source discharge after entering the municipal separate storm sewer system would trigger the requirements related to non-stormwater discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's municipal separate storm sewer system would generally not co-mingle with discharges other than exempt non-stormwater discharges. Further, agricultural return flows entering a municipal separate storm sewer system, while not regulated by an NPDES permit, are throughout much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt municipal separate storm sewer systems from addressing non-stormwater discharges that are regulated by an NPDES permit. Flows to the Department's municipal separate storm sewer system regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism

for these discharges is the non-point source regulatory programs and not a municipal stormwater permit.

A9.3.8 Training Program

This Order continues the previous permit requirements for an operator training program. Federal NPDES stormwater regulations (40 C.F.R. section 22.26(d)(2)(iv)(D)(4)) require appropriate educational and training measures for construction site operators.

A9.3.9 Public Education and Outreach

This Order continues the previous permit requirements for public education and outreach. Federal NPDES stormwater regulations require the development and implementation of a public education and outreach program (40 C.F.R. section 122.26(d)(2)(iv)(B)(6)) that includes a description of educational activities and public information activities in the stormwater management program.

A9.3.10 Post-Construction Requirements

This Order generally continues the previous permit post-construction requirements. Federal NPDES stormwater regulations (40 C.F.R. section 122.26(d)(2)(iv)(A)(2)) require municipal stormwater permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. This Order requires the Department to implement post-construction requirements.

- Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements of the Order are “effluent limitations” as defined by 33 United States Code 1362(11).
- Waters of the United States supporting beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under section 156.1 of the California Streets and Highways Code reporting on the Department’s progress in locating, assessing, and remediating barriers to fish passage.
- This Order also emphasizes low impact development, a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other

conveyances to a centralized stormwater facility, low impact development uses site design and stormwater management to maintain the site's pre-project runoff rates and volumes by infiltrating, filtering, storing, evaporating, and detaining runoff close to the source.

On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Stormwater Mitigation Plans related to new development and redevelopment (Order WQ 2000-11). The Standard Urban Stormwater Mitigation Plan in that case included a list of best management practices and design standards for post-construction best management practices for specific categories of new development and redevelopment projects. The numeric design standard created objective and measurable criteria for runoff that must be treated or infiltrated by best management practices.

While this Order does not regulate construction activities, this Order does regulate the post-construction stormwater runoff pursuant to municipal stormwater regulations. Standard Urban Stormwater Mitigation Plans are addressed in this Order through the numeric sizing criteria that apply to treatment best management practices at specified new and redevelopment projects and through requirements to implement low impact development through principles of source control, site design, and stormwater treatment and infiltration. The low impact development requirements, post-construction requirements for impervious surfaces, and the design standards in this Order are consistent with the previous permit and comply with the requirement for the development of a Standard Urban Stormwater Mitigation Plan. The Order also provides the Department with an alternative compliance method for complying with the numeric sizing criteria for projects where on-site treatment is infeasible, discussed later in this Fact Sheet.

Attachment C of this Order (Stormwater Management Plan requirements) specifies a decrease in the previous permit post-construction requirement trigger for redevelopment projects that create new impervious surface area - from a 1-acre trigger to a 10,000 square feet trigger. This threshold value and corresponding requirements are equivalent to standards established in other state permits for post-construction stormwater requirements that apply to transportation projects. Similarly, the State Water Board's statewide NPDES Phase II Municipal Separate Storm Sewer System Order requires a threshold of 5,000 square feet for all development projects that create or replace new impervious surface for public road projects. Furthermore, the Phase I Municipal Separate Storm Sewer System Permits issued by the Regional Water Boards have much smaller threshold values for post-construction treatment requirement threshold values as listed below:

- North Coast Regional Water Board threshold: 5,000 square feet,

- Central Coast Regional Water Board threshold: 2,500 square feet,
- Los Angeles Regional Water Board threshold: 5,000 to 10,000 square feet,
- Central Valley Regional Water Board threshold: 5,000 square feet,
- Santa Ana Regional Water Board threshold: 5,000 square feet, and
- San Diego Regional Water Board threshold: 2,500 to 10,000 square feet.

In addition, the San Francisco Bay Municipal Regional Stormwater Permit, Order R2-2015-0049, requires a threshold of 5,000 square feet for new and redevelopment projects that create or replace impervious surface areas and road projects that replace existing impervious surface areas.

A9.3.10.1 Post-Construction Planning and Treatment Requirements

In accordance with the Clean Water Act, municipal stormwater permits must require controls to reduce the discharge of pollutants to the maximum extent practicable. Further, in Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans as a planning means to control runoff to the maximum extent practicable for construction and post-construction. These plans include a list of best management practices for specific development categories and a numeric design standard for structural or treatment control best management practices. While a Standard Urban Storm Water Mitigation Plan is not required, this Order does require the Department to plan, develop, and implement best management practices for post-construction planning.

A9.3.10.2 Site Design Pollution Prevention Best Management Practices

This Order generally continues the site design pollution prevention best management practices requirements from the previous permit by using a sustainable practice that benefits water supply and contributes to water quality protection. In January 2005, the State Water Board passed Resolution 2005-0006 declaring sustainability of water and environmental resources a core value and directed staff to consider sustainability in all future policies, guidelines, and regulatory actions. This was further expanded by State Water Board Resolution 2008-0030, which directed Water Board staff to promote and prioritize stormwater management techniques to maintain or restore natural hydrologic functions by detaining water on site, filtering out pollutants, and facilitating infiltration of water into the ground.

A9.3.10.3 Post-Construction Long-Term Operation and Maintenance Plans

This Order continues the requirements for post-construction operation and maintenance plans from the previous permit. Federal NPDES stormwater regulations (40 C.F.R section 122.26(d)(2)(iv)) require dischargers to develop and implement a program for post-construction discharges from all new development and redevelopment projects, which will ensure long-term operation and maintenance of these controls.

A9.3.10.4 Design Criteria for Redevelopment Projects

This Order continues sustainability criteria from the previous permit. On January 20, 2005, State Water Board adopted sustainability as a core value for all Water Boards' activities and programs and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the low impact development techniques required by this Order.

The requirements of this Order facilitate the implementation of low impact development strategies to protect water quality, reduce runoff volume, and to promote sustainability. The proper implementation of low impact development techniques results in water quality protection benefits and a reduction of land development and construction costs, enhances property values, and improves habitat, aesthetic amenities, and quality of life. Properly implemented low impact development techniques reduce the volume of runoff leaving a newly developed or redeveloped area, which lowers the peak rate of runoff. Thus, the adverse effects of hydromodification on stream habitat is minimized.

Unlike traditional stormwater management, which collects and conveys stormwater runoff through storm drains, pipes, or other conveyances to a centralized stormwater facility, low impact development takes a different approach by using site design and stormwater management to maintain the site's pre-development runoff rates and volumes. The goal of low impact development is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. Low impact development has been a proven approach in other parts of the country and is seen in California as an alternative to conventional stormwater management.

Low impact development is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, low impact development needs to be integrated with watershed planning and appropriate land use programs. Low impact development by itself will not deliver all the water quality outcomes

desired; however, it does provide enhanced stormwater treatment and mitigates increased volume and flow rates.

The requirements of this Order approach low impact development through source control design principles, site design principles, and stormwater treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all the stormwater treatment and infiltration principles identified in this Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

A9.3.10.5 Alternative Compliance Projects Located Within or Outside the Right-of-Way

This Order provides an alternative method for complying with the numeric sizing criteria for projects where on-site treatment is infeasible. Under the alternative method, compliance may be achieved outside the Department's project limits, either within or outside the Department's right-of-way, including within another Department project. An alternative compliance project may be implemented pursuant to a cooperative agreement with another entity. Alternative compliance projects should be designed, if possible, to treat the same pollutant-waterbody combinations within the same watershed as an on-site project would have treated.

A9.3.10.6 Hydromodification

The Department's development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The potential impacts of hydromodification by Department projects shall be assessed in the project planning and design stage, and measures shall be taken to mitigate them.

The hydromodification requirements in this Order are "effluent limitations," which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources.

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphic-based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral

and vertical stability. Assessing Stream Channel Stability at Bridges in Physiographic Regions was published by the Federal Highway Administration in July 2006. Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

A9.3.11 Stream Crossing Design Guidelines

This Order requires compliance with Article 3.5 of the California Streets and Highways Code. This requirement is continued from the previous permit. Article 3.5 of the Streets and Highways Code requires the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the state highway system. The Department is also required to prepare an annual report to the legislature on the status of the Department's efforts in locating, assessing, and remediating barriers to fish passage.

A9.3.12 Climate Change Impacts

On September 18, 2007, State Water Board adopted Resolution No. 2007-0059 which identified initial actions for climate change response. Water Boards are committed to careful consideration of climate change strategies to further our ability to preserve, enhance, restore the quality of California's water resources, and to ensure their proper allocation and efficient use for the benefit of present and future generations. On March 7, 2017, the State Water Board adopted Resolution 2017-0012, which requires identification of vulnerabilities due to climate changes impacts and identifies the need to modify permit requirements to reduce the vulnerability of water and wastewater infrastructure to flooding, storm surge, and sea level rise. The Resolution encourages all State Water Board and Regional Water Board staff to consider requiring the protection of coastal infrastructure, such as stormwater treatment best management practices, from sea level rise in permits and other Board decisions. This Order requires the Department to comply with climate change requirements in the update and implementation of its Stormwater Management Plan.

A9.3.13 Storm Sewer Mapping

The previous permit did not require storm sewer mapping; however, the Department does maintain storm sewer maps. This Order requires the Department to continue with its electronic sewer mapping, and to provide data layers with best management practices survey coordinates (e.g., geographic information system coordinates), type of best management practices, and significant design criteria (e.g., flow capacity, pollutant) to the State Water Board.

A9.3.14 Measurable Objectives

This Order continues the previous permit requirement for the Department to annually evaluate the effectiveness and adequacy of the stormwater program, which includes an annual self-audit of the stormwater management program. The audit is intended to determine the effectiveness of the stormwater and non-stormwater programs through the evaluation of factors and program components.

A9.4 Statewide Trash Provision Requirements

Statewide Trash Provisions

In 2015, the State Water Board adopted Resolution 2015-0019 amending the Water Quality Control Plan for Ocean Waters of California, and Part 1 of the Water Quality Control Plans for Inland Surface Waters, Enclosed Bays, and Estuaries of California to include statewide provisions for the control of trash, which are hereinafter referred to as the Trash Provisions. The Trash Provisions, which became effective December 2, 2015, include a new water quality objective stipulating that "Trash shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance," as well as a statewide prohibition on the discharge or the deposition of trash to waters of the State. Compliance with the prohibition of discharge and deposition of trash is achieved through implementation of the requirements of this Order and any other applicable NPDES permits or waste discharge requirements.

The Trash Provisions require the Department to comply with the prohibition of trash discharge by installing, operating, and maintaining any combination of certified full capture systems, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas. Where certified full capture systems are not installed, the Department shall demonstrate that such combinations of other treatment controls, and/or institutional controls achieve full capture system equivalency. Certified full capture systems are those that are certified by the State Water Board Executive Director. Certified full capture systems include both trash treatment control devices and multi-benefit treatment systems. Certified full capture systems are listed on the State Water Board's Trash Implementation Program website (www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html). Additionally, the Department and other municipal separate storm sewer system permittees that are subject to the Trash Provisions shall coordinate their efforts to install, operate, and maintain full capture systems, other treatment controls, and/or institutional controls in significant trash generating areas and priority land uses.

Trash requirements subject to the Trash Provisions are provided in Attachment E of this Order. The Department is required to demonstrate full compliance with the Trash Provisions by no later than December 2, 2030, and to comply with trash reduction milestones in this Order.

The Department's Ongoing Trash Compliance Activities

The San Francisco Bay Regional Water Board adopted Cease and Desist Order R2-2019-0007 on February 13, 2019, requiring the Department to control trash from 8,800 acres of right-of-way by June 30, 2026, and from all significant trash generating areas by December 3, 2030. This Order does not alter the enforceability or effectiveness of the Cease and Desist Order. This Order additionally does not take the place of any provisions or any Regional Water Board Cease and Desist Order, including Cease and Desist Order R2-2019-0007.

The Los Angeles Water Board adopted 15 trash TMDLs, initiating with the Ballona Creek and Los Angeles River watersheds in the early 2000s. Since 2007, the Los Angeles Water Board implements its trash TMDLs through municipal separate storm sewer system permits, requiring capture of >5-millimeter particles from 1-year, 1-hour storms within the urbanized watersheds. The trash TMDLs include compliance strategies to achieve waste load allocations, which include the use of devices in storm drains or catch basins to collect trash.

Installation of full capture trash devices has decreased trash in the Los Angeles River Watershed. Progress has been made through the implementation of trash TMDLs in municipal stormwater permits. The Los Angeles Water Board reports that trash controls are fully implemented for most affected watersheds.

This Order implements the Los Angeles Water Board trash TMDLs where the Department is listed as a responsible party. The Los Angles Water Board trash TMDL requirements are provided in Attachment D of this Order. The Trash Provisions explicitly do not apply to the areas addressed by these TMDLs. The Department is named as a responsible party in the trash TMDLs for Los Angeles River; Ballona Creek; Los Angeles Area Lakes, Peck Road Park Lake; Los Angeles Area Lakes, Echo Park Lake; Los Angeles Area Lakes, Legg Lake; Machado Lake; Malibu Creek Watershed; Revolon Slough and Beardsley Wash; Santa Monica Bay Nearshore and Offshore; and Ventura River Estuary trash TMDLs.

Water Code section 13383 Order Dated June 1, 2017

On June 1, 2017, the State Water Board issued a Water Code section 13383 Order (13383 Order) which required the Department to submit a Trash Implementation Plan. In response, the Department submitted a Trash

Implementation Plan in 2018 that reported 19,983 acres of significant trash generating areas within its right-of-way. The Department submitted a revised Statewide Trash Implementation Plan in 2019, in which the Department reported a revised area of 16,445 acres of significant trash generating areas within its right-of-way.

The Department's Revised Statewide Trash Implementation Plan

The Department's Trash Implementation Plan provides an overview of its trash assessment methodology. The Department determined that approximately 6,000 of its 15,000 highway miles are located in urbanized areas (undefined). The Department then conducted a "desktop analysis" that reduced the number of highway miles subject to visual trash assessment to approximately 500 miles. The Department conducted visual trash assessment on the 500 miles based, partially, on the Bay Area Stormwater Management Agencies Association on-site visual trash assessment protocol. This protocol was sponsored by the State Water Board by a grant to Bay Area Stormwater Management Agencies Association. This protocol provides a proven and reliable method of determining trash generation rates within permitted municipal separate storm sewer systems and is already being used in the San Francisco Bay Regional Water Board's Phase I municipal permit. Although not specifically developed for the Department's right-of-way, the protocol may serve as a foundation for the Department's visual trash assessment for its right of-way within permitted municipal separate storm sewer systems.

The Department's "desktop analysis" applied seven data sources in determining areas within its right-of-way eligible for visual trash assessment. These data sources were placed in an algorithmic model for analysis. In general, none of the data sources appear to be strong indicators of trash generation at specific locations, nor did the Department provide supporting literature or citations that support using these data sources to determine significant trash generating areas.

The State Water Board Executive Officer did not approve the Department's revised Statewide Trash Implementation Plan because the Department's desktop analysis omitted trash assessment from significant portions of the Department's right-of-way throughout the state.

Three of the data sources used in the Department's "desktop analysis" are inconsistent with the Trash Provisions, as described below:

1. The Department's Trash Implementation Plan data source for urbanized areas excludes urbanized areas with populations of less than 50,000. As a result, approximately 175 permitted municipal separate storm sewer systems with a population under 50,000 that are regulated under the statewide Phase

II Small Municipal Permit, and an unknown number of permitted municipal separate storm sewer systems under the various Phase I Large Municipal Permits were excluded. Although the Trash Provisions do not define urbanized areas, the Trash Provisions apply to all permitted municipal separate storm sewer systems. With the exception of municipal separate storm sewer systems that are designated for permit coverage, Federal regulations require urbanized areas with populations of 10,000 or more to be permitted. Urbanized areas are defined by the United States Census Bureau. There is no basis to exclude urbanized areas with populations of less than 50,000 from the Department's trash assessment.

2. The Department's Trash Implementation Plan data source for traffic volume excluded highway segments without "high traffic volume." The definition of "high traffic volume" is not provided. As a result, highways with low traffic volume, which would more likely be located in highways within urbanized areas with populations of 50,000 or more were excluded from this data source. The Trash Provisions do not include a reference to traffic volume, and the Department presented no supporting documentation that relates to traffic volume and significant trash generating areas.

3. The Department's Trash Implementation Plan excludes its right-of-way at locations in the San Juaquin valley where its stormwater is discharged to permitted municipal separate storm sewer systems The Trash Provisions require each permitted municipal separate storm sewer systems to reduce its own trash discharges independent of whether downgradient permitted municipal separate storm sewer systems may be implemented trash reduction measures that are capable of treating the Department's trash discharges

Trash Assessment Methodology

To demonstrate compliance with this Order, this Order requires the Department to develop and submit a Trash Assessment Methodology to the State Water Board Executive Director for review and consideration of approval. The Trash Assessment Methodology Plan must provide a systematic approach in determining the Department's significant trash generating areas that accumulate trash in substantial amounts, to demonstrate annual trash reduction, and to determine full capture equivalency as required by the Trash Provisions.

The Trash Provisions require the Department to develop a trash assessment methodology that is technically acceptable and defensible. The Department's current "desktop analysis" resulted in no significant trash generating areas within urbanized areas with populations less than 50,000, no significant trash generating areas identified in entire and/or partial highway corridor within urbanized areas with populations greater than 50,000 (i.e., Interstate 210), and

numerous highway segments omitted from a highway corridor identified as significant trash generating areas. This Order requires the Department to utilize a Trash Capture Rate approach for its right-of-way within permitted municipal separate storm sewer systems. The approach may either utilize the protocol developed by the Bay Area Stormwater Management Agencies Association or an equivalent alternative. This Order requires the Department to further refine its "desktop analysis" used to determine significant trash generating areas in areas of its right-of-way outside of permitted municipal separate storm sewer systems.

As discussed above, the Department's Trash Implementation Plan excludes its right-of-way at locations in the San Joaquin valley where its stormwater is discharged to permitted municipal separate storm sewer systems. The Department shall identify significant trash generating areas within its right-of-way that discharge to permitted municipal separate storm sewer systems. However, the Department may exclude implementing trash reduction measures for its discharges to permitted municipal separate storm sewer systems under the condition that it receives written confirmation from the permitted municipal separate storm sewer systems that the Department's trash discharge is accepted and will not impact the permitted municipal separate storm sewer systems ability to comply with the Trash Provisions.

Trash Assessment Methodology Within Municipal Systems

The intent of the Trash Provisions is to ensure that the Department identifies and treats all areas within its jurisdiction where trash accumulates in substantial amounts. This Order specifically requires the Department to include within its Trash Assessment Methodology an assessment of all highway segments and highway on- and off-ramps within permitted municipal separate storm sewer systems. This requirement ensures that these locations are identified, assessed to determine the presence of substantial trash accumulation, and included for trash treatment control when necessary.

The Trash Provisions preface the list of the Department's four defined areas where trash may accumulate in substantial amounts with a "such as," which means the list does not exclude other areas within the Department's jurisdiction that generate substantial trash. In addition, the Trash Provisions allow the permitting authority (i.e., the State Water Board) to determine additional specific land uses or locations that may generate substantial trash. This Order is exercising this authority to require the Department to revise its unapproved revised Trash Assessment Methodology for the following reasons:

1. The Trash Provisions define the Department's significant trash generating areas as those highways and highway on- and off-ramps in Priority Land Uses. Priority Land Uses only located within the jurisdiction of a municipal separate storm sewer system permittees are the responsibility of the

municipal separate storm sewer system permittees. With some exceptions, the Department's highways are generally not 'in' these Priority Land Uses (but may be near or in the vicinity).

2. The Department's highways are generally isolated via barriers and/or grading from the Priority Land Uses. Unlike an urban street, there is little transfer of trash from the Priority Land Uses to the highway. Trash accumulation on most of the Department's highways is substantially generated from highway users. These users consist of commercial vehicles, local and regional commuters, and other local and long-distance travelers.
3. Studies pertaining to the Los Angeles Regional Water Board's TMDLs demonstrate that trash is present in substantial amounts throughout the highway system within municipal separate storm sewer systems without regard to near-by priority land uses, population densities, or traffic volumes.
4. The San Francisco Regional Water Board required the Department to assess its entire highway system in the Bay Area. The assessment found that trash is present in substantial amounts throughout the highway system within the jurisdiction of the municipal separate storm sewer systems without regard to near-by priority land uses, population densities, or traffic volumes.
5. Based upon the studies above, trash generally accumulates on the Department’s highway segments within municipal separate storm sewer systems without a direct relationship with nearby Priority Land Uses, population, or traffic volumes.
6. The Department’s Trash Implementation Plan’s determination of significant trash generating areas in municipalities only assessed portions of the Department’s right-of-way in urbanized areas. Urbanized Areas are defined by the Census Bureau as areas with a population of 50,000 or more**.** However, many municipalities with populations of less than 50,000 are regulated by this Order. As a result, portions of the Department’s right-of-way that pass through approximately 175 permitted municipal separate storm sewer systems with a population under 50,000 that are regulated under the statewide Phase II Small Municipal Permit, an unknown number of permitted municipal separate storm sewer systems under the various Phase I Large Municipal Permits, and an unknown number of unpermitted municipalities and other areas were excluded from the Department’s trash assessment. The Trash Provisions apply to the Department’s entire right-of-way. There is no basis to exclude portions of the Department’s right-of-way that pass through municipalities with populations of less than 50,000 from the Department’s trash assessment.
7. Requiring the Department to visually assess all highways and on- and off-ramps within permitted municipal separate storm sewer systems does not

impose a substantial burden on the Department. If the visual assessment demonstrates that no substantial amounts of trash are generated in these areas, the Department is not required to include these areas when conducting trash migration efforts.

8. Identifying all Department locations within permitted municipal separate storm sewer systems that generate substantial trash, will complement coordination efforts by the Department and municipal separate storm sewer system permittees to install, operate, and maintain trash treatment controls.

The Trash Provisions require the Department to report whether trash in the receiving waters has decreased from the previous year. This Order does not stipulate receiving water monitoring, however, instead requires the Department to report any receiving water monitoring that it may voluntarily conduct. As discussed above, receiving water monitoring is unlikely to demonstrate the Department's compliance with this Order as the Department is generally one of many sources of trash in any watershed.

Full Capture System Equivalency

In accordance with the Trash Provisions, this Order requires the Department to demonstrate full capture system equivalency. Full capture system equivalency is the trash load that would have been reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the Department's right-of-way identified as significant trash generating areas. Full capture system equivalency is a trash load reduction target that the Department quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of the State Water Board Executive Director. The full capture system equivalency approach shall be included in the Department's Trash Assessment Methodology.

A9.5 Monitoring Requirements

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.449(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachment F, Monitoring Requirements, establishes monitoring requirements that implement federal and State laws and regulations.

This Order includes monitoring requirements in accordance with the federal Sufficiently Sensitive Methods Rule, requiring NPDES permittees to use analytical test methods with minimum levels that are at least as sensitive as effluent limitations or action levels in accordance with applicable permit requirements and corresponding best management practices. The Sufficiently

Sensitive Methods requirements are in accordance with 40 C.F.R. sections 122.41(j)(4) and 122.44(i)(1)(iv).

State Water Board Order 2012-0011-DWQ included discharge characterization monitoring requirements at priority discharge locations for stormwater discharges from the Department's right-of-way to Areas of Special Biological Significance. Monitoring requirements of Order 2012-0011-DWQ also included characterization monitoring of untreated runoff to determine whether the Department's stormwater discharges to any Areas of Special Biological Significance can cause or contribute to any exceedances of natural ocean water quality. The Department has fulfilled its monitoring requirements for stormwater discharges to the Areas of Special Biological Significance specified in Order 2012-0011-DWQ.

A9.6 Reporting Requirements

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Attachment G, Summary of Reporting Requirements, summarizes the reporting, and recordkeeping requirements in this Order that implement federal and State laws and regulations.

The electronic reporting requirements in this Order are based on U.S. EPA's NPDES Electronic Reporting Rule (40 C.F.R. section 127). The Rule requires electronic reporting in lieu of paper-based reporting. On April 30, 2019, U.S. EPA's NPDES Electronic Reporting Rule was updated to include electronic reporting consistent with municipal separate storm sewer system regulations. This Order implements the Rule similar to implementation for other NPDES permittees regulated by the State and Regional Water Boards.

A9.7 Total Maximum Daily Loads

Clean Water Act section 303(d) requires States to identify waters that do not comply with water quality standards after applying certain required technology-based effluent limits (impaired water bodies). States are required to compile this information in a list and submit the list to U.S. EPA for review and approval. This list is known as the section 303(d) list of impaired waters.

As part of the 303(d)-listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations for point sources of pollution, the load allocations for nonpoint sources of pollution, the contribution from background sources of pollution, and a margin of safety. The State and Regional Water Boards monitor and assess water quality, to prepare the section 303(d)

list, and to subsequently develop TMDLs. TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Water Quality Control Plan amendments. TMDLs developed by U.S. EPA typically contain the total waste load and load allocations required by section 303(d), but do not contain comprehensive implementation provisions.

The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. The applicable TMDLs assign mass-based or concentration-based waste load allocations and load allocations for constituents contributing to water body impairments in specific regions; however, in some cases the TMDLs do not assign allocations specific to the Department, nor do the TMDLs specify the portion of the Department's contribution to the impairment.

During the implementation of the previous permit (Order 2012-0011-DWQ), the Department prioritized all reaches in the 84 TMDL watersheds for which the Department had responsibility for implementation of source control measures and best management practices. Since the previous permit was adopted, four more TMDLs were adopted by the Regional Water Boards or were established by the U.S. EPA, with which the Department has the responsibilities to comply. This Order also requires the Department to update its existing TMDL Reach Prioritization List to include the four new TMDLs, as described in Attachment D. The four new TMDLs include the Los Angeles Water Board's San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL; the San Francisco Bay Water Board's Pescadero-Butano Watershed Fine Sediment TMDL; the San Francisco Bay Water Board's Petaluma River Bacteria TMDL; and the San Diego Water Board's Los Peñasquitos Lagoon Sediment TMDL.

The previous permit implemented a "compliance unit" process to track the Department's implementation of treatment of TMDL pollutants. The previous permit required the Department to earn 1,650 compliance unit credits per year. One compliance unit was awarded to the Department for: (1) every acre of right-of-way treated for TMDL pollutants through the implementation of best management practices, or (2) every $88,000 contributed to cooperative implementation projects. Due to the amount of acreage to be treated and the limitations of the Department's budget, the State Water Board provided the Department up to 2034 to earn all the compliance units required, and to comply with all the applicable TMDLs.

The State Water Board and the Department determined that it was appropriate to require the Department to directly demonstrate compliance with applicable waste load and load allocations without a secondary tracking process; therefore, this Order does not continue the "compliance unit" process of the previous permit.

Direct demonstration of compliance with TMDL requirements ensures that the Department's budget for implementing best management practices in TMDL areas is spent for projects that address the Department's TMDL obligations.

Where there is more than one responsible party in a TMDL, Department-specific waste load allocations may be a portion of the total waste load allocation. Where Department-specific waste load allocations are incorporated into this Order, the Department shall comply with the waste load allocations. Waste load allocations are not transferable between the Department and another responsible party. Waste load allocations are not transferable between TMDLs or TMDL watersheds. Where a Department-specific waste load allocation or attainment strategy is not defined in a TMDL or in this Order, the Department may propose an approach that addresses its responsibility as determined by one of the following methods, if the chosen method is consistent with the underlying waste load allocation and as reviewed and approved by the Executive Director in consultation with the applicable Regional Water Board Executive Officer: (a) a TMDL watershed group's modeling results, (b) proportional land-area, (c) proportional flow, (d) as determined in a Regional Water Board's Basin Plan, or (e) other method. This Order does not allow the Department to calculate a Department-specific waste load allocation based on the amount of funding it provides towards a compliance project. While funding is an important consideration as the Department chooses projects, funding does not correlate directly to the water quality-based requirements of the TMDLs.

Some TMDLs that are applicable to the Department have established compliance deadlines that have passed or will pass in the near future. The Department may need more time to demonstrate compliance with applicable waste load and load allocations. The State Water Board therefore adopted Time Schedule Order 2022-0089-DWQ, providing the Department until December 31, 2034, to demonstrate compliance with 63 TMDLs with which the Department cannot, or may not, comply by the corresponding TMDL-specific deadline. Providing the Department with a time schedule order is consistent with the previous permit determination that an extended time schedule is appropriate for the Department to come into compliance with waste load and load allocations. Additionally, in Order WQ 2015-0075, the State Water Board concluded that time schedules for TMDLs that extend beyond their established TMDL-specific compliance deadlines should be implemented through time schedule orders rather than permits.

This Order (Attachment D) and Time Schedule Order 2022-0089-DWQ require the Department to submit a TMDL Compliance Plan that addresses compliance measures the Department will implement to comply with its portion of applicable waste load and load allocations, per interim and final compliance dates.

A9.7.1 Total Maximum Daily Load Implementation Requirements and Pollutant Categories

This Order implements existing TMDLs through TMDL implementation requirements in accordance with 40 C.F.R. section 122.44(d)(1)(vii)(B), requiring NPDES permits to include effluent limitations that are consistent with the assumptions and requirements of applicable waste load allocations. Implementation requirements are not limited to the maximum extent practicable standard. In addition, Water Code section 13263(a) requires that waste discharge requirements implement any relevant Basin Plans, including existing TMDLs.

Effluent limitations for NPDES-regulated stormwater discharges that implement waste load allocations in TMDLs may be expressed in the form of best management practices. (33 United State Code section 1342(p)(3)(B)(iii); 40 C.F.R. section 122.44(k)(2)-(3).). Where effluent limitations are expressed as best management practices, the permit administrative record, including its Fact Sheet, should demonstrate that the required implementation of best management practices will be sufficient for the permittee to comply with the waste load allocations.

U.S. EPA issued a November 22, 2002, memorandum titled, *Establishing TMDL Waste Load Allocations for Stormwater Sources and NPDES Permit Requirements*, and a corresponding update on November 26, 2014. Through its memorandum, the U.S. EPA states that permitting authorities have flexibility with the implementation of waste load allocations in stormwater permits including best management practices or numeric effluent limitations. The updated memorandum stressed the importance of clear, specific, and measurable effluent limits and recommended that when feasible, numeric effluent limits be used. (40 C.F.R. sections 124.8, 124.9 and 124.18.)

NPDES permits must also specify the monitoring necessary to determine compliance with permit limitations. (40 C.F.R. section 122.44(i).) Where effluent limitations are specified as best management practices, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to best management practice implementation are achieved (e.g., best management practice performance data). The permit should additionally provide a mechanism to adjust the required best management practices as necessary to ensure their adequate performance.

As the sole discharger in this Order and as the owner and operator of the statewide highway transportation system that spans across the entire state, the Department’s responsibility to comply with TMDLs administered by nine Regional Water Boards poses a unique permitting challenge. Many of the TMDLs are designed to address the same pollutants causing impairment, and

progress in achievement of the waste load allocations for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. Each pollutant category has associated best management practices. The pollutant categories are as follows:

- Sediment/nutrients/mercury/silt/turbidity
- Metals/toxic pollutants/pesticides
- Trash
- Bacteria
- Diazinon
- Selenium
- Temperature
- Chloride

Tables D-1, D-2, and D-3 in Attachment D of this Order list all the TMDLs applicable to the Department.

A9.7.2 Cooperative Implementation Agreements

The Department participates in cooperative implementation agreements with other agencies/parties to implement projects that result in or progress towards compliance with TMDLs. In most instances, the agreements address a watershed approach to compliance, and the Department's participation is through contributing project funding. This Order allows the Department to comply with its TMDL obligations, through cooperative projects. The Department may satisfy some or all of the Department's TMDL obligations through projects outside of the Department's right-of-way, provided that the projects, either alone or in combination with other dischargers' projects in the watershed, are consistent with attaining the waste load allocations for the watershed.

A9.7.3 Table of Total Maximum Daily Loads by Regional Water Board and Pollutant

Table 1, below, lists each TMDL applicable to the Department by water body, pollutant, and the date that the TMDL was either established or approved by U.S. EPA.

Table A-1. Total Maximum Daily Loads by Region, Water Body, Pollutant, and Date

Water Bodies	Pollutant	U.S. EPA Approved/Established
North Coast Region		
Albion River	Sediment	December 31, 2001

Water Bodies	Pollutant	U.S. EPA Approved/Established
Big River	Sediment	December 31, 2001
Eel River, Lower Fork	Temperature and sediment	December 16, 2007
Eel River, Middle Fork	Temperature and Sediment	December 31, 2003
Eel River, South Fork	Sediment and temperature	December 16, 1999
Eel River, Upper Main and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sediment and temperature	December 29, 2004
Garcia River	Sediment	March 7, 2002
Gualala River	Sediment	December 31, 2001
Klamath River	Temperature, dissolved oxygen, nutrient, and microcystin	December 28, 2010
Lost River	Nitrogen and biochemical oxygen demand	December 30, 2008
Mad River	Sediment and turbidity	December 21, 2007
Navarro River	Temperature and sediment	December 31, 2000
Noyo River	Sediment	December 16, 1999
Redwood Creek	Sediment	December 30, 1998
Scott River	Sediment and temperature	August 09, 2006
Shasta River	Dissolved oxygen and temperature	January 26, 2007
Ten Mile River	Sediment	December 31, 2000
Trinity River	Sediment	December 20, 2001
South Fork Trinity River and Hayfork Creek	Sediment	December 31, 1998
Van Duzen River and Yager Creek	Sediment	December 16, 1999
San Francisco Bay Region		
Guadalupe River	Mercury	June 1, 2010
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	Polychlorinated biphenyls	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
San Pedro and Pacifica State	Bacteria	August 1, 2013
San Francisco Bay Urban Creeks	Diazinon and pesticide-related toxicity	May 21, 2007

Water Bodies	Pollutant	U.S. EPA Approved/Established
Sonoma Creek	Sediment	September 8, 2010
Petaluma River	Fecal indicator bacteria	May 10, 2021
Pescadero-Butano Watershed	Sediment	May 21, 2019
Central Coast Region		
San Lorenzo River (includes Carbonera Lompico, Shingle Mill Creeks)	Sediment	February 19, 2004
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	Sediment	January 20, 2004
Los Angeles Region		
Ballona Creek	Metals (silver, cadmium, copper, lead, and zinc)	December 22, 2005; reaffirmed October 29, 2008; revised October 26, 2015
Ballona Creek	Trash	June 30, 2016
Ballona Creek Estuary	Toxic pollutants (silver, cadmium, copper, lead, zinc, chlordane, dichlorodiphenyltrichloroethane, total polychlorinated biphenyls, and total polycyclic aromatic hydrocarbons)	December 22, 2005
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria	April 27, 2007
Ballona Creek Wetlands	Sediment and Invasive exotic vegetation	March 26, 2012
Calleguas Creek and its Tributaries and Mugu Lagoon	Metals and selenium	June 9, 2017
Calleguas Creek and its Tributaries and Mugu Lagoon	Organochlorine pesticides, polychlorinated biphenyls, and siltation	March 14, 2006
Colorado Lagoon	Organochlorine pesticides, polychlorinated biphenyls, sediment toxicity, polycyclic	June 14, 2011

Water Bodies	Pollutant	U.S. EPA Approved/Established
	aromatic hydrocarbons, and metals	
Dominguez Channel, Greater Los Angeles, and Long Beach Harbor Waters	Toxic pollutants: metals (copper, lead, zinc), polychlorinated biphenyls dichlorodiphenyltrichloroethane, polycyclic aromatic hydrocarbons	March 23, 2012
Legg Lake	Trash	February 27, 2008
Long Beach City Beaches and Los Angeles and Long Beach Harbor Waters	Indicator bacteria	March 26, 2012
Los Angeles Area Lakes, Echo Park Lake	Nitrogen, phosphorus, chlordane, dieldrin, polychlorinated biphenyls, and trash	March 26, 2012
Los Angeles Area Lakes, Lake Sherwood	Mercury	March 26, 2012
Los Angeles Area Lakes, North, Center, and Legg Lakes	Nitrogen and phosphorus	March 26, 2012
Los Angeles Area Lakes, Peck Road Park Lake	Nitrogen, phosphorus, chlordane, dichlorodiphenyltrichloroethane, dieldrin, polychlorinated biphenyls, and trash	March 26, 2012
Los Angeles Area Lakes, Puddingstone Reservoir	Nitrogen, phosphorus, Chlordane, dichlorodiphenyltrichloroethane, polychlorinated biphenyls, mercury, and dieldrin	March 20, 2012
Los Angeles River and Tributaries	Metals	December 12, 2016
Los Angeles River	Trash	August 1, 2002
Los Angeles River Watershed	Bacteria	March 23, 2012
Los Cerritos	Metals	March 17, 2010
Machado Lake	Pesticides and polychlorinated Biphenyls	March 20, 2012
Machado Lake	Trash	February 27, 2008

Water Bodies	Pollutant	U.S. EPA Approved/Established
Machado Lake	Eutrophic, algae, ammonia, and odors	March 11, 2009
Malibu Creek Watershed	Bacteria	January 10, 2006
Malibu Creek and Lagoon	Sedimentation and nutrients to address benthic community impairments	July 2, 2013
Malibu Creek Watershed	Trash	July 2, 2014
Marina del Rey Harbor	Toxic pollutants	March 16, 2006
Marina del Rey, Harbor Back Basins, Mothers' Beach	Bacteria	March 18, 2014
Revolon Slough and Beardsley Wash	Trash	February 27, 2008
San Gabriel River	Metals (copper, lead, and zinc) and selenium	March 26, 2007
San Gabriel River, Estuary, and Tributaries	Bacteria	June 14, 2016
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	January 19, 2012
Santa Clara River Reach 3	Chloride	June 18, 2003
Santa Monica Bay	Dichlorodiphenyltrichloroethane and polychlorinated biphenyls	March 26, 2012
Santa Monica Bay Nearshore and Offshore	Debris (trash and plastic pellets)	March 20, 2012
Santa Monica Bay Beaches	Bacteria	July 2, 2014
Upper Santa Clara River	Chloride	June 18, 2003
Ventura River Estuary	Trash	February 27, 2008
Ventura River and its Tributaries	Algae, eutrophic conditions, and nutrients	June 28, 2013
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011

Water Bodies	Pollutant	U.S. EPA Approved/Established
Lahontan Region		
Lake Tahoe	Sediment and nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
Colorado River Region		
Coachella Valley Stormwater Channel	Bacterial indicators	April 27, 2012
Santa Ana Region		
Big Bear Lake	Nutrients for hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay	Chromium and mercury	June 14, 2002
San Diego Creek	Metals (Cadmium, copper, lead, and zinc)	June 14, 2002
Newport Bay	Copper, lead, and zinc	June 14, 2002
Upper Newport Bay	Cadmium	June 14, 2002
San Diego Creek Watershed	Organochlorine compounds (dichlorodiphenyltrichloroethane, chlordane, polychlorinated biphenyls, and toxaphene)	November 12, 2013
Upper and Lower Newport Bay	Organochlorine Compounds (dichlorodiphenyltrichloroethane, chlordane, and polychlorinated biphenyls)	November 12, 2013
San Diego Region		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved copper, lead, and zinc	December 18, 2008
Los Peñasquitos Lagoon	Sediment	October 30, 2014
Rainbow Creek	Total nitrogen and total phosphorus	March 22, 2006

Water Bodies	Pollutant	U.S. EPA Approved/Established
Project I - Twenty Beaches and Creeks in the San Diego Region, Including Tecolote Creek, Revised Total Maximum Daily Loads	Indicator Bacteria	June 22, 2011

A9.7.4 Pollutant Category—Sediment/Nutrients/Mercury/Silt/Turbidity Total Maximum Daily Load

This section provides summaries of the TMDLs applicable to the Department. The summaries are grouped first by pollutant category and second by Regional Water Board.

Note that many of the TMDLs identify the waste load or load allocations for a category of pollutant sources, but do not identify allocations specific for the Department; therefore, some TMDLs, as described below, contain waste load allocations for a group of dischargers.

General Description of Pollutant Category*:* Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, settleable material, mercury, nutrients, and turbidity in numerous receiving waters.

Sources of Pollutant and How Pollutants Enter the Waterway*:* Natural sediment sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Road-related sediment sources include construction of paved and unpaved roadways, watercourse-crossing road related activities, landslides, failing cut-banks, hydromodification, and unpaved roads. Turbidity occurs when fine sediment, referred to as silt, is suspended in a water column.

Sources of nutrients include wastewater treatment plants, septic systems, erosion and sediment, and runoff from confined and grazing animal facilities, agriculture, urban areas, timber harvesting, gravel mining, and fires.

Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, and improper disposal of man-made items such as batteries and dental amalgam that contain mercury. As of 2010, more than 180 water bodies in California are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species.

Department's Watershed Contribution: The Department's facilities include culverts, stream crossings, road cuts, paved roadways, and unpaved right-of-way areas that are adjacent to potentially erodible areas and paved roads under construction and reconstruction

Control Measures. The Department is required to continue implementing erosion and sediment controls at its facilities as identified in its best management practice program for control of pollutants and any applicable region-specific total maximum daily load requirements as discussed below.

A9.7.4.1 North Coast Water Board Sediment Total Maximum Daily Loads

Sediment TMDLs identify pollutant loads and load allocations, which in the North Coast Region typically include allocations to such sources as timber harvest, skid trails, roads, agriculture, and natural background. TMDLs use the best available information to construct source analyses, loading capacities, and assign waste load and load allocations to individual source categories. North Coast Water Board TMDLs are implemented either under Action Plans or Policies adopted by the Regional Water Quality Control Board as amendments to the Water Quality Control Plan for the North Coast Region (Basin Plan). Action Plans and Policies are amended into the Basin Plan through Resolutions of the North Coast Water Board. The TMDL Action Plans, Sediment TMDL Implementation Policy, and related Resolutions and workplans, contain the key implementation directives for sediment discharge control in the North Coast Region, as described below.

Resolution R1-2004-0087, Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region, requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards in all waterbodies, including all impaired waterbodies. It also directs the North Coast Water Board Executive Officer to develop a Sediment Workplan for sediment TMDL implementation and to rely on the use of all available authorities, including existing regulatory standards and permitting and enforcement tools, to more effectively and efficaciously pursue compliance with sediment-related standards by all dischargers of sediment waste.

A Sediment Workplan was completed on April 8, 2008. Resolution No. R1-2008-0057, Regarding the Regional Water Board Staff Work Plan to Control Excess Sediment In Sediment Impaired Watersheds, finds that the Sediment Workplan describes thirty-five regional tasks and watershed-specific tasks tailored to each of the 27 sediment impaired North Coast watersheds, including TMDLs developed by U.S. EPA. Regional tasks

include improving the Department's stormwater management plan to address excess sediment through minimization and control measures, including: (1) the inventory, prioritization, scheduling, control/fix/repair, monitoring, and adaptive management of existing excess sediment; (2) the identification and implementation of sediment control practices that will prevent and minimize future excess sediment to the maximum extent possible; (3) monitoring; and (4) adaptive management. The Basin Plan for the North Coast Region contains specific TMDL Action Plans for certain watersheds, which are consistent with the direction provided in the Sediment TMDL Implementation Policy.

More specifically, TMDLs include identification of sediment sources, calculations, loading capacity, and load allocations. The purpose of each TMDL is to identify the amount of sediment (total load) that can be delivered to the river without causing exceedance of water quality standards and to allocate the total load among the identified sources. Roads represent a significant source category for sediment pollution in the North Coast Region. The current load estimates, load allocations, and percent reductions shown in Table A-2, below, and reiterated in Attachment D are based on information contained in the adopted TMDLs, watershed areas, and the Department's right-of-way areas within watersheds.

The North Coast Water Board Water Quality Control Plan has the following narrative water quality objectives, described below, which apply to sediment-related discharges to receiving waterbodies.

Sediment Related Discharge Narrative Water Quality Objectives

Parameter	Water Quality Objectives
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Parameter	Water Quality Objectives
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

This Order incorporates the requirements of the North Coast Water Board Sediment Workplan through sediment control measures, monitoring, and reporting.

In Table A-2, the sediment load estimates, load allocations, and percent reductions are based on information contained in the adopted total maximum daily loads. The TMDLs adopted by U.S. EPA that contain load allocations for road sources did not separately identify waste load allocations for the Department's NPDES-regulated contributions. Instead, the Department's contributions are included in the load allocations. The Department must address its portion of those load allocations as it would a waste load allocation assigned to the Department specifically. To account for the paved nature specific to Department highways, where surface erosion was incorporated into the road source category, the road surface erosion was removed from current sediment loads and load allocations. In certain TMDLs, non-road source categories were aggregated with road source categories. In these cases, staff used information in the TMDL source analyses with best professional judgement to assign only non-surface erosion road source categories to the Department. The North Coast Water Board staff calculated the watershed area, and the Department provided its right-of-way areas for each TMDL watershed.

The Department's sediment load reduction is shown in the table, below, which was calculated by the North Coast Water Board staff. Further details and rational for the following Department-specific allocations are further discussed in this section.

Sediment Load Reduction = Existing Load – Load Allocation

Table A-2. Department-Specific Sediment Loads in the North Coast Water Board Region

TMDL Name	Existing Load (tons per year)	Load Allocation (tons per year)	Reduction Needed (%)	Sediment Load Reduction (tons per year)
Albion River	7	2	74	5
Big River	193	44	77	149

TMDL Name	Existing Load (tons per year)	Load Allocation (tons per year)	Reduction Needed (%)	Sediment Load Reduction (tons per year)
Eel River, Upper Main	137	68	50	68
Eel River, Middle Fork	147	105	28	41
Eel River, Lower Main	354	74	79	280
Eel River, South Fork	8,027	4,871	73	13,157
Garcia River	251	100	60	150
Gualala River	171	21	88	150
Mad River	4,595	515	88	4,056
Navarro River	2,868	1,364	52	1,504
Noyo River	116	33	71	83
Redwood Creek	5,337	856	84	4,481
Scott River	153	67	57	87
Ten Mile River	5	1	76	4
Trinity River	7,725	89	85	6,875
Trinity River, South Fork	1,983	358	82	1,625
Van Duzen River	447	68	85	379

The sediment load allocations are calculated as follows and as shown in Table A-3:

Department Sediment Load Allocation (tons per year)

= [(Watershed Road Sediment Load Allocation} *minus* (Road Surface Erosion (tons/square mile/year))]

Multiplied by

[(State Highway Length) / (Total Road Length) *times* (Watershed Area (square miles))]

State Highway lengths were determined from Department-provided global information system (GIS) map layers. Watershed area was determined by the North Coast Water Board staff using its GIS layers. Watershed total road lengths were calculated using: (1) road density listed in a TMDL or TMDL reference document; and (2) watershed area calculated using GIS for watershed described in a TMDL. See Table A-3, below, for the Department sediment load allocations.

Table A-3. Calculations of Sediment Load Allocations (tons per year)

Watershed	Watershed Area (square miles)	Road Density (miles per square mile)	Total Road Length (miles)	State Highway Length (miles)	Ratio of State Highway Length to Total Road Length (percent)	Watershed Road Sediment Load less Road Surface Erosion (tons per square mile per year)	Department Sediment Load (tons/year)	Watershed Road Sediment Load Allocation Less Road Surface Erosion (tons per square mile per year)	Department Sediment Load Allocation (tons per year)	Department Load Reduction Responsibility (tons per year)
Albion River	43	8.5	365.5	0.36	0.10%	170	7.2	44	1.9	5.3
Big River	181	6.9	1248.9	15.04	1.21%	88	191.8	20	43.4	148.4
Eel River, Upper Main	708	7.1	5026.8	45.92	0.92%	21	135.8	11	70.9	64.9
Eel River, Middle Fork	753	7.1	5346.3	19.17	0.36%	54	145.8	39	105.7	40.1
Eel River, Lower Main	300	5.8	1740.0	47.46	2.75%	43	351.9	9	73.7	278.1
Eel River, South Fork	689	3.6	2480.4	115.60	4.69%	559	17950.1	151	4848.2	13101.9
Garcia River	114	5.5	627.0	2.70	0.43%	509	249.9	204	100.0	149.9
Gualala River	299	4.8	1435.2	1.44	0.10%	570	171.0	69	20.6	150.4
Mad River[1]	374	2.2	8234.0	22.04	2.70%	455	4595.0	51	515.0	4056.0
Navarro River	316	6.6	2085.6	51.15	2.45%	370	2867.5	176	1362.6	1504.9
Noyo River	113	6.8	768.4	10.16	1.34%	77	115.0	22	32.8	82.2
Redwood Creek	282	5.4	1522.8	22.55	1.48%	1278	5336.8	205	855.6	4481.2
Scott River	814	6.2	5046.8	41.33	0.82%	23	153.3	10	66.7	86.6
Ten Mile River	120	7.9	948.0	0.95	0.10%	38	4.6	9	1.1	3.5
Trinity River[1]	1694	2.3	159.5	219.29	4.00%	7725	219.3	851	88.9	6875.0
Trinity River, South Fork	931	3.3	3072.3	52.99	1.75%	122	1959.0	22	352.3	1606.7
Van Duzen River	428	5.5	2354	46.58	1.98%	53	448.9	8	67.8	381.1

Note to Table A-3

[1] The Department's proportional responsibility for the Mad River and Trinity River are calculated at a subwatershed level and exclude subwatersheds without State Highways.

A9.7.4.1.1 Albion River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Albion River TMDL for Sediment because the river exceeds sediment water quality standards. Excessive sediment has contributed to the decline of anadromous salmonid species in Albion River.

The TMDL includes identification of sediment pollutant sources, calculations, river loading capacity, and waste load and load allocations. The purpose of the TMDL is to identify the amount of sediment that can be delivered to the river without causing exceedance of water quality standards and to allocate the total load among the identified sources.

Final* Waste *Load Allocations:

The TMDL for the Albion River and its tributaries is 412 tons per mile square per year. The load allocation for road surface erosion is 4 percent (16 tons per mile square per year) and for landslides associated with roads is 11 percent (45 tons per mile square per year). Five percent of the watershed roads are paved. The miles of State-owed paved highways are not defined.

Contribution Specific to the Department: The TMDL does not include Department-specific allocations nor proportionate contributions. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: On December 31, 2001, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2001.

A9.7.4.1.2 Big River Sediment Total Maximum Daily Load

Description: In December 2001, U.S. EPA established the Big River TMDL for Sediment because the North Coast Water Board identified Big River as impaired due to sediment. The purpose of this TMDL is to: 1) identify the total sediment load that can be delivered to the Big River and its tributaries without causing exceedance of water quality standards, and 2) allocate the total load among the sources of sediment in the watershed.

Final Waste Load Allocations: U.S. EPA set the TMDL for Big River and its tributaries equal to 393 tons per mile square per year, which is the sum of nonpoint sources plus background. The load allocation for all roads is 20 tons per square mile per year.

Contribution Specific to the Department: The TMDL does not provide a proportioned waste load or load allocation specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 31, 2001. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2001.

A9.7.4.1.3 South Fork Eel River Sediment Total Maximum Daily Load

Description: The Water Boards identified the South Fork Eel River as impaired due to sediment. Subsequently, U.S. EPA established the South Fork Eel River TMDL for Sediment on December 16, 1999, and identified the maximum allowable sediment that the stream can receive and remain in attainment with water quality standards. The primary water quality concern is protection of aquatic life due to the decline of native cold-water fish populations, such as Coho salmon, Chinook salmon, and steelhead.

Final Waste Load Allocations: U.S. EPA states there are no significant individual point sources of sediment discharge into this watershed. The TMDL includes load allocations for various sediment discharge sources and provides a load allocation for all roads of 33 tons per square mile per year.

Contribution Specific to the Department: Waste load allocations and proportional contributions specific to the Department are not specified in this TMDL On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established this TMDL on December 16, 1999. An implementation schedule was not included; therefore, the final compliance deadline was December 16, 1999.

A9.7.4.1.4 Lower Eel River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Lower Eel River TMDLs for Sediment because the Water Boards determined that the water quality standards are not met due to excessive sediment. It was established on December 18, 2007. The TMDL's primary purpose is to assure that beneficial uses of aquatic life and habitat (such as salmonid habitat) are protected from elevated levels of sediment.

The TMDL sediment source analysis for this watershed concludes that current sediment loading (based on average year rates between 1955 –

2003) is 208 percent of natural loading. Sediment delivery and erosion from human disturbance is primarily related to timber harvest.

Final Load Allocations: For the diffused permitted sources, such as stormwater runoff from the Department's facilities, and municipal, industrial stormwater, and construction sites stormwater discharges, the waste load allocation is expressed as equivalent to the load allocations, as provided in the table below. Stormwater runoff from the Department's facilities is diffused and a source of potential sediment to the waters. The potential loads are expected to generate and deliver sediment at rates that are similar to nonpoint sources.

Lower Eel River Sediment Load Allocations (tons per square mile per year)

Sediment Source	1955 – 2003 Average Annual Loading	Average Annual Load Allocation	1955 – 2003 Average Daily Loading	Average Daily Load Allocation
Natural Load Allocation	718	718	2.0	2.0
Episodic Roads	43	9	0.1	0.02
Chronic Roads	115	17	0.3	0.05
Timber Harvest	590	147	1.6	0.4
Skid Trail	7	1	0.02	0.5
Bank Erosion	21	6	0.1	0.03
Total Human-related Load Allocation	775	180	2.1	0.5
Total Load Allocations Natural and Human-Related Sources	1,493	898	4.1	2.5

Contribution Specific to the Department: Individual waste load and load allocations for sediment are not specified for the Department. The Department's relative sediment contribution and proportional contribution is unspecified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 18, 2007. An implementation schedule was not included; therefore, the final compliance deadline was December 18, 2007.

A9.7.4.1.5 Middle Fork Eel River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Middle Fork Eel River TMDL for Sediment in December 2003 in accordance with section 303(d) of the Clean Water act because the Water Boards determined the water quality standards were not attained for sediment. The primary purpose for this TMDL is to address impacts on the aquatic life beneficial uses such as salmonid habitat and the decline of salmon and steelhead populations, from detrimental increases in sediment.

Final Sediment Waste Load Allocations: U.S. EPA states that discharge from point sources cannot be readily determined, and possible loading from point sources is not distinguishable from general management-related loading; therefore, allocations set as load allocations also represent waste load allocations.

Contributions Specific to the Department: The TMDL did not assign a Department-specific sediment waste load allocation. The TMDL states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 31, 2003. Therefore, the final compliance deadline was December 31, 2003.

A9.7.4.1.6 Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) Sediment Total Maximum Daily Load

Description: U.S. EPA established the Upper Main Eel River Sediment TMDL on December 29, 2004, because the Water Boards determined that the water quality standards were exceeded due to excessive sediment. The primary purpose of this TMDL is to assure that aquatic life beneficial uses and habitat (such as salmonid habitat) are protected from adverse increases in natural sediment. The decline of salmon and steelhead populations are directly related to the sediment loading in the Upper Main Eel River and tributaries.

Final Waste Load Allocations: The load allocation for the broad category of road-related sediment source is 14 tons per square mile per year. Nonpoint sources are responsible for most sediment loading in the

watershed. A limited number of point sources may also discharge sediment. Potential loading from point sources is not distinguishable from general management-related loading; therefore, U.S. EPA set the load allocations for nonpoint sources to also represent waste load allocations for point sources applicable in NPDES permits. In the TMDL, U.S. EPA states it does not expect each square mile within a particular source category throughout the watershed to necessarily meet the load allocation; rather, U.S. EPA states it expects the watershed average for the entire source category to meet the load allocation for that category.

Contribution Specific to the Department: Current point source loads, including from the Department's facilities in the watershed are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: The TMDL was established on December 29, 2004. An implementation schedule was not included; therefore, the final compliance deadline was December 29, 2004.

A9.7.4.1.7 Garcia River Watershed Sediment Total Maximum Daily Load

Description: U.S. EPA established the Garcia River Watershed Sediment TMDL on March 16, 1998, with the purpose of identifying excessive sediment loading from accelerated erosion due to land use practices and other causes. Sediment load allocations were identified to address the corresponding impact on aquatic life, specifically the migration, spawning, reproduction, and early development of cold-water fish such as Coho salmon and steelhead trout.

Final Waste Load Allocations: The TMDL does not identify waste load allocations for "controllable" anthropogenic point source discharges of sediment from roads; load allocations for landslides of roads are 135 tons per miles square per year with primary emphasis on unpaved roads.

Contribution Specific to the Department: The TMDL load allocations for road-related sediment applies to all land use activities with a primary emphasis on unpaved county roads and/or access roads for timber and agricultural activities. This TMDL does not specify a load allocation for sediment specifically for the Department's paved roadways or other facilities within its right-of-way. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: The TMDL was established on March 16, 1998. An implementation schedule was not included; therefore, the final compliance deadline was March 16, 1998.

A9.7.4.1.8 Gualala River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Gualala River TMDL for Sediment on November 29, 2004, in accordance with section 303(d) of the Clean Water Act and the Water Boards determination that water quality standards are exceeded for excessive sediment. The TMDL was established for the protection of aquatic life such as coho salmon and steelhead trout due to human-caused erosion and sediment discharges.

Final Waste Load and Load Allocations: The TMDL does not specify waste load allocations from point sources. In the TMDL, U.S. EPA states that the sediment discharges from point sources are insignificant. Load allocations are apportioned among the categories of background and nonpoint sources of sediment such as natural landslides, natural stream bank erosion, harvest related delivery, skid trail surface erosion, road-related landslides, road-stream crossing failures, road-related gullies, and road-related surface erosion. At eighty percent, natural landslides and natural streambank erosion have the large majority of load allocation.

Contribution Specific to the Department: The TMDL does not assign a load allocation or a proportional contribution specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on November 29, 2001. An implementation schedule was not included; therefore, the final compliance deadline was November 29, 2001.

A9.7.4.1.9 Klamath River Dissolved Oxygen and Nutrients Total Maximum Daily Load

Description: On March 24, 2010, the North Coast Water Board adopted the Klamath River TMDL. U.S. EPA approved the TMDL on December 28, 2010. The Klamath River was listed as impaired for organic enrichment caused by low dissolved oxygen, nutrients, and temperature pursuant to section 303(d) of the Clean Water Act. These impairments: (1) impact beneficial uses due to the decrease the quality and quantity of suitable habitat for fish and other aquatic life, and (2) disrupt traditional cultural uses by resident Tribes.

Final Waste Load Allocations: The TMDL does not specify Department-specific waste load and load allocations for dissolved oxygen or nutrients.

Contribution Specific to the Department: The TMDL does not assign allocations or a proportional contribution specific to the Department. On January 5, 2021, the North Coast Water Board staff documented that the Department's best management practices for sediment and temperature TMDLs in the Klamath River will satisfy the waste load allocations for dissolved oxygen and nutrient TMDLs. Specifically, dissolved oxygen and nutrients are important components of the Klamath River TMDLs, however dissolved oxygen is largely a response variable related to decomposition of excessive organic matter, increased temperature, and channel simplification/degradation. Nutrient (phosphorous) and organic matter inputs are largely (75%) from regions within Oregon that are transported to the Klamath River attached to sediment particles. The sediment and temperature proportional responsibilities already assigned to Department will address the factors affecting its proportional responsibility to biostimulatory conditions in the Klamath River including temperature, dissolved oxygen, and nutrients.

Final Compliance Deadline: Final deadlines for achievement of load allocations are not specified in the TMDL or Action Plan. The TMDL was adopted on March 24, 2010; therefore, the final deadline was March 24, 2010.

A9.7.4.1.10 Lost River Nitrogen and Biochemical Oxygen Demand

Description: The Lower Lost River TMDL was established by U.S. EPA on December 20, 2008, for nitrogen and biochemical oxygen demand. The TMDL addresses the depletion of dissolved oxygen and low pH, two water quality impairments that directly impact aquatic life beneficial uses.

Final Waste Load Allocations: The TMDL assigns waste load allocations as listed in the table below. In the TMDL, U.S. EPA developed a rough estimate of loads based on best professional judgment and provided waste load allocations to account for these very small pollutant contributions. U.S. EPA states that although two state highways are in the watershed, the spatial extent of the highway facilities is very limited, and nitrogen and biological oxygen demand discharges from the highway right-of-way are expected to be relatively insignificant.

Nitrogen and Carbonaceous Oxygen Demand Loads Specific to the Department (average kilograms per day)

Segment	Dissolved Inorganic nitrogen	Carbonaceous Biochemical Oxygen Demand
Lost River from border to Tule Lake Refuge	0.3	0.5
Tule Lake Refuge	0.3	0.5
Lower Klamath Refuge	0.3	0.5

Contribution Specific to the Department: Department-specific loads are provided in the table, above.

Final Compliance Deadline: U.S. EPA established the TMDL on December 30, 2008. An implementation schedule was not included; therefore, the final compliance deadline was December 30, 2008.

A9.7.4.1.11 Mad River Sediment and Turbidity Total Maximum Daily Load

Description: U.S. EPA established this TMDL on December 21, 2007, to assure that aquatic life beneficial uses and corresponding habitats (such as salmonid habitat) are protected from detrimental increases in sediment and turbidity.

Final Waste Load Allocations*:* In the TMDL, U.S. EPA states that almost all sources of sediment in the watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations and natural background. To ensure protection of cold-water aquatic life, U.S. EPA determined it appropriate to consider the rates set forth as load allocations to also represent waste load allocations for the diffuse discharges that are regulated by point source (i.e., NPDES) permits. In addition, U.S. EPA does not expect each square mile within a particular source category, or even within each subarea or sub-watershed, to necessarily meet the load allocation; rather, the watershed and subarea averages for the entire source category are to meet the load allocation for that category.

Contribution Specific to the Department: This TMDL does not assign a proportional contribution specific to the Department. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 21, 2007. An implementation schedule was not included; therefore, the final compliance deadline was December 21, 2007.

A9.7.4.1.12 Navarro River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Navarro River TMDL pursuant on December 27, 2000. The TMDL identifies sediment loading allocations necessary to maintain water quality standards for sediment impacts in the Navarro River and its tributaries. Increased sediment loads are detrimental to native cold-water fish, such as coho salmon and steelhead trout.

Final Waste Load Allocations: The TMDL does not specify the Department or other point sources as a source of sediment loading into the Navarro River and its tributaries; therefore, the TMDL did not assign a waste load allocation for point sources.

***Contribution Specific to the Department*:** The TMDL does not address proportional contribution of common sources within grouped load allocations. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 27, 2000. An implementation schedule was not included; therefore, the final compliance deadline was December 27, 2000.

A9.7.4.1.13 Noyo River Sediment Total Maximum Daily Load

Description: U.S. EPA established the Noyo River Sediment TMDL on December 16, 1999, to address excessive sediment loading. The TMDL was established to protect the aquatic life beneficial uses of the Noyo River, including the salmonid and coho salmon fisheries.

Final Waste Load Allocations: The TMDL does not specify load and waste load allocation specific to the Department. The TMDL acknowledges that State highways in the watershed may contribute sediment to the Noyo River. Specifically, the State Highway 1 bridge may cause and contribute sediment transport as the bridge abutments often serve to constrict a river channel causing flooding upstream and channel erosion downstream. The specific sediment transport effects of Highway 1 are not defined. The TMDL includes a combined load allocation for all roads that is calculated from known quantities.

***Contribution Specific to the Department*:** The Department's sediment load and proportional contributions are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

***Final Compliance Deadline*:** U.S. EPA established the TMDL on December 16, 1999. An implementation schedule was not included; therefore, the final compliance deadline was December 16, 1999.

A9.7.4.1.14 Redwood Creek Sediment Total Maximum Daily Load

Description: U.S. EPA established the Redwood Creek Sediment TMDLs on December 30, 1998, to identify total allowable loads and loading allocations that, when implemented, are expected to result in attainment of applicable water quality standards for sediment. Redwood Creek watershed was listed on the Clean Water Act section 303(d) list for impairment due to sedimentation. The level of sedimentation in Redwood Creek watershed exceeded the narrative water quality objectives necessary to protect aquatic life beneficial uses of the basin, particularly the cold-water fishery.

Final Sediment Waste Load Allocations: In the TMDL, U.S. EPA did not specify sediment waste load allocations. The TMDL for Redwood Creek is estimated to be 1,900 tons per square mile per year expressed as 10-year rolling annual averages. The load allocation for the combined roads, landings, and skid trails erosion for the Redwood Creek watershed is 110 tons per square mile per year. The load allocation for road-related tributary landslides is 70 tons per square miles per year.

Contribution Specific to the Department: The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established this TMDL on December 30, 1998. Therefore, the final compliance deadline was December 30, 1998.

A9.7.4.1.15 Scott River Sediment Total Maximum Daily Load

Description: The North Coast Water Board adopted the Scott River TMDL. U.S. EPA subsequently approved it on August 11, 2006. Excessive sediment has resulted in degraded water quality conditions that impair recreational use, commercial and sport fishing, cold freshwater habitat, and other beneficial uses.

Final Waste Load Allocations: The TMDL does not specify a final load allocation for the Department.

Contribution Specific to the Department: The Department's sediment contribution and proportional responsibility are not specified in the TMDL.

On August 8, 2020, North Coast Water Board staff calculated Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment. However, under the Action Plan for the Scott River Sediment TMDL, the North Coast Water Board evaluated the adequacy and effectiveness of the Department's Stormwater Program to prevent, reduce, and control sediment waste discharges in the Scott River watershed and determined that the Department's stormwater management program was adequate and effective to control sediment in the Scott River and no further specific requirements were necessary at this time.

Final Compliance Deadline: U.S. EPA approved this TMDL on August 11, 2006. This TMDL is required to attain water quality standards 40 years from approval date of August 11, 2006, by U.S. EPA. Therefore, the final compliance date is the required attainment date of August 11, 2046.

A9.7.4.1.16 Ten Mile River Sediment Total Maximum Daily Load

Description: In December 2000, U.S. EPA established the Ten Mile River TMDL for Sediment to identify sediment loading allocations necessary to implement water quality standards for sediment, which were established to protect the beneficial uses of this river. The primary beneficial use of concern is the salmonid fishery, particularly coho salmon fishery.

Final Waste Load Allocations: In the TMDL, U.S. EPA states there are no point sources of sediment discharges within the area included within this TMDL; therefore, a waste load allocation is not specified. The TMDL is set at the loading capacity of 390 tons per square mile per year. Background was determined to be 311 tons per square mile per year. The TMDL minus the background is the load allocation. Therefore, the load allocation is 79 tons per mile square per year. Only a very small portion of State Highway 1 is contained in the watershed. Table 8 of the Ten Mile River TMDL for Sediment shows that there are 0.96 miles of highway within the watershed.

Contribution Specific to the Department: The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established this TMDL on December 31, 2000. An implementation schedule was not included; therefore, the final compliance deadline was December 31, 2000.

A9.7.4.1.17 Trinity River Sediment Total Maximum Daily Load

Description: U.S. EPA established this TMDL on December 20, 2001. The Trinity River Basin area covered by this TMDL is approximately 2,000 square miles. The Trinity River is the major tributary to the Klamath River. The Trinity River Basin terrain is predominantly by mountainous terrain and forested areas. The sediment, turbidity, suspended material, settleable material discharges cause this watershed to be on the Clean Water Act section 303(d) list since 1992. The beneficial use affected by the sediment discharges is primarily cold-water fish habitat for spawning, rearing, and migration. The major source of impairment is from roads, timber harvesting, mining, and natural sources.

Final Waste Load allocations*:* U.S. EPA states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources may also discharge some sediment. Current and prospective future point sources that may discharge in the watershed are therefore at issue. This includes the Department's right-of-way that discharge under the Department of Transportation statewide stormwater NPDES permit.

This TMDL did not subdivide waste load and load allocations into specific sources, such as roads and timber harvest. Instead, the basin was divided into subareas because of the wide range of sediment delivery rates. In the TMDL, U.S. EPA states it is appropriate to allow this flexibility to meet the management load reduction through any combination of erosion control for roads, timber harvesting, or legacy activities depending on the degree to which a source is contributing to the problem. The tables below provide the management allocations by subareas.

Contribution Specific to the Department: The Department's sediment contribution and proportional responsibility are not specified in the TMDL. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established this TMDL on December 20, 2001. An implementation schedule was not included; therefore, the final compliance deadline was December 20, 2001.

A9.7.4.1.18 South Fork Trinity River and Hayfork Creek Sediment Total Maximum Daily Load

Description: U.S. EPA established the South Fork Trinity River and Hayfork Creek Sediment TMDL on December 31, 1998, because of the inclusion of the watershed in section 303(d) list of the Clean Water Act. The watershed is listed as water quality limited due to sediment. The level

of sedimentation in the watershed was judged to exceed the existing water quality standards necessary to protect the beneficial uses of the basin, particularly the cold-water fishery. Accelerated erosion from land use practices and other causes adversely affects the ability of the stream system to support cold-water fish such as chinook salmon and steelhead trout.

The purpose of this TMDL is to identify reductions of sediment delivery to the river system that, when implemented, are expected to result in the attainment of applicable water quality standards, including adequate salmonid habitat. This TMDL addresses sediment loading in the entire South Fork Trinity River basin, including Hayfork Creek and other tributaries.

Final Sediment Waste Load Allocations: In the TMDL, U.S. EPA did not identify point source discharges in the basin; therefore, waste load allocations are not specified. A nonpoint source with a Department-specific load allocation is not provided. Instead, allocations for roads are grouped under the sources of landslides; surface erosion; and washout, gullies, and small slides. The total road-related load allocation is 33 tons per square mile per year.

Contribution Specific to the Department: The Department's sediment contribution and proportional contribution are not specified. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 31, 1998. An implementation schedule was not included; therefore, the final deadline was December 31, 1998.

A9.7.4.1.19 Van Duzen River and Yager Creek Sediment Total Maximum Daily Load

Description: U.S. EPA established the sediment TMDL for the Van Duzen River on December 16, 1999. The river was included on California's Clean Water Act section 303(d) list beginning in 1992 as water quality limited due to impacts of excessive sedimentation on beneficial uses. The primary beneficial uses of concern identified relate to maintaining aquatic habitat which supports cold-water dependent fish, primarily anadromous salmon, and steelhead.

Final Sediment Waste Load Allocations: In the TMDL, U.S. EPA did not define point source discharges in the Van Duzen River Watershed; thus, waste load allocations for point sources, such as the Department's discharges, are not specified. Instead, the load allocations are defined by "management-associated" load allocations. These are divided into two

main groups 1) roads and skid trails and 2) timber harvesting for each of the three subbasins. The load allocations for road and skid trails are listed in the table below.

Contribution Specific to the Department: The TMDL does not specify the Department's sediment contribution and proportional responsibility. On August 8, 2020, North Coast Water Board staff provided Department-specific sediment load allocations, which are listed in Table A-2 of this Attachment.

Final Compliance Deadline: U.S. EPA established the TMDL on December 16,1999. An implementation plan was not included. Therefore, the final deadline was December 16, 1999.

A9.7.4.2 San Francisco Bay Water Board Sediment and Mercury Total Maximum Daily Loads

A9.7.4.2.1 Guadalupe River Mercury Total Maximum Daily Load

Description: The San Francisco Bay Water Boards developed the Guadalupe River Mercury TMDL, which was approved by U.S. EPA on June 1, 2010. The Guadalupe River is downstream from the New Almaden Mine, which is the largest-producing mercury mine in North America. This TMDL was developed to protect aquatic life because fish have high mercury concentrations from mine activities that exceed water quality objectives.

Final Waste Load Allocations: U.S. EPA states there are no significant individual point sources of sediment discharge into this watershed. The load allocation for this TMDL watershed is 92 kilograms per year.

Contribution Specific to the Department: The Department's waste load allocation is 0.2 mg of mercury per kilogram of suspended sediment, as specified in the TMDL.

Final Compliance Deadline: The U.S. EPA approved this TMDL on June 1, 2010. The TMDL load allocation is expected to be attained within 20 years; therefore, the final compliance deadline is June 1, 2030.

A9.7.4.2.2 Napa River Sediment Total Maximum Daily Load

Description: The San Francisco Bay Water Board adopted the Napa River Sediment Total Maximum Daily, which was approved by U.S. EPA on January 21, 2011. This TMDL provides that steelhead and salmon populations in the Napa River and its tributaries have declined substantially since the late 1940s. Fisheries and sediment sources indicate that spawning and juvenile rearing habitat for salmon and

steelhead are adversely affected by high concentrations of fine sediment (primarily sand) deposited in the bed of the Napa River and its tributaries. The goals of the Napa River Sediment TMDL are to conserve steelhead trout population, establish a self-sustaining Chinook salmon population, enhance the overall health of the native fish community, and enhance the aesthetic and recreational values of the river and its tributaries.

Contributions Specific to the Department: The Department is identified as a point source and is provided with a waste load allocation of 600 metric tons per year and 0.4 percent of natural background.

Final Compliance Deadline: The TMDL states that zero sediment reductions are needed, and the Department is in compliance if it implements appropriate sediment control measures, participates in monitoring programs., and complies with this Order.

A9.7.4.2.3 Pescadero-Butano Watershed Sediment Total Maximum Daily Load

Description: The San Francisco Bay Water Board adopted the Pescadro-Butano Watershed Sediment TMDL, which was approved by U.S. EPA on June 24, 2019. The objective is to reduce sediment deposition in Pescadero and Butano creeks and their tributaries, and to support recovery of steelhead and Coho salmon runs. This TMDL allocates discharges of sediment to minor point sources including (stormwater runoff and construction activities), natural erosion processes, non-point sources generated by human actions (e.g., roads, grazing, and accelerated bed and bank erosion along the creeks).

Final Waste Load Allocations and Contributions Specific to the Department: The sediment waste load allocation specific to the Department is 50 tons per year, which is 0.3 percent of natural background.

Final Compliance Deadline: A final compliance deadline was not included in this TMDL. Instead, waterbody attainment with sediment water quality objectives is to be evaluated using a 10-year averaging period starting in 2019 and ending in 2029.

A9.7.4.2.4 Sonoma Creek Sediment Total Maximum Daily Load

Description: The San Francisco Bay Water Board adopted the Sonoma Creek Sediment TMDL, which was subsequently approved by U.S. EPA on September 8, 2010. Sonoma Creek exceeds water quality standards for sediment, and the creek has declines in native fish populations. The TMDL addresses identifies pollutant sources.

Final Sediment Waste Load Allocation Specific to the Department: The Department is identified as one of three-point source discharges of stormwater, which includes the Department, municipal, and construction discharges. The Department's waste load allocation is 100 tons per year, which is 0.2 percent of natural background sediment.

Final Compliance Deadline: A final compliance deadline was not included in this TMDL. Instead, waterbody attainment with sediment water quality objectives are to be evaluated over a 5 to 10-year averaging period, which runs from 2010 through 2020.

A9.7.4.2.5 San Francisco Bay Mercury Total Maximum Daily Load

The San Francisco Bay mercury TMDL includes loads and allocations that are grouped together as "urban stormwater." The TMDL states that permits shall include requirements and schedules to implement technically feasible, effective, and cost-efficient control measures to attain allocations. This Order requires the Department to implement the mercury TMDL by treating stormwater runoff to meet the Department's allocation, which is based on right-of-way acres.

Atmospheric deposition distributes mercury uniformly across the San Francisco Bay, and atmospherically deposited mercury constitutes a large percentage of mercury found in stormwater runoff. Achieving mercury load reductions is an appropriate driver for deriving areal treatment requirements for the Department because mercury will be found in all stormwater runoff.

The Department will implement the mercury TMDL by treating stormwater runoff from its right-of-way or other areas. The Department has 27,000 acres of right-of-way. The Department's proportional responsibility is 11 percent of its right-of-way, or 2,970 acres that drain directly or indirectly to San Francisco Bay.

The TMDL states that treatment controls may be implemented within the Department's right-of-way or in source areas. For example, treatment controls may be implemented in areas managed by municipalities, local agencies, or private entities to which runoff from Department's right-of-way is discharged.

For mercury monitoring, the TMDL states that the San Francisco Bay Regional Monitoring Program conducts monitoring relevant to evaluating progress toward meeting the mercury sediment, human health, and wildlife targets. Numeric targets are described in section 7.2.2.2 of the San Francisco Bay Region Basin Plan. Other monitoring methods are

acceptable if the monitoring approach used to evaluate progress toward meeting the mercury TMDL targets include the following:

- The suspended sediment target (0.2 mg mercury per kg dry sediment) shall be compared to the annual median San Francisco Bay suspended sediment mercury concentration found through RMP monitoring.
- The human health target is a fish tissue mercury concentration (0.2 mg mercury per kg fish tissue).
- The wildlife target is fish tissue mercury concentration (0.03 mg mercury per kg fish). This target applies to average wet weight whole fish concentrations in 3–5 centimeters length fish.

Description: On February 12, 2008, U.S. EPA approved the San Francisco Bay Water Board Basin Plan amendment incorporating a TMDL for mercury in San Francisco Bay. San Francisco Bay is impaired because mercury contamination adversely affects existing beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. Mercury concentrations in fish are high enough to threaten the health of humans who consume them. In addition, mercury concentrations in some bird eggs harvested from the shores of San Francisco Bay are high enough to account for abnormally high rates of eggs failing to hatch.

Final Waste Load Allocations: The waste load allocation for all urban stormwater runoff in the San Francisco Bay area is 82 kilograms per year. There are no Department-specific load or waste load allocations. Instead, the TMDL states that the statewide NPDES stormwater permits should include an equitable allocation-sharing scheme in consultation with the Department to address the State roadway and non-roadway facilities within the mercury program area.

Contribution Specific to the Department: The TMDL does not have a Department-specific waste load allocation. Instead, the Department's waste load allocation shares an unspecified portion that is assigned to city or municipal NPDES permits in which the Department's roads or facilities reside. In November 2020, San Francisco Bay Water Board staff provided information (detailed above) that the Department shall implement the mercury TMDL by treating 2,970 acres of right-of-way that drains directly or indirectly to San Francisco Bay, as described above.

Final Compliance Deadline: The TMDL states that the attainment date for stormwater contributions is set at 20 years from the TMDL effective date of February 12, 2008; therefore, the final compliance deadline is February 12, 2028.

A9.7.4.3 Central Coast Sediment Total Maximum Daily Loads

Sediment TMDLs within the jurisdiction of the Central Coast Water Board state that for point sources, implementation will continue to rely on existing regulatory controls as appropriate for point sources, including NPDES stormwater permits.

A9.7.4.3.1 San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks) Sediment Total Maximum Daily Load

Description: On May 16, 2003, the Central Coast Water Board adopted the TMDL for Sediment for San Lorenzo River, Carbonera Creek, Lompico Creek, and Shingle Mill Creek. U.S. EPA subsequently approved it on February 19, 2004. The San Lorenzo River Estuary and the San Lorenzo River have been listed for non-attainment of established water quality standards due to sediment under section 303(d) of the Clean Water Act. Three creeks within the San Lorenzo River Watershed have also been listed. These are Shingle Mill Creek, Lompico Creek, and Carbonera Creek. As required under section 303(d), the State established the TMDL for sediment at a level necessary to achieve and attain the water quality standard for sediment.

Final Waste Load Allocations: For road-related allocations, the TMDL combines nonpoint source load allocation with point source waste load allocations for each watershed segment, as shown in the table, below. A specific allocation for the Department is not defined, however the TMDL groups the Department under “Upland Public/Private Roads.” While the Department is not included under the landslides source category, the TMDL acknowledges that the Department has repaired three large landslides along Highway 9: south of Felton, at Glen Arbor Road, and north of Boulder Creek.

San Lorenzo River Sediment Allocations (tons per year)

Sediment Source Category	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Public/ Private Roads	146	1,235	367	13,835
Streamside Public/Private Roads on Steep Slopes	77	135	239	6,178
Mass Wasting	0	4,082	6,440	157,388

Contribution Specific to the Department: No specific waste load allocation or specific sediment contribution were assigned to the Department. The TMDL states that discharges that comply with the respective stormwater NPDES permits are considered to be achieving sediment load reductions; therefore, this Order does not require any additional TMDL-specific actions for this TMDL.

Final Compliance Deadline: The TMDL does not include direct measurement of sediment loads. Instead, the TMDL states that the timeline for implementation measures is 25 years, which is May 16, 2028. The TMDL Implementation Plan relies on continued implementation of on-going efforts for source control, as required under this Order.

A9.7.4.3.2 Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment Total Maximum Daily Load

Description: Chorro Creek, Los Osos Creek, Morro Bay, and the Morro Bay Estuary are listed as waters impaired by sedimentation/siltation. The Central Coast Water Board adopted this TMDL, which was subsequently U.S. EPA approved on January 20, 2004. The loading capacity for all the waterbodies in this watershed is addressed in one TMDL. The concern with Morro Bay is the sediment discharges have been accelerated due to anthropogenic watershed disturbances. Studies conducted by various authors over the past 25 years have concluded that the rate of sedimentation to Morro Bay has rapidly increased.

Final Waste Load Allocations: The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source load allocation and point source waste load allocations for each segment of this TMDL, as provided in the table, below.

Load Allocations (expressed as annual load in tons per year)

Watershed	Road Allocations	Total Load
Chorro Creek at Reservoir	906	6,541
Dairy Creek	61	440
Pennington Creek	134	966
San Luisito Creek	1,013	7,315
San Bernardo Creek	1,422	10,269
Minor Tributaries	622	4,489
Chorro Creek (subtotal)	4,158	30,020
Los Osos Creek	499	3,052
Warden Creek and Tributaries	296	1,812
Los Osos Creek (subtotal)	795	4,864
Morro Bay Watershed (total)	5,137	34,885

Contribution Specific to the Department: This TMDL states that discharges which comply with their respective NPDES stormwater permits are meeting their portion of shared responsibility for achieving sediment load reduction; therefore, this Order does not require any additional TMDL-specific actions of the Department for this TMDL.

Final Compliance Deadline: The TMDL states that final compliance with sediment load reductions is expected to be achieved by 2053 (50 years from the adoption of the TMDL).

A9.7.4.4 Los Angeles Region Sediment/Nutrient/Mercury Total Maximum Daily Loads

Sediment, Nutrient, and Mercury TMDLs within the jurisdiction of the Los Angeles Water Board are for point sources. Implementation will continue to rely on existing regulatory control requirements included in this Order.

A9.7.4.4.1 Ballona Creek Wetlands Sediment and Invasive Vegetated Species Total Maximum Daily Loads

Description: U.S. EPA established the Ballona Creek Wetlands TMDL for Sediment and Invasive Species on March 26, 2019, because the watershed was identified on the State's 1998 303(d) Impaired Waterbody List for the Los Angeles region. It was listed due to legacy sediment that has severely impacted habitats, wildlife, and aquatic organisms. Invasive exotic vegetated species has resulted in a loss of habitat. It is necessary to increase the diversity and population of plant and animal species for Ballona Creek Wetlands to support wetland and aquatic health. The TMDL addresses sediment impairments by setting targets to restore a wetland habitat. The TMDL covers 600 acres, of which 85 acres consist of roads, levees, platforms, and similar structures. The Ballona Creek Watershed covers approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent).

Final Waste Load Allocations: U.S. EPA established waste load allocations for sediment and invasive exotic vegetation that are assigned jointly to entities as a group, which includes the Department. For sediment, the joint waste load allocations are the total allowable sediment load that can be discharged into Ballona Creek Wetlands by point source discharges. The TMDL states, "since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint waste load allocations based on existing conditions." The joint waste load allocation is set at 58,354 cubic yards per year (44,615 cubic meters per year).

For invasive exotic vegetated species, the load allocation is zero or 10 percent coverage of invasive exotic plant species. For those species listed on the California Noxious Weed List or rated as a "high" or "moderate" on the California Invasive Plant Council's Invasive Plant Inventory List, the load allocation is set at zero. For those species rated as "low" on the California Invasive Plant Council's Invasive Plant Inventory List, the load allocation is set at 10 percent to accommodate situations in which removal of these particular species would cause more disturbances to the habitat. The load allocation is expressed as an average daily rate.

Contribution Specific to the Department: The TMDL specifically targets group compliance. The Ballona Creek Watershed covers approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent). Therefore, compliance may be demonstrated through 1.5 percent participation in group compliance activities or through a demonstration that the Department has treated its contributing right-of-way area for sediment.

Final Compliance Deadline: U.S. EPA did not include an implementation schedule in this TMDL; thus, the final compliance deadline was March 26, 2012.

A9.7.4.4.2 Los Angeles Area Lakes, Echo Park Lake, Total Nitrogen and Total Phosphorus Total Maximum Daily Loads

Description: U.S. EPA established the Echo Park Lake TMDL on March 26, 2012, due to nutrient impairments and inclusion on a 303(d) Clean Water Act list. Nutrients include nitrogen and phosphorous. The TMDL describes the impairments, the waste load allocations developed to address nutrients, and the drainage areas. Echo Park Lake has two subwatersheds: the southern subwatershed and the northern subwatershed, each of which are assigned waste load allocations.

Final Waste Load Allocations and Contributions Specific to the Department*:* Both subwatersheds drain to a storm drain system that drain to the lake; therefore, all allocations except atmospheric deposition are waste load allocations. The sum of all total phosphorous waste load allocations for both the southern and northern subwatershed is 83.3 pounds per year. Likewise, the sum of all nitrogen waste load allocations is 682 pounds per year. The Department's contribution to the waste load allocations is less than one percent of the total waste load allocations for each nutrient. The Department's waste load allocations and percent contribution are provided in the two tables, below.

Department-Specific Final Nutrient Waste Load Allocations (pounds per year)

Echo Park Lake Subwatershed	Total Phosphorus	Total Nitrogen
Northern	0.608	4.77
Southern	0.051	0.403

Department-Specific Contributions

Echo Park Lake Subwatershed	Total Phosphorous (Percent of Total Waste Load Allocation)	Total Nitrogen (Percent of Total Waste Load Allocation)
Northern	0.6	0.7
Southern	0.05	0.06

***Final Compliance Deadline*:** U.S. EPA established the TMDL for nutrients in Echo Park Lake on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.4.4.3 Los Angeles Area Lakes, North, Center and Legg Lakes, Nitrogen and Phosphorus Total Maximum Daily Loads

***Description**:* U.S. EPA established the North, Center, and Legg Lakes TMDL for nitrogen and phosphorous on March 26, 2012. The lakes are listed as impaired due to nutrients. Nutrient load reductions are required to achieve a chlorophyll target; these reductions are also expected to address problems associated with increased levels of ammonia, odor, and low pH. Elevated nutrient levels are currently impairing recreational and ecological habitat uses by stimulating algal growth that form mats. Five subwatersheds comprise the drainage area, which includes storm drain networks that discharge to these lakes.

***Waste Load Allocations and Contributions Specific to the Department**:* Municipal and industrial stormwater discharges are assigned waste load allocations, which includes discharges from the Department's State Highway system. The sum of all the waste load allocations for total phosphorous is 1,541 pounds per year. The sum of all waste load allocations for total nitrogen is 9,135 pounds per year. The Department's portion of the waste load allocations are provided in the table, below, which includes the Department's percentage of each total waste load allocation. The Department's contributions are one percent or less.

Department-Specific Waste Load Allocations and Percent Contribution to the Legg Lakes System

Subwatershed	Total Phosphorus (pounds/year) and Percent of Total Phosphorous Waste Load Allocation (%)	Total Nitrogen (pounds/year) and Percent of Total Nitrogen Waste Load Allocation (%)
Direct to Center Lake	4.6 (0.2 %)	15.5 (0.2 %)
Direct to Legg Lake	1.2 (0.1 %)	4.0 (<0.1 %)
Direct to North Lake	19.1 (1.0 %)	64.1 (0.6 %)
Northwestern	9.4 (0.5 %)	29.3 (0.3 %)
Northeastern	10.9 (0.6 %)	34.0 (0.3 %)

***Alternative Waste Load Allocations**:* Alternative concentration-based waste load allocations are available to the Department if the Department satisfies criteria in the TMDL, which includes implementation of an approved Lake Management Plan. The alternative waste load allocations are provided in the table below.

Department's Alternative Waste Load Allocations for Nutrients to the Legg Lake System with Approved Lake Management Plan

Subwatershed	Maximum Allowable Total Phosphorus (mg/L)	Maximum Allowable Total Nitrogen (mg/L)
Direct to Center Lake	0.1	1.0
Direct to Legg Lake	0.1	1.0
Direct to North Lake	0.1	1.0
Northwestern	0.1	1.0
Northeastern	0.1	1.0

***Final Compliance Deadline**:* U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.4.4.4 Los Angeles Area Lakes, Peck Road Park Lake, Nitrogen and Phosphorus Total Maximum Daily Loads

Description: U.S. EPA established the Peck Road Park Lake TMDL for nutrients on March 26, 2012. Nutrients include total phosphorous and total nitrogen. The Los Angeles Water Board identified the lake as impaired with excess nitrogen and phosphorus, which causes excess algae growth that impairs aquatic life and recreational uses. Along with other stormwater discharges, the Department's stormwater drains to storm sewer systems within two subwatersheds, the Eastern and the Western

subwatersheds are an identified contribution. These storm sewer systems discharge to the lake. Waste load allocations are identified by subwatershed and by dischargers.

Final Nutrient Waste Load and Contributions Specific to the Department: The Department and other municipal, industrial, and national forest stormwater dischargers are each assigned waste load allocations. The sum of all the waste load allocations for total phosphorous is 19,319 pounds per year. The sum of all waste load allocations for total nitrogen is 186,845 pounds per year. The Department-specific contributions are less than 1 percent of the total load for phosphorous and for nitrogen. The Department's allocations consist of stormwater from the state highway system, which are provided in the table, below.

Department's Waste Load Allocations for Phosphorous and Nitrogen to Peck Road Park Lake (pounds per year)

Subwatershed	Total Phosphorus	Total Nitrogen
Eastern	158	1,165
Western	34.2	251

Final Compliance Deadline: U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.4.4.5 Los Angeles Area Lakes, Puddingstone Reservoir, Nitrogen, Phosphorus, and Mercury Total Maximum Daily Loads

Description: U.S. EPA established the Puddingstone Reservoir TMDL for nitrogen, phosphorous, and mercury on March 26, 2012. Two subwatersheds comprise the drainage area to this reservoir. The Northern subwatershed drains to the storm sewer network that leads to the Southern subwatershed. Drainage from the Southern subwatershed enters the reservoir via natural tributaries or overland flow. Elevated nutrient (nitrogen and phosphorus) levels are currently impairing recreational and ecological habitat uses by stimulating algal growth that form mats. The TMDL provides waste load allocations for the Northern subwatershed and the Southern subwatershed.

Nutrient Waste Load Allocations Specific to the Department: The Department and other municipal, industrial, construction and national forest stormwater dischargers are each assigned waste load allocations. The sum of all these waste load allocations for total phosphorous is 4,226 pounds per year. The sum of all waste load allocations for total nitrogen is 18,756 pounds per year. The Department's allocations consist of

stormwater from the state highway system, which are provided in the table, below, by subwatershed. Department-specific proportional contributions are not otherwise identified.

Department's Final Waste Load Allocations for Nitrogen and Phosphorus at Puddingstone Reservoir (pounds per year)

Subwatershed	Total Phosphorus	Total Nitrogen
Northern	167	745
Southern	14.8	68.2

Nutrient Alternative via Approved Lake Management Plan Waste Load Allocations: Alternative "Approved Lake Management Plan Waste Load Allocations" are potentially available to the Department if the Department satisfies certain criteria outlined in the TMDL, including the implementation of an approved Lake Management Plan. The alternative concentration-based waste load allocations are provided in the table below.

Nutrient Alternative, Approved Lake Management Plan Waste Load Allocations (milligrams per liter)

Subwatershed	Maximum Allowable Total Phosphorus	Maximum Allowable Total Nitrogen
Northern	0.1	1.0
Southern	0.1	1.0

Total Nutrients Contribution Specific to the Department*:* The Department's relative contribution to the total nutrient pollutant loading, in percentages of the total load, are provided in the table, below.

Departments Percentage of the Total Nutrient Loading, Puddingstone Reservoir

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	3.6 %	3.4 %
Southern	0.3 %	0.3 %

Mercury Waste Load Allocations and Contributions Specific to the Department: Puddingstone Reservoir data indicates that mercury in fish tissue exceeds the fish tissue guideline for mercury. The Department's mercury contribution in the Northern subwatershed is 1.85 percent of the total load. The Department's contribution in the Southern subwatershed is

0.13 percent of the total load. The mercury waste load allocations specific to the Department are provided in the table, below.

Final Compliance Deadline: The final compliance deadline for all final waste load allocations in this TMDL is required by March 23, 2032.

Department's Total Mercury Waste Load Allocations, Puddingstone Reservoir

Subwatershed	Annual Total Load (grams per year)	Percent of Total Load	Waste Load Allocation (grams per year)
Northern	1.32	1.85 %	0.702
Southern	0.096	0.13 %	0.051

A9.7.4.4.6 Los Angeles Area Lakes, Lake Sherwood, Mercury Total Maximum Daily Load

Description: U.S. EPA established the Lake Sherwood Mercury TMDL on March 26, 2012. Lake Sherwood is impaired due to excessive mercury in fish tissue. Beneficial uses affected by the impairment include recreational and aquatic habitat uses. Lake Sherwood is comprised of six subwatersheds, of which the Department discharges only within one watershed – the Carlisle Canyon subwatershed. Therefore, the TMDL provides a waste load allocation for the Department's small area in the Carlisle Canyon subwatershed.

Mercury Waste Load Allocation for Lake Sherwood Specific to the Department: Waste load allocations are assigned to the Department for the Carlisle Canyon subwatershed. The mercury annual total load to Lake Sherwood is 41.7 grams per year, of which the Department was determined to have 0.12 percent of the total load or 0.049 grams per year. The Department's waste load allocation to Carlisle Canyon is 0.014 grams per year, as shown in the table below.

Department's Waste Load Allocations for Mercury, Lake Sherwood Subwatershed

Subwatershed	Existing Annual Mercury Load (grams/year)	Percent of Existing Annual Mercury Load	Final Waste Load Allocation (grams/year)
Carlisle Canyon	0.049	0.12	0.014

Final Compliance Deadline: U.S. EPA established the TMDL on March 26, 2012. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.4.4.7 Machado Lake Eutrophic Conditions, Algae, Ammonia, and Odors (Nutrients)

Description: U.S. EPA approved the Machado Lake TMDL on March 11, 2009, after the Los Angeles Water Board developed and adopted the TMDL in 2008. Machado Lake is impaired due to eutrophic conditions, algae, ammonia, and odors. Excessive loadings of nutrients, nitrogen (including ammonia) and phosphorus, causing eutrophic conditions, excessive algae, and odors are impacting beneficial uses, including recreation, aquatic life, and water supply.

Final Nutrients Waste Load Allocation: The waste load allocations are an annual mass-based allocation that are equal to a monthly average concentration of 0.1 milligrams per liter total phosphorous and 1.0 milligrams per liter total nitrogen based on approved flow conditions.

The TDML states that NPDES stormwater permittees may be considered in compliance with waste load allocations by actively participating in a Lake Water Quality Management Plan and by attaining the waste load allocations for Machado Lake. Stormwater permittees and the responsible party for the lake may work together to implement the Lake Water Quality Management Plan and reduce external nutrient loading to attain the TMDL waste load allocations measured in the lake. Alternatively, compliance may also be demonstrated as concentration based monthly averages for total phosphorous and total nitrogen measured at the storm drain outfall of the Department's drainage area.

Contribution Specific to the Department: The Department's contribution to the overall loading is defined in the TMDL. The Department-specific waste load allocation is 0.1 milligrams per liter for total phosphorus and 1.0 milligrams per liter for total nitrogen.

Final Compliance Deadline: The TMDL required the Department to comply with its final waste load allocations for Machado Lake by September 11, 2018.

A9.7.4.4.8 Malibu Creek and Lagoon Sedimentation and Nutrients Total Maximum Daily Load

Description: U.S. EPA established the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL on July 2, 2013. Excess sediment accumulates in the lagoon, increasing nutrient loads (total phosphorus and total nitrogen) and causing excessive algae blooms that adversely impact aquatic life. Stormwater is considered a source of sediments and nutrients. Point source municipal stormwater discharges in the Malibu Creek watershed are regulated through the statewide NPDES municipal stormwater permit for the Department and other NPDES municipal stormwater permits for the Los Angeles County stormwater conveyance systems.

Final Nutrient Waste Load Allocations and Contributions Specific to the Department: Final nutrient waste load allocations are concentration-based average seasonal load for two seasons: Summer from April 15 to November 15, and Winter from November 16 to April 14. These seasonal waste load allocations assigned to the Department for nutrients are summarized in the table below.

Department's Waste Load Allocations, Malibu Creek and Lagoon (milligrams per liter)

Winter–Total Phosphorus	Winter–Total Nitrogen	Summer–Total Phosphorus	Summer–Total Nitrogen
0.2	4	0.1	1.0

Final Sediment Waste Load Allocations and Contributions Specific to the Department: Final sedimentation allocations assigned to the Department are provided in the table below. The TMDL assigns waste load and load allocations. The sum of all the waste load plus the load allocations is 5,817 tons per year. The Department's contribution of sediment is 0.8 percent, or 44 tons per year, as provided in the table below.

Sediment Waste Load Allocations for Malibu Creek and Lagoon

Responsible Party	Type of Allocation	Allocation Fraction (percent)	Allocation (tons/year)
Department	Waste load	0.8%	44
Los Angeles County	Waste load	17.4%	1,012
Unincorporated area draining to Las Virgenes Creek	Load	0.3%	16
Protected land below Malibu Lake	Load	13.7	796
Outlet of Malibu Lake	Load	67.9%	3,950
Total of all allocations		100.0 %	5,817

Final Sedimentation and Nutrient TMDL Compliance Deadline for* Malibu *Creek and Lagoon: U.S. EPA established the TMDL on July 2, 2013. An implementation schedule was not included; therefore, the final compliance deadline was July 2, 2013.

A9.7.4.4.9 Ventura River and its Tributaries Algae, Eutrophic Conditions and Nutrients Total Maximum Daily Load

Description: The Los Angeles Water Board developed and adopted the Ventura River and its Tributaries Algae, Eutrophic Conditions and Nutrients TMDL, which was subsequently approved by U.S. EPA on June 28, 2013. The Ventura River and its tributaries are identified on the 1998, 2002, 2006, and 2010 Clean Water Act section 303(d) list of impaired waterbodies due to algae, eutrophic conditions, low dissolved oxygen, and nitrogen. Impairment of aquatic life and cold-water habitat beneficial uses was due to nutrient loading and subsequent algae growth.

Final Waste Load Allocations: Dry-weather nutrients are identified as total nitrogen and total phosphorous. The wet-weather nutrient is nitrate-as-nitrogen plus nitrite. Wet-weather loads do not have a significant impact on receiving water quality; thus, wet-weather waste load allocations are set equal to the existing stormwater quality.

Contribution Specific to the Department: The Department's proportional contributions to the final waste load allocations are defined in the TMDL, as shown in the two tables below.

Department's Dry-Weather Waste Load Allocations for the Ventura River and Tributaries (pounds per day)

Source Type	Total Nitrogen	Total Phosphorous
Department's stormwater	1.1	0.11

Department's Wet-weather Waste Load Allocations for the Ventura River and Tributaries

Source Type	Reach	Nitrate-as-Nitrogen Plus Nitrite (milligrams per liter)
Department's stormwater	Estuary	7.4
Department's stormwater	Reach 1	7.4

***Final Nutrients TMDL Compliance Deadlines*:** Wet-weather waste load allocations for the Department became effective on the effective date of the TMDL (June 28, 2013). Dry-weather waste load allocations for the Department became effective on June 28, 2019.

A9.7.4.5 Central Valley Region Nutrients and Mercury Total Maximum Daily Loads

A9.7.4.5.1 Clear Lake Nutrients Total Maximum Daly Load

Description: Central Valley Water Board adopted the Clear Lake Nutrients TMDL based on its determination that the beneficial uses are impaired due to excess nutrients, primarily phosphorus. U.S. EPA approved the TMDL on September 21, 2007. Excess phosphorus contributes to nuisance blooms of blue-green algae in the spring, summer, and fall seasons. Most phosphorous sources to Clear Lake are sediment driven and include runoff from roads, erosion from agricultural and urban areas, instream channel erosion, timber harvesting, construction, gravel mining, wildfires, control burns, off highway vehicle use, and dredging and filling. Fertilizer use, sewer overflows, and septic overflows may also contribute phosphorus to the lake. The TMDL addresses elevated phosphorous loads to resolve water quality problems due to excessive nutrients in Clear Lake.

Final Waste Load Allocations and Contributions Specific to the Department: Waste load allocations for phosphorus are assigned to point source discharges regulated under NPDES permits. The point source dischargers in the Clear Lake watershed are the stormwater permittees. The Clear Lake Nutrients TMDL (section 4.5.10 of the Sacramento River

and San Joaquin River Basin Plan, Fifth Edition) specifies the Department's waste load allocation. Waste load allocations for the NPDES permittees discharging to the lake or tributaries are as follows: a). Lake County Stormwater permittees (Lake County, City of Clearlake, City of Lakeport) – 2,000 kilograms phosphorous per year, and b). the Department – 100 kilograms phosphorous per year.

Final Compliance Deadline: The compliance deadline for the phosphorus waste load allocation in Clear Lake was required by September 21, 2017, ten years after approval of the TMDL.

A9.7.4.5.2 Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury Total Maximum Daily Load

Description: The Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch Mercury TMDL was developed and adopted by the Central Valley Water Board, and subsequently approved by U.S. EPA on February 7, 2011. The goal of this TMDL is to lower mercury inputs throughout the Cache Creek watershed. Cache Creek and three tributaries (Bear Creek, Sulphur Creek, and Harley Gulch) are impaired by mercury because concentrations of mercury in fish exceed levels safe for consumption by humans and wildlife species that eat the fish. Sources of mercury are 14 inactive mercury and gold mines, naturally mercury-enriched soil, springs, and deposition of mercury transported in air. The TMDL establishes aqueous methylmercury allocations for Cache Creek, Bear Creek, and Harley Gulch calculated to achieve fish tissue objectives, with an emphasis on load reductions from inactive mines. This TMDL requires the Department and other road managers to control and reduce erosion of mercury-contaminated soil. State Highway 16 transects a steep section of the Cache Creek canyon between Bear Creek and Rumsey.

Final Allocations: The load allocations are assigned to watersheds as listed in the table, below.

Cache Creek Methylmercury Annual Load Allocations Assigned to Watersheds

Source	Annual Load Allocation (grams per year)
Cache Creek (Clear Lake to North Fork Confluence	11.0
North Fork Cache Creek	12.4
Harley Gulch	0.41
Davis Creek	0.7

Source	Annual Load Allocation (grams per year)
Bear Creek	3.2
In-channel production and un-gauged tributaries	7.4
Compliance Point for Cache Creek Tributaries: Cache Creek at Yolo	39.0
Cache Creek Settling Basin Outflow	12.0

Contribution Specific to the Department: No specific methylmercury proportional contribution is assigned to the Department. The Department's relative contribution to pollutant loading is unspecified. In lieu of Department-specific allocations, the TMDL requires the Department to implement stringent best management practices for the Cache Creek Methylmercury TMDL. This is described in correspondence from Central Valley Water Board to State Water Board staff on December 12, 2020.

Final Compliance Deadline: The Central Valley Water Board will review progress toward water body attainment with water quality objectives and Basin Plan requirements at least every five years. (The Central Valley Water Board recognizes that it may take hundreds of years to achieve established mercury objectives.)

A9.7.4.5.3 Sacramento-San Joaquin River Delta Estuary Methylmercury Total Maximum Daily Load

Description: The Central Valley Water Board adopted the Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL, which was subsequently approved by U.S. EPA on October 20, 2011. The TMDL identified the Delta as impaired by mercury because fish had elevated levels of mercury that posed a risk for human and wildlife consumption. The intent of the TMDL is to reduce concentrations of methylmercury in fish by controlling sources of both methylmercury and total mercury. Methylmercury levels in fish are strongly correlated with mercury concentration in water and watershed conditions that induce methylation of mercury in the water body; therefore, load and waste load allocations are in the form of annual aqueous methylmercury loads. The TMDL was adopted as a Basin Plan amendment that includes a control program to reduce methylmercury and inorganic mercury in the Delta. The first phase of the Delta Mercury Control Program required discharging entities to develop characterization and control studies to evaluate approaches for managing methylmercury. Central Valley Water Board staff are required to review Phase 1 of the program and TMDL for possible revision of the program, which may include revised load and waste load allocations.

Final Waste Load Allocations and Contributions Specific to the Department: The Department is participating in the Delta Regional Monitoring Program in order to satisfy compliance with Phase 1 TMDL monitoring requirements. Because methylmercury levels in fish are correlated with methylmercury levels in water, load and waste load allocations are in the form of annual aqueous methylmercury loads. Load and waste load allocations are not specifically assigned to the Department, but the Department is a contributor of methylmercury within the urban runoff (nonpoint source) and point source categories as listed in the tables below. The Department shall comply with the allocations shown in the tables below, or if the Central Valley Water Board adopts revised load and waste load allocations in Phase 2 of the Delta Mercury Control Program and associated TMDL, the Department shall comply with the assigned revised allocations and monitoring requirements. Where the Department is not the only discharger to which a particular load allocation applies (for example, if it shares an allocation with another urban runoff point or nonpoint source), it may propose a strategy in the TMDL Compliance Plan to address the Department's share of the allocation.

Final Methylmercury TMDL Compliance Deadlines: Methylmercury allocations shall be met as soon as possible, but no later than the final compliance date of January 1, 2030. As part of the Phase 1 Delta Mercury Control Program Review, the Central Valley Water Board may adopt revised load and waste load allocations, and a new final compliance date.

Delta Methylmercury Waste Load Allocations for Urban Stormwater Runoff within Each Delta Subarea

Urban Stormwater Permittees	NPDES Permit No.	Waste Load Allocation (grams per year)
County of Contra Costa	CAS083313	0.75
City of Lodi	CAS000004	0.053
Port of Stockton Municipal Separate Storm Sewer System	CAS084077	0.39
County of San Joaquin	CAS000004	0.57
Stockton Area Municipal Separate Storm Sewer System	CAS083470	3.6
SUBTOTAL, Central Delta Watershed		5.4
County of Contra Costa	CAS083313	0.30
SUBTOTAL, Marsh Creek Watershed		0.30
County of San Joaquin	CAS000004	0.016
SUBTOTAL, Mokelumne River Watershed		0.016
City of Rio Vista	CAS000004	0.0078

Urban Stormwater Permittees	NPDES Permit No.	Waste Load Allocation (grams per year)
Sacramento Area Municipal Separate Storm Sewer System	CAS082597	1.0
County of San Joaquin	CAS000004	0.11
County of Solano	CAS000004	0.041
City of West Sacramento	CAS000004	0.36
County of Yolo	CAS000004	0.041
SUBTOTAL, Sacramento River Watershed		1.6
City of Lathrop	CAS000004	0.097
Port of Stockton Municipal Separate Storm Sewer System	CAS084077	0.0036
County of San Joaquin	CAS000004	0.79
Stockton Area Municipal Separate Storm Sewer System	CAS083470	0.18
City of Tracy	CAS000004	0.65
SUBTOTAL, San Joaquin River Watershed		1.7
County of Contra Costa	CAS083313	3.2
SUBTOTAL, West Delta Watershed		3.2
County of Solano	CAS00004	0.021
City of West Sacramento	CAS00004	0.28
County of Yolo	CAS00004	0.083
SUBTOTAL, Yolo Bypass Watershed		0.38
TOTAL		**5.75**

The Department's Urban Runoff Methylmercury Load Allocations: Applicable where the Department's Storm Sewer System is Located Within a Delta Subarea but Outside the Jurisdiction of a Municipal Separate Storm Sewer System

Delta Subarea	Current Load (grams per year)	Allocation (grams per year)
Central Delta	0.14	0.14
Marsh Creek		
MokelumneRiver	0.018	0.018
SacramentoRiver	0.62	0.62
San JoaquinRiver	0.0022	0.0022
West Delta	0.066	0.066
Yolo Bypass		

A9.7.4.6 Lahontan Region Sediment/Nutrients Total Maximum Daily Loads

A9.7.4.6.1 Lake Tahoe Sediment and Nutrients Total Maximum Daily Load

Description: The Lahontan Water Board adopted the sediment and nutrients TMDL for Lake Tahoe, which was approved by U.S. EPA on August 16, 2011. Declining clarity in Lake Tahoe is attributed to an increase in fine sediment particles and algae production from nitrogen and phosphorus loading into the lake, primarily impacting recreational use. Urban runoff is the largest fine sediment particles source, contributing 72 percent of the sediment load. Implementation measures focus on reducing sediment loading from urban runoff sources, particularly roadways, and restoring streams and disturbed forest areas.

The Lake Tahoe sediment and nutrients TMDL requires identified responsible parties, including the Department, to meet pollutant load reduction requirements by developing and implementing a pollutant load reduction plan. This Order implements the TMDL by requiring the Department to submit the pollutant load reduction plan and to reduce fine sediment particle, total phosphorus, and total nitrogen loads in the Lake Tahoe TMDL watershed. This Order requires the Department's pollutant load reduction plan to demonstrate how the Department will reduce baseline fine sediment particles, total nitrogen, and total phosphorus loads by 34 percent, 21 percent, and 19 percent, respectively, by September 30, 2026. As required by the TMDL, this Order requires the Department to report reduction of pollutant loads and achievement of load percentage milestones.

Final Waste Load Allocations and Contributions Specific to the Department: Specific contributions, waste load allocations, and load allocations are not identified for the Department. Instead, the Department's waste load allocations are grouped with the "urban upland" reductions that include the City of South Lake Tahoe, El Dorado County, and Placer County. In lieu of Department-specific waste load allocations, compliance with this Order is considered compliance with this TMDL. The table below provides the allocations for the urban upland group, and the corresponding required percent reduction.

Sediment, Nitrogen, and Phosphorous Waste Load Allocations for Urban Upland Sources (million tons per year)

Constituent	Urban Upland Load	Percent Reduction by 2076	Final Load by 2076
Fine Sediment Particles	2.5×10^{20}	71	1.8×10^{20}
Nitrogen	63	50	31.5
Phosphorus	18	43	8.28

Final Compliance Deadline: The final compliance deadline is 65 years after the effective date of the TMDL, which is August 16, 2076.

A9.7.4.6.2 Middle Truckee River Watershed Sediment Total Maximum Daily Load

Description: The Lahontan Water Board adopted the Middle Truckee River Watershed Sediment TMDL, which was subsequently approved by U.S. EPA on September 16, 2009. Excessive suspended sediment concentrations during high river flows impact the aquatic life beneficial uses. State highways run parallel, and in proximity, to the entire 39-mile reach of the Truckee River regulated by this TMDL. The Department's highway facilities in this watershed also include State Highway 89 from the outlet of Lake Tahoe to the Town of Truckee and Interstate 80 from the Town of Truckee to the California-Nevada state line. The TMDL recommends a 10-year evaluation of annual data to determine if revisions are needed to the TMDL implementation plan. The Lahontan Water Board has not determined that further stormwater management activities should be implemented in the watershed by the Department. Progress towards meeting the Middle Truckee River Sediment is conducted annually. The Lahontan Water Board reports that the 2014 monitoring report estimated annual sediment load to the river for the compliance point at Farad as 2,169 tons per year, which is less that the loading capacity of 40,300 tons per year (based on water year 1996 to 1997). Lahontan Water Board speculates that the sharp decline in suspended sediment is due, in part, to drought conditions. The 2016 Water Quality Report Card for sediment in the Middle Truckee River (https://www.waterboards.ca.gov/about_us/performance_report_1920/plan_assess/tmdl_outcomes/r6_mid_truckee_r_sediment.pdf) also states that "The tributaries and outfalls are continually monitored to develop a multi-year, robust dataset to evaluate stormwater management activities, and identify and prioritize future stormwater management activities in the watershed."

Final Waste Load Allocations and Contributions Specific to the Department: The TMDL does not assign a specific waste load allocation to the Department; therefore, proportional contributions for the Department are not identified. Instead, waste load allocations are collectively assigned to the three dischargers regulated under municipal stormwater permits, including the Department, Placer County, and the Town of Truckee. This group is referred to as "urban." Urban waste load allocations are identified by subwatershed, not by individual point sources. The combined waste load allocation to the urban areas is 4,936 tons per year. The TMDL requires land managers in the Truckee River watershed to implement and maintain management practices to control erosion and limit sedimentation to Truckee River and its tributaries. In lieu of waste load allocations, the Department's compliance with its NPDES stormwater permit is evidence of compliance with its responsibilities to achieve watershed conditions. The TMDL requires stormwater drainage system retrofitting, storm drain inlet cleaning, and submittal of abrasives and deicing agent usage.

Final Sediment TMDL Compliance Deadline: The TMDL compliance deadline is May 2028.

A9.7.4.7 Santa Ana Region Nutrients and Mercury Total Maximum Daily Loads

A9.7.4.7.1 Big Bear Lake Nutrients for Dry Hydrological Conditions Total Maximum Daily Load

Description: U.S. EPA approved this TMDL on September 25, 2007. Big Bear Lake was created by the 1884 construction of Bear Valley Dam. The lake's drainage basin is 37 square miles that includes more than 10 streams. Local stream runoff and precipitation are the sole source of water supply to the lake. The major inflows are creeks, including Rathbone Creek, Summit Creek, and Grout Creek. Outflow from the Lake is to Bear Creek, a tributary to the Santa Ana River. The beneficial uses include freshwater and wildlife habitat; recreation; municipal, domestic, and agriculture supply; and groundwater recharge. The lake is moderately eutrophic, and the limiting nutrient is generally phosphorus. Nutrients (nitrogen and phosphorus) are available in the water column and sediment. Nutrients are also bound in organic material, primarily macrophytes and algae.

Final Waste Load Allocations: The Department's discharge is grouped with urban sources. For the urban group of municipal stormwater discharges regulated by NPDES permits, the annual average for the total phosphorus waste load allocation is 475 pounds per year. A Department-specific waste load allocation is not specified in the TMDL.

Contributions Specific to the Department: The waste load allocation specific to the Department is 23 pounds per year for dry hydrological conditions, which is 4.8 percent of the group urban waste load allocation.

Final Compliance Deadline*:* The final compliance deadline for the dry hydrological conditions for phosphorous is December 31, 2015. The final compliance deadline for other requirements in the TMDL is December 31, 2020.

A9.7.4.7.2 Lake Elsinore and Canyon Lake Nutrients Total Maximum Daily Load

Description: The Santa Ana Water Board adopted the Lake Elsinore and Canyon Lake Nutrients TMDL, which was subsequently approved by U.S. EPA on September 30, 2005. Lake Elsinore and Canyon Lake are impaired due to excessive nutrients, namely phosphorous and nitrogen. Excessive levels of phosphorus and nitrogen cause high algal blooms that are detrimental to fish due to the reduction of dissolved oxygen. The beneficial uses impacted by excessive nutrients include aquatic habitat, recreation, and wildlife.

The Lake Elsinore and Canyon Lake TMDL requires compliance with an approved stormwater management plan, a watershed-wide monitoring program, annual compliance status reporting, and updates to compliance plans as conditions warrant. In lieu of this watershed monitoring program, the TMDL allows the Department to choose to implement an individual monitoring plan. This Order implements the TMDL by requiring the Department to implement its approved stormwater management plan, to annually report compliance status with this TMDL, to update its plans as appropriate, and to monitor. The Lake Elsinore and Canyon Lake TMDL Task Force was formed to implement the requirements of the Lake Elsinore and Canyon Lake Nutrient TMDLs. The Department is a member of the Task Force and works jointly with other responsible agencies committed to monitoring actions, special studies, and implementation actions. The Task Force is coordinating watershed monitoring and development of proposed plans and schedules to meet TMDL requirements. On December 23, 2020, the Santa Ana Water Board provided the urban land use as 54,389 acres in the San Jacinto Watershed. On January 21, 2021, the Department provided its right-of-way acres in the Lake Elsinore sub-watershed as 1,540 acres. The Lake Elsinore TMDL allocations for urban, agriculture open/forest, septic systems and confined animal operations apply only to those land uses located downstream of Canyon Lake.

Final Waste Load Allocations and Contributions Specific to the Department: The TMDL does not identify Department-specific waste load

allocations or proportional contributions of nutrients. The waste load allocations are collectively assigned to all NPDES stormwater permittees and referred to as "urban" land uses. Allocations are specified as 10-year running averages. The final total nitrogen and total phosphorous waste load allocations for urban land uses are listed in the table below.

Urban Land Use Waste Load Allocations (kilograms per year as 10-year running average)

Waterbody	Land Use	Final Total Phosphorus Waste Load Allocation	Final Total Nitrogen Waste Load Allocation
Canyon Lake	Urban	306	3,974
Lake Elsinore	Urban	124	349

On December 23, 2020, the Santa Ana Water Board provided the urban land use acreage for the watershed of 54,389 acres. On January 21, 2021, the Department provided its right-of-way acres in the Lake Elsinore watershed as 1,540 acres (about 3 percent of the urban land use). Therefore, the Department-specific waste load allocations are approximately 3 percent of the urban land use values, as shown in the table, below.

Department-Specific Waste Load Allocations as a Percent of Urban Land Use (kilograms per year as 10-year running average)

Waterbody	Final Total Phosphorus Waste Load Allocation	Final Total Nitrogen Waste Load Allocation
Canyon Lake	9.2	119.2
Lake Elsinore	3.72	10.5

Final Compliance Deadline: The final compliance deadline was December 31, 2020.

A9.7.4.7.3 Rhine Channel Area of Lower Newport Bay Mercury

Description: On June 14, 2002, U.S. EPA established the TMDL for toxic pollutants in the Newport Bay watershed. The TMDL includes a numeric target for mercury in the Rhine Channel. The Rhine Channel is listed as impaired on the 1998 303(d) list. The pollutant levels in sediments and water have caused persistent sediment toxicity that exceed standards for human health protection, are associated with impacts to the benthic community, and are associated with bio accumulative effects to the food web.

Final Waste Load Allocations Specific to the Department: The Santa Ana Water Board stated that waste load allocations were developed by

dividing the available load by the various estimated proportions to land areas associated with the source categories, including the Department. The Department's allocation for chromium and mercury are identified as approximately three percent of the corresponding total loads; therefore, the Department's mercury waste load allocation is 0.0027 and chromium waste load allocation is 0.89 kilograms per year.

Final Compliance Deadline: U.S. EPA established the TMDL on June 14, 2002. An implementation schedule was not included; therefore, the final compliance deadline was June 14, 2002.

A9.7.4.8 San Diego Region Sediment and Nutrient Total Maximum Daily Load

Historical loading of sediment to coastal wetlands within the San Diego Water Board jurisdiction has resulted in impacts to natural wetland functions. Excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where deposited. Recurring dredging operations in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure and surrounding urbanized development.

In some watersheds in the San Diego Water Board jurisdiction, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally aquatic life and recreational beneficial uses, including Preservation of Rare and Endangered Species, Fish Migration, Fish Spawning, Wildlife Habitat, Estuarine Habitat, Marine Habitat, Water Contact Recreation, Noncontact Water Recreation and Navigation.

A9.7.4.8.1 Los Peñasquitos Lagoon Sediment Total Maximum Daily Load

Description: The San Diego Water Board adopted the Los Peñasquitos Lagoon Sediment TMDL; subsequently, U.S. EPA approved the TMDL on October 30, 2014. Excessive sediment loading within the lagoon affects beneficial uses, including estuarine habitat and preservation of biological habitats of special significance. The excessive sedimentation reduces tidal mixing in lagoon channels, degrades and causes net loss of saltmarsh vegetation, increases risk of flooding, and increases turbidity.

Final Waste Load and Contributions Specific to the Department: The Los Peñasquitos Lagoon Sediment TMDL assigns an aggregate waste load allocation of 2,580 tons per year for all combined point sources, including the Department. The TMDL identifies the Department as a responsible party and states that the San Diego Water Board expects responsible parties to cooperate in load reduction and monitoring to achieve compliance with the sediment TMDL. In accordance with the sediment TMDL, Attachment D of this Order requires the Department to monitor, implement sediment best management practices, and to report. San Diego Water Board staff provided the sediment proportional responsibility that is calculated as a ratio of the Department's right-of-way acres (1,116 acres) to watershed acres (60,000 acres) multiplied by the total waste load allocation. The Department's sediment waste load allocation is 48 tons per year, as calculated below:

48 Tons per Year = [(1,116 right-of-way acres) divided by (60,000 watershed acres)] multiplied by [(2,580 tons per year)]

Compliance with the sediment waste load allocation is achieved through implementation of sediment best management practices. For compliance with monitoring requirements, the TMDL states that "responsible parties are encouraged to collaborate or coordinate with other regional and local monitoring programs to avoid duplication and reduce associated costs." This Order requires the Department to either self-monitor or participate in regional and local monitoring programs. Sediment monitoring requirements are provided in Attachment F of this Order.

***Final Compliance Deadline*:** The final sediment TMDL compliance deadline is July 14, 2034.

A9.7.4.8.2 Rainbow Creek Total Nitrogen and Total Phosphorus Total Maximum Daily Load

Description: The San Diego Water Board adopted the Rainbow Creek Total Nitrogen and Total Phosphorus TMDL to address the nutrient impairments (i.e., total nitrogen and total phosphorus); subsequently, U.S. EPA approved the TMDL on March 22, 2006. Rainbow Creek was placed on the 303(d) list of "water quality limited" water bodies in 1996 because nutrient concentrations in the water body did not meet the objective for nitrates in municipal supply or the numeric goals for biostimulator substances. Additionally, elevated nutrient concentrations have caused excessive algal growth. The Rainbow Creek TMDL is provided in Chapter 7 of the San Diego Water Board Basin Plan, which states that the

Department is expected to take all actions necessary to meet its nutrient wasteload reductions and that *"… compliance with the nutrient waste load reductions will be accomplished through the development and implementation of best management practices…."*

Final Waste Load Allocations and Contributions Specific to the Department. At the time of the TMDL's adoption, the Department's mass load contributions were 153 kilograms total nitrogen per year and 14 kilograms total phosphorous per year (Table 7-12 of the San Diego Water Board Basin Plan), which represented four percent of the total land use runoff contributions to the annual total nitrogen and total phosphorus surface water loads. As stated in the March 22, 2006, Final Technical Report for the Rainbow Creek TMDL, the Department's Interstate-15 watershed drainage area is 120 acres that consists of approximately 23 acres of impervious roadway and median and 98 acres of vegetated land area. The Department's final 2021 total phosphorus wasteload allocation from Interstate-15 stormwater runoff is 5 kilograms per year for total phosphorous and is 49 kilograms per year for total nitrogen.

To control nutrients, the Department has implemented best management practices within the Interstate-15 drainage area, including right-of-way street sweeping, storm drain inlet maintenance and cleaning, erosion and sediment controls, collaborative activities to support source identification from other dischargers in the Rainbow Creek watershed, discontinuing fertilizing, and discontinuing irrigation.

The Department conducted monitoring during the October through April wet weather months from October 2012 through April 2016 and from October 2020 to April 2021. With continued implementation of technically feasible best management practices, the Department has achieved a 63 percent mass load reduction of total nitrogen in stormwater runoff and a 36 percent mass load reduction of total phosphorus in stormwater runoff over this 8-year monitoring and reporting period. Based on the 2012 through 2021 monitoring data, the Water Boards have determined that the Department has achieved compliance with the 2009, 2011, and 2013 interim wasteload allocations for total nitrogen and total phosphorus. The Department's stormwater runoff mass load reduction was within 20 percent of the final 2021 wasteload allocations for total nitrogen and total phosphorus. On average, the Department has reduced its stormwater runoff mass loading of total phosphorus and total nitrogen from 6 to 18 percent annually based on the 2012 mass loading through implementation of non-structural best management practices. With continued implementation of current Department non-structural best management

practices, the Department may achieve the final wasteload allocations in the near future.

In addition, the Department has sponsored nitrogen and phosphorous pollutant source investigations within its right-of-way and a geotechnical study assessing the infiltration capacity of the Interstate-15 right-of-way for installation of structural best management practices (Feasibility Geotechnical Investigation for Infiltration Basins and Trenches, Interstate Route I-15, Rainbow Valley Area San Diego and Riverside, Counties, California Contract No. 43A0182, January 2008). The San Diego Water Board has reviewed these studies. The investigations conclude that other than aerial deposition of auto exhaust, there are no other known sources of nitrogen or phosphorous within the Department's control within the Interstate-15 right-of-way drainage area to the Rainbow Creek Watershed. Further, the Department concluded that geology in the right-of-way area was natural rock with very low infiltration rates and was not suitable for the installation of structural best management practices.

Final Compliance Deadline: The final compliance deadline for the TMDL was December 31, 2021.

A9.7.5 Pollutant Category—Metals/Toxics/Pesticides Total Maximum Daily Load

***General Description of Pollutant Category*:** Toxic pollutants, including metals (i.e., copper, zinc, lead, cadmium, nickel, chromium, and selenium), pesticides (e.g., diazinon, dichlorodiphenyltrichloroethane, and dichlorodiphenyldichloroethylene), polycyclic aromatic hydrocarbons, and polychlorinated biphenyls (PCBs) cause impairments to California's water quality.

Sources of Pollutants and How Pollutants Enter the Waterway: The main transport mechanism for these pollutants is through fine sediment. When contaminated fine sediments wash off the roadways and through storm drains or to surface waters, then fine sediment wash off resuspends in the water column and become bioavailable.

A source of pesticides is from agricultural and urban runoff and from application along roadways. A source of PCBs is aging components found in structures and equipment installed prior to that compound ban in the late nineteen seventies. A source of toxic metals is from the mechanical components of automobiles, especially those that are subjected to frictional stresses (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e., cadmium).

Contributions Specific to the Department: The Department is identified as a source of toxic pollutants because it owns and operates the roadways that act as a conveyance system for the transport of toxics adhering to fine sediments. However, the models that were used to develop TMDLs relied on the percentage of land use to determine waste load allocations, showing that in most cases the Department makes up a relatively minor load for toxic pollutants.

Control Measures: Control measures include implementing an integrated pest management program, preventing the use of diazinon, implementing a PCB component removal process, dredging contaminated sediment, and treating the fine sediment to remove PCBs, pesticides, and metals adhered to the sediment.

A9.7.5.1 San Francisco Bay Region Toxics Total Maximum Daily Loads

A9.7.5.1.1 San Francisco Bay Polychlorinated Biphenyls Total Maximum Daily Load

Description: On March 29, 2010, U.S. EPA approved the San Francisco Bay Polychlorinated Biphenyls (PCBs) TMDL that was developed and adopted by the San Francisco Bay Water Board. All segments of the San Francisco Bay have been identified as impaired by elevated levels of polychlorinated biphenyls s in sport fish, with neither the narrative nor the numeric water quality objectives attained. The existing beneficial use for commercial and sport fishing is not fully supported. This TMDL identifies stormwater runoff as a major source of PCB transport and includes the Department's roadways, non-roadway facilities, and right-of-way.

The San Francisco Bay Polychlorinated Biphenyl TMDL includes loads and allocations that are grouped together as "urban stormwater." The TMDL requires that best management practices and control measures be used to reduce polychlorinated biphenyls in urban stormwater runoff, which includes a schedule and implementation of technically feasible, effective, and cost-efficient control measures to attain allocations. The TMDL states that treatment controls may be implemented within the Department's right-of-way or in source areas. For example, treatment controls may be implemented in areas managed by municipalities, local agencies, or private entities to which runoff from Department's right-of-way is discharged. A Department-specific allocation was not provided in the TMDL.

On October 21 and December 29, 2020, the San Francisco Bay Water Board staff provided clarification about the allocations: polychlorinated biphenyl treatment needs are satisfied through the treatment acres calculated for mercury (i.e., 2,970 acres of right-of-way). Further,

atmospheric deposition distributes mercury (but not polychlorinated biphenyls) relatively uniformly across Bay Area watersheds; and atmospherically deposited mercury constitutes a large percentage of the mercury found in all urban runoff. Further, polychlorinated biphenyls shall be targeted through the specific choice of treatment locations because higher credit will be given for implementing projects in more contaminated land use areas.

This is an incentive for projects that benefit both mercury and polychlorinated biphenyl load reductions. For treatment projects implemented in old industrial land use areas, the Department shall receive an acreage credit of three times the credit recognized for projects implemented in the Department's right-of-way (one acre credit for each acre treated).

The basis of this ratio is that the ratio of polychlorinated biphenyl yield from old industrial to old urban land use (the Department's right-of-way is assumed to have this yield) is 86:30 (approximately 3:1), and the ratio of these land uses for mercury is 1300:215, or 6:1.

Because of the higher pollutant yield (both PCBs and mercury) in old industrial land use areas, projects implemented in old industrial land use areas are recognized as having a higher pollutant removal benefit. Moreover, applying the 3:1 mercury ratio to polychlorinated biphenyls is conservative since a higher ratio (up to 6:1) could be justified. The reference for these ratios is found in the March 23, 2017, report, Interim Accounting Methodology for TMDL Loads Reduced, that was prepared for the Bay Area Stormwater Management Agencies Association. Consequently, achieving specific mercury load reductions is an appropriate driver for deriving areal treatment requirements because mercury will be found in all the Department's runoff while polychlorinated biphenyls are primarily concentrated in certain old industrial land uses, may not be.

In addition to land uses, polychlorinated biphenyl sources also include polychlorinated biphenyl-containing caulk in existing roadways.

Final Waste Load Allocations and Contributions Specific to the Department: All stormwater runoff sources share a two kilogram per year waste load allocation. A Department-specific contribution is not specified. This Order requires that polychlorinated biphenyl-containing caulk in the Department's right-of-way be identified, removed, and properly disposed of prior to or during the demolition, replacement, or rehabilitation of existing roadways, bridges, and other structures containing such material

in accordance with the Department's standard operating procedures for this material.

The polychlorinated biphenyl TMDL requires monitoring by participation in a regional program or by self-implementing a program. This Order requires the department to select a monitoring option to either participate in the San Francisco Bay Regional Monitoring Program or to develop and implement an equivalent self-monitoring program.

Final Compliance Deadline: The final compliance deadline for the waste load allocation of two kilograms/year is March 29, 2030.

A9.7.5.1.2 San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity Total Maximum Daily Load

Description: U.S. EPA approved the San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity TMDL on May 16, 2007, which had been developed and adopted by the San Francisco Water Board. In the San Francisco Bay area, 37 urban creeks are identified as impaired due to pesticide-related toxicity attributed to diazinon. The San Francisco Bay Water Board established the TMDLs for the impaired creeks to reduce excessive loading of pollutants from stormwater and other point source discharges. Pesticides used for commercial and residential uses enter urban creeks via urban stormwater runoff and dry weather discharges through storm drains. Discharges from publicly and privately-owned storm drains are regulated by NPDES stormwater permits. NPDES stormwater permittees include the Department, municipalities, industrial, and construction stormwater dischargers.

Final Pesticide Toxicity Waste Load Allocations (Numeric Targets): The TMDL sets numeric targets for pesticide-related acute and chronic toxicity in urban creek waters and sediment. The targets require that toxicity not exceed 1.0 acute or chronic toxic units, as determined through standard toxicity tests. In addition, diazinon concentrations in the water column must not exceed 100 nanograms per liter as a one-hour average. The TMDL targets are allocated to all urban runoff, including urban runoff associated with municipal separate storm sewer systems, the Department, and industrial, construction, and institutional sites. Allocations are set equal to the targets and are required to be met at all urban creek locations, including those near storm drain outfalls where urban runoff enters receiving waters.

Contributions Specific to the Department: The Department is required to meet the allocations expressed as the term "targets" above, at all urban

creek locations, including those near storm drain outfalls where urban runoff enters receiving waters.

Final Compliance Deadline: A final compliance deadline is not specified. The San Francisco Bay Water Board plans to review the attainment strategy and TMDL targets every five years to determine if compliance modifications are necessary.

A9.7.5.2 Los Angeles Region Metals and Toxicity Total Maximum Daily Loads

A9.7.5.2.1 Ballona Creek Metals Total Maximum Daily Load

Description: The Ballona Creek Metals TMDL was adopted by the Los Angeles Water Board and subsequently approved by U.S. EPA on December 22, 2005. It was revised by the Los Angeles Water Board, which was approved by the U.S. EPA on October 26, 2015. The revised TMDL states that "recent data indicate that selenium is not present at levels exceeding existing numeric targets and is not impairing the designated beneficial uses. Therefore, a TMDL for selenium is not included." Ballona Creek is impaired due to elevated levels of copper, lead, selenium, and zinc. The TMDL identifies stormwater as a significant contributor to metals loadings in both dry weather and wet weather. Pollutant loadings are derived from urban run-off conveyed via municipal storm drains regulated through NPDES stormwater permits.

Final Waste Load Allocations: Stormwater allocations are divided among the NPDES stormwater permittees, including the Department, other municipal separate storm sewer system permittees and industrial and construction stormwater permittees.

Contributions Specific to the Department: The Department is assigned separate dry-weather and wet-weather waste load allocations as provided in the two tables below.

Department-Specific Dry-Weather Waste Load Allocations, Total Recoverable Metals (grams per day)

Pollutant	Ballona Creek	Sepulveda Canyon Channel
Copper	19.6	7.3
Lead	10.8	4.0
Zinc	246.2	91.3

Department-Specific Wet-Weather Waste Load Allocations, Total Recoverable Metals (grams per day)

Metal	Department
Copper	1.806×10^{-7} multiplied by the daily storm volume in liters
Lead	1.012×10^{-6} multiplied by the daily storm volume in liters
Zinc	1.381×10^{-6} multiplied by the daily storm volume in liters

Final Compliance Deadline: The final compliance deadline was January 11, 2021.

A9.7.5.2.2 Ballona Creek Estuary Toxic Pollutants Total Maximum Daily Load

Description: The Los Angeles Water Board developed and adopted the Ballona Creek Estuary Toxic Pollutants TMDL; subsequently, U.S. EPA approved the revised TMDL on October 26, 2015. Ballona Creek and Ballona Creek Estuary are on the Clean Water Act section 303(d) list as impaired waterbodies for cadmium, copper, lead, silver, zinc, chlordane, dichlorodiphenyltrichloroethane (DDT), PCBs, polycyclic aromatic hydrocarbons, and toxicity in sediments. A primary source of pollutants has been identified as stormwater. Specifically, urban stormwater has been recognized as a substantial source of metal discharges because metals are typically associated with fine particles in stormwater runoff, they have the potential to accumulate in estuarine sediments where they may pose a risk of toxicity.

Final Grouped Mass-Based Waste Load Allocations: Waste load allocations are assigned to the point sources, which are grouped together. Grouped mass-based waste load allocations are assigned for NPDES stormwater permittees, which includes the Department, Los Angeles County, and NPDES General Construction and General Industrial stormwater permittees in the watershed. The tables below provide the grouped waste load allocations for metals and organics.

Grouped Mass-Based Metal Waste Load Allocations for Stormwater

Units	Cadmium	Copper	Lead	Silver	Zinc
Kilograms per year	8.4	238.8	328	7.02	1,054

Grouped Organics Waste Load Allocations for Stormwater (kilograms per year)

Source	Chlordane	Dichlorodiphenyl-trichloroethane	Total Polychlorinated Biphenyls
Grouped waste load allocation	9.13	13.35	22.48

Final Metals and Organics Waste Load Allocations Specific to the Department: Stormwater waste load allocations are also apportioned between the municipal separate storm sewer permittees based on an aerial weighting approach. The two tables below show the waste load allocations apportioned to the Department for metals and for organics.

Department-Specific Stormwater Waste Load Allocations (kilograms per year)

Cadmium	Copper	Lead	Silver	Zinc
0.11	3.2	4.4	0.09	14

Department-Specific Stormwater Waste Load Allocations (grams per year)

Total Chlordane	Total Dichlorodiphenyltrichloroethane	Total Polychlorinated Biphenyls
0.12	0.18	0.30

Final Compliance Deadline: The final compliance deadline is January 11, 2025.

A9.7.5.2.3 Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Silt Total Maximum Daily Load

Description: The Los Angeles Water Board adopted the Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Silt TMDL that was subsequently approved by U.S. EPA on March 14, 2006. Eleven reaches in the Calleguas Creek Watershed were identified on the 303(d) list as impaired due to elevated levels of organochlorine pesticides and/or

polychlorinated biphenyls in water, sediment, and/or fish tissue. Additionally, Mugu Lagoon was listed as impaired for sedimentation and siltation, organochlorine pesticides, and polychlorinated biphenyls. Organochlorine pesticides and polychlorinated biphenyls bioaccumulate in fish tissue and cause toxicity to aquatic life in estuarine and inland waters. Siltation transports organochlorine pesticides and polychlorinated biphenyls to surface waters and causes impairment to aquatic life and wildlife habitats. The TMDL states that urban runoff is a minor sources of organochlorine pesticides and polychlorinated biphenyls.

Waste Load Allocations: The TMDL requires that stormwater waste load allocations be incorporated into the NPDES stormwater permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of best management practices as outlined in an implementation plan.

Final Siltation Waste Load Allocations: The final siltation waste load allocations for municipal separate storm sewer system discharges, including the Department's discharges, is 2,496 tons per year.

Final Organochlorine Pesticides and Polychlorinated Biphenyls in Sediment Waste Load Allocations: In accordance with U.S. EPA current practice, a group concentration-based waste load allocation has been developed for municipal separate storm sewer systems, including the Department's system. (There is no Department-specific waste load allocation.) This grouped allocation applies to all NPDES regulated municipal stormwater discharges in the Calleguas Creek Watershed. The TMDL states that compliance with sediment-based waste load allocations is measured as an in-stream annual average at the base of each subwatershed where discharges are located.

Final Waste Load Allocations for Organochlorine Pesticides and Polychlorinated Biphenyls in Sediment for Stormwater Permittees (nanogram per gram)

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total Chlordane	3.3	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0	2.0
4,4-DDE	2.2	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3	0.3
Dieldrin	4.3	0.2	0.1	0.2	0.2	0.2

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total PCBs	180.0	120.0	130.0	120.0	120.0	120.0
Toxaphene	360.0	0.6	1.0	0.6	0.6	0.6

Table Legend:

DDD = Dichlorodiphenyldichloroethane

DDE = Dichlorodiphenyldichloroethylene

DDT = Dichlorodiphenyltrichloroethane

PCBs = Polychlorinated Biphenyls

Final Compliance Deadline: The final compliance deadline is March 24, 2026.

A9.7.5.2.4 Calleguas Creek, its Tributaries and Mugu Lagoon Metals Total Maximum Daily Loads

Description: The TMDL for Metals and Selenium in the Calleguas Creek and its Tributaries and Mugu Lagoon was adopted by the Los Angeles Water Board and was approved by U.S. EPA on March 26, 2007. It was revised on October 13, 2016, which was approved by the U.S. EPA on June 9, 2017. Revolon Slough, Calleguas Creek Reach 2, and Mugu Lagoon are included on the State's 303(d) List for metals (copper, nickel, and mercury) and selenium. Significant sources are identified as urban runoff, agricultural runoff, and publicly owned treatment works effluent. The Department's contribution is grouped in with "permitted stormwater dischargers," which is the urban runoff group. The Calleguas Creek Watershed is approximately 218,441 acres, of which a combined total of 5,000 acres (2 percent) are attributed to transportation and utilities.

Final Metals Waste Load Allocations: The TMDL provides group waste load allocations for stormwater discharges. The TMDL requires that the waste load allocation be incorporated as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of best management practices.

The TMDL's final waste load allocations are mass-based for both dry-weather and wet-weather conditions. The dry-weather waste load allocations apply to days when flows in the stream are less than the 86th percentile flow rate for each reach. The wet-weather waste load allocations apply to days when flows in the stream exceed the 86th

percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule criteria. Wet weather limits are based on acute California Toxics Rule criteria. The tables below provide the waste load allocations. A water effect ratio is applied to copper. The water effect ratio defaults to a value of one unless a site-specific study is approved.

Contribution Specific to the Department: The TMDL states that waste load allocations shall be incorporated into stormwater permits as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of best management plans. State Water Board staff concludes that it is infeasible to provide Department-specific waste load allocations as receiving water limits, and that Department compliance is best demonstrated through participation in group compliance activities.

Final Metals TMDL Compliance Deadlines: The final metals TMDL compliance deadline is March 26, 2022, which is 15 years after the effective date of the TMDL.

Final Dry-Weather Waste Load Allocations as Receiving Water Limits, Total Recoverable Metals in Water Column (pounds per day)

Location and Flow	Copper	Nickel
Calleguas and Conejo Creek, Low Flow	0.04 × WER -0.02	0.100
Calleguas and Conejo Creek, Average Flow	0.12 × WER -0.02	0.120
Calleguas and Conejo Creek, Elevated Flow	0.18 × WER -0.03	0.440
Revolon Slough, Low Flow	0.03 × WER -0.01	0.050
Revolon Slough, Average Flow	0.06 × WER -0.03	0.069
Revolon Slough, Elevated Flow	0.13 × WER -0.02	0.116

Final Wet-Weather Waste Load Allocations as Receiving Water Limits, Total Recoverable Metals in Water Column (pounds per day)

Constituent	Calleguas Creek	Revolon Slough
Copper[1]	$(0.00054 \times Q^2 \times 0.032 \times Q - 0.17) \times WER - 0.06$	$(0.0002 \times Q^2 + 0.0005 \times Q) \times WER$
Nickel[2]	$0.014 \times Q^2 + 0.82 \times Q$	$0.027 \times Q^2 + 0.47 \times Q$

Table Legend:

WER =water effect ratio.

Q =Daily storm flow rate (cubic feet per second).

Q^2 = Square of daily storm volume

Table Notes:

[1] The water effect ratio of 1.51 for Mugu Lagoon is used to calculate the assigned waste load allocations for discharges to Calleguas and Conejo Creek. Permitted stormwater dischargers may apply a water effect ratio of up to 3.69 for discharges to upstream reaches (except for Reaches 4 and 5) to calculate the assigned waste load allocations. If a water effect ratio of greater than 1.51 is applied, permitted stormwater dischargers shall be required to provide a quantitative analysis to demonstrate that the waste load allocations as modified by the water effect ratio are protective of downstream reaches. No site-specific water effect ratio for Revolon Slough was approved, so default water effect ratio of 1 is applied.

[2] Regardless of the final water effect ratios, total copper loading shall not exceed current loading.

A9.7.5.2.5 Colorado Lagoon Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons and Metals Total Maximum Daily Load

Description: The Colorado Lagoon Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals TMDL was approved by U.S. EPA on June 14, 2011. The TMDL is calculated to protect and restore fish tissue and sediment quality by controlling the contaminated sediment loading and accumulation in the lagoon. Primary sources for contaminants are attributed to urban and stormwater runoff. The Colorado Lagoon watershed is divided into five subbasins, and each subbasin is served by a major storm sewer line that conveys runoff to the lagoon. To address sediment waste load allocations, urban and stormwater discharges are grouped. The Department and the City of Long Beach are responsible for sediment from one storm line. Waste load allocations are expressed as mass-based and as concentration-based.

Final Waste Load Allocations and Contributions Specific to the Department: The Department and the City of Long Beach are each responsible for achieving the sediment waste load allocations assigned to the Line I Storm Drain because the drain conveys stormwater from both entities. Sediment allocations are assigned as mass-based waste load allocations. The Department is jointly responsible with the City of Long Beach in attaining final mass-based waste load allocations for lead and zinc in sediment conveyed to Colorado Lagoon via the Line I Storm Drain.

Final Concentration-Based Sediment Waste Load Allocations: Compliance with the sediment concentration-based waste load allocations for Colorado Lagoon are determined from the lagoon sediment at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the storm sewer system drainage system to the lagoon.

Contribution Specific to the Department: The Department's relative contribution to the organochlorine pesticides, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons, lead, and zinc is expressed through the Department-specific waste load allocations in the two tables, above.

Final Compliance Deadline: The final compliance deadline for final waste load allocations was July 28, 2018.

Department-Specific Final Mass-Based Sediment Waste Load Allocations

Constituent	Line I Storm Drain (milligrams per year)
Dieldrin	0.15
Chlordane	3.65
Dichlorodiphenyltrichloroethane	11.52
Polychlorinated biphenyls	165.49
Polycyclic aromatic hydrocarbons	29,321.50
Lead	340,455.99
Zinc	1,093,541.72

Department-Specific Final Concentration-Based Sediment Waste Load Allocations

Constituent	Final Waste Load Allocation (micrograms per dry kilogram)
Dieldrin	0.02
Chlordane	0.50
DDT	1.58
Polychlorinated biphenyls	22.7
Polycyclic aromatic hydrocarbons	4,022.00
Lead	46,700.00
Zinc	150,000.00

A9.7.5.2.6 Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants Total Maximum Daily Load

Description: U.S. EPA approved the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL on March 23, 2012. The waters of Dominguez Channel and the Greater Los Angeles and Long Beach Harbor area are impaired by heavy metals and organic

pollutants. Specific pollutants include cadmium, chromium, copper, mercury, lead, zinc, chlordane, dieldrin, toxaphene, dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), and certain polycyclic aromatic hydrocarbons. A primary source of pollutants is stormwater and urban runoff, which are regulated under NPDES stormwater permits. The Department is included in this category.

Final and Interim Toxicity Waste Load Allocations: Final waste load allocations are assigned to stormwater discharges, including the Department's system. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where enough data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set.

An interim freshwater toxicity allocation of 2 chronic toxicity units applies to all point sources to Dominguez Channel during wet weather, including the Department. A final freshwater toxicity allocation of 1 chronic toxicity unit applies to all point sources to Dominguez Channel during wet weather, including the Department.

Final Waste Load Allocations (by sediment): The sediment waste load allocations for the Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to stormwater discharges based on the 95th percentile of sediment data collected from 1998-2006. The final mass-based allocations for polycyclic aromatic hydrocarbons are expressed as an annual loading (kilograms per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for total dichlorodiphenyltrichloroethane and total polychlorinated biphenyls are expressed as annual loading (grams per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters.

Department's Interim Sediment Toxic Pollutants Waste Load Allocations (milligrams per kilogram sediment)

Waterbody	Total PAHs	Total DDTs	Total PCBs
Dominguez Channel Estuary	31.60	1.727	1.490
Long Beach Inner Harbor	4.58	0.070	0.060
Los Angeles Inner Harbor	90.30	0.341	2.107
Long Beach Outer Harbor (inside breakwater)	4,022	0.075	0.248
Los Angeles Outer Harbor (inside breakwater)	4,022	0.097	0.310
Los Angeles River Estuary	4.36	0.254	0.683
San Pedro Bay Near/Offshore Zones	4,022	0.057	0.193
Los Angeles Harbor - Cabrillo Marina	36.12	0.186	0.199
Los Angeles Harbor -Consolidated Slop	386.00	1.724	1.920
Cabrillo Beach Area	4,022	0.145	0.033
Fish Harbor	2102.7	40.5	36.6

Table Legend:

PAHs=Polycyclic aromatic hydrocarbons.

PCBs=Polychlorinated biphenyls.

DDT =Dichlorodiphenyltrichloroethane

Department's Final Sediment Toxic Pollutants Waste Load Allocations

Waterbody	Total PAHs (kilograms per year)	Total DDTs (grams per year)	Total PCBs (grams per year)
Dominguez Channel Estuary	0.0023	0.004	0.004
Consolidated Slip	0.00009	0.00014	0.00006
Inner Harbor	0.0017	0.0010	0.0011
Outer Harbor	0.00021	0.000010	0.00004
Fish Harbor	0.000021	0.0000010	0.000006
Cabrillo Marina	0.0000016	0.00000028	0.00000024
San Pedro Bay	0.077	0.002	0.019
Los Angeles River Estuary	0.333	0.014	0.047

Table Legend:

PAHs=Polycyclic aromatic hydrocarbons.

PCBs=Polychlorinated biphenyls.

DDT =Dichlorodiphenyltrichloroethane

Department's Final Concentration-Based Sediment Waste Load Allocations for Chlordane, Dieldrin, and Toxaphene (micrograms per kilogram in dry sediment)

Total Chlordane	Dieldrin	Toxaphene
0.5	0.02	0.10

Department-Specific Contribution: The Department's relative contribution to the toxic pollutant loading is provided in the tables above.

Final Waste Load Allocations for Metals: Interim and final waste load allocations for copper, lead, and zinc are assigned to stormwater dischargers including those from the Department's system. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and all its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cubic feet per second at any point in Dominguez Channel. Mass-based allocations have been set where enough data were available to calculate mass-based allocations; otherwise, waste load allocations are concentration-based. Fish Harbor is impaired for mercury in sediments. Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim waste load allocations but are assigned final concentration-based waste load allocations.

Note - The Department is not named as a responsible party for waste load allocations to Consolidated Slip.

Interim Metals Waste Load Allocations: Interim allocations for Dominguez Channel and Torrance Lateral are assigned to stormwater dischargers, including the Department, and are based on the 95th percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to stormwater discharges based on the 95th percentile of sediment data collected from 1998-2006.

Interim Concentration-based Waste Load Allocations Lead and Zinc at Dominguez Channel and Torrance Lateral (micrograms per liter)

Total Copper	Total Lead	Total Zinc
207.51	122.88	898.87

Interim Concentration-based Sediment Allocations for Copper, Lead, and Zinc (milligrams per kilogram sediment)

Waterbody	Copper	Lead	Zinc
Dominguez Channel Estuary	220.0	510.0	789.0
Long Beach Inner Harbor	142.3	50.4	240.6
Los Angeles Inner Harbor	154.1	145.5	362.0
Long Beach Outer Harbor	67.3	46.7	150
Los Angeles Outer Harbor	104.1	46.7	150
Los Angeles River Estuary	53.0	46.7	183.5
San Pedro Bay	76.9	66.6	263.1
Cabrillo Marina	367.6	72.6	281.8
Consolidated Slip	1470.0	1100.0	1705.0
Cabrillo Beach Area	129.7	46.7	163.1
Fish Harbor	558.6	116.5	430.5

Wet-Weather Freshwater Metals Waste Load Allocations Specific to the Department: Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all its upstream reaches and tributaries above Vermont Avenue. Mass-based (grams per day) waste load allocations were divided between the Department and other municipal separate storm sewer system permittees.

The Department's Final Freshwater Mass-based Waste Load Allocation at Dominguez Channel during Wet-Weather (grams per day)

Total Copper	Total Lead	Total Zinc
32.3	142.6	232.6

Torrance Lateral Sub-Watershed Metals Waste Load Allocations Specific to the Department: For the Torrance Lateral sub-watershed, concentration-based freshwater waste load allocations for both water and sediment are assigned to all dischargers, including the Department.

Metals targets used to calculate these waste load allocations were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates.

The Department's Final Concentration-based Waste Load Allocations for Torrance Lateral

Media (units)	Total Copper	Total Lead	Total Zinc
Water (micrograms/liter, unfiltered)	9.7	42.7	69.7
Sediment (milligrams/kilogram, dry)	31.6	35.8	121

Final Metals Waste Load Allocations: The final mass-based allocations for metals are expressed as an annual loading (kilograms per year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters. The final waste load allocations are:

Final Mass-based Metal Waste Load Allocations for Dominguez Channel and Los Angeles River Estuaries and Long Beach Harbor Waters (kilograms per year)

Reach	Total Copper	Total Lead	Total Zinc
Dominguez Channel Estuary	0.384	0.93	4.7
Consolidated Slip	0.043	0.058	0.5
Inner Harbor	0.032	0.641	2.18
Outer Harbor	0.0018	0.052	0.162
Fish Harbor	0.0000005	0.00175	0.0053
Cabrillo Marina	0.00019	0.0028	0.007
San Pedro Bay	0.88	2.39	9.29
Los Angeles River Estuary	5.1	9.5	34.8

Final Concentration-based Sediment Waste Load Allocations for Other Metals, Dry Sediment (milligrams per kilogram)

Reach	Cadmium	Chromium	Mercury
Dominguez Channel Estuary	1.2		
Fish Harbor			0.15

Final Compliance Deadlines: The Department's compliance deadline for the prescribed interim waste load allocations was March 23, 2012. The final compliance deadline for all final waste load allocations is March 23, 2032.

A9.7.5.2.7 Los Angeles Area Lakes, Echo Park Lake, Chlordane and Dieldrin, Total Maximum Daily Load

Description: U.S. EPA established the Echo Park Lake TMDL for chlordane and dieldrin, on March 26, 2012. The TMDL was developed because these pollutants exceed water quality standards. The Department is a point source contributing to the impairment of the watershed.

Final Waste Load Allocations and Contributions Specific to the Department: Discharges from municipal separate storm sewer systems to Echo Park Lake are sources contributing to the impairment of the watershed. Specific waste load allocations assigned to the Department are provided below. There are two sets of waste load allocations, one which bases compliance on various fish tissue targets, which then supersedes the initial set of waste load allocations. Waste load allocations are specified for the point of discharge.

The Department's Final Suspended Sediment Polychlorinated Biphenyls, Chlordane, and Dieldrin Waste Load Allocations

Subwatershed	Pollutant	Waste Load Allocation (microgram per kilogram dry weight)	Waste Load Allocation (nanogram per liter)
Northern	PCBs	1.77	0.17
Southern	PCBs	1.77	0.17
Northern	Total Chlordane	2.10	0.59
Southern	Total Chlordane	2.10	0.59
Northern	Dieldrin	0.80	0.14
Southern	Dieldrin	0.80	0.14

Table Legend:

Kg = kilogram

PCBs= polychlorinated biphenyls

Department-Specific Polychlorinated Biphenyls, Chlordane, and Dieldrin Waste Load Allocations if Fish Tissue Targets are Met

Subwatershed	Pollutant	Waste Load Allocations (microgram per kilogram dry weight)	Water Column Waste Load Allocations (nanogram per liter)
Northern	Polychlorinated biphenyls	59.8	0.17
Southern	Polychlorinated biphenyls	59.8	0.17
Northern	Total Chlordane	3.24	0.59
Southern	Total Chlordane	3.24	0.59
Northern	Dieldrin	1.90	0.14
Southern	Dieldrin	1.90	0.14

Final Compliance Deadline: In 2012 U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.5.2.8 Los Angeles Area Lakes, Peck Road Park Lake, Chlordane, Dichlorodiphenyltrichloroethane, Dieldrin, and Polychlorinated Biphenyls Total Maximum Daily Load

Description: On March 26, 2012, U.S. EPA established the Peck Road Park Lake TMDL for chlordane, dichlorodiphenyltrichloroethane, dieldrin, and polychlorinated biphenyls because these pollutants exceed water quality standards. The Department is a point source contributing to the impairment of the watershed.

Final Waste Load Allocations and Contributions Specific to the Department: Discharges from municipal separate storm sewer systems to Peck Road Park Lake are sources contributing to the impairment of the watershed. The TMDL provides specific waste load allocations for the Department, which includes two sets. One set relies on meeting various fish tissue targets, and if met then the initial set of waste load allocations would be superseded. Waste load allocations are specified for the point of discharge.

Department's Final Polychlorinated Biphenyls Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	1.29	0.17

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Western	1.29	0.17

Department's Polychlorinated Biphenyls Waste Load Allocation If the Fish Tissue Targets are Met:

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	59.8	0.17
Western	59.8	0.17

Department's Total Chlordane Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	1.73	0.59
Western	1.73	0.59

Department's Total Chlordane Waste Load Allocations if Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	3.24	0.59
Western	3.24	0.59

Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	5.28	0.59
Western	5.28	0.59

Department's Dieldrin Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	0.43	0.14
Western	0.43	0.14

Department's Dieldrin Waste Load Allocation if the Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Eastern	1.90	0.14
Western	1.90	0.14

Final Compliance Deadline: On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.5.2.9 Los Angeles Area Lakes, Puddingstone Reservoir, Chlordane, Dichlorodiphenyltrichloroethane, Polychlorinated Biphenyls, Mercury, and Dieldrin Total Maximum Daily Load

Description: On March 26, 2012, U.S. EPA established the Puddingstone Reservoir TMDL for chlordane, dichlorodiphenyltrichloroethane, polychlorinated biphenyls, mercury, and dieldrin because these pollutants exceed California's fish contaminant goals. The Department is a point source contributing to the impairment of the waterbody.

Final Waste Load Allocations and Contributions Specific to the Department: The TMDLs are separated by two sets of waste load allocations. One set is based on compliance with various fish tissue targets, and if met then the initial set would be superseded. Waste load allocations apply at the point of discharge. Waste load allocations provided in the tables below for polychlorinated biphenyls, chlordane: dichlorodiphenyltrichloroethane, and dieldrin.

Department's Total Polychlorinated Biphenyls Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	0.59	0.17
Southern	0.59	0.17

Department's Total Polychlorinated Biphenyls Waste Load Allocation if Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	59.8	0.17
Southern	59.8	0.17

Department's Total Chlordane Waste Load Allocation

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	0.75	0.57
Southern	0.75	0.57

Department's Total Chlordane Waste Load Allocations if the Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	3.24	0.57
Southern	3.24	0.57

Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	3.94	0.59
Southern	3.94	0.59

Department's Total Dichlorodiphenyltrichloroethane Waste Load Allocations if Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	5.28	0.59
Southern	5.28	0.59

Department's Dieldrin Waste Load Allocations

Subwatershed	Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	0.22	0.14
Southern	0.22	0.14

Department's Dieldrin Waste Load Allocations if Fish Tissue Targets are Met

Subwatershed	Suspended Sediment (micrograms per kilogram dry weight)	Water Column (nanograms per liter)
Northern	1.90	0.14
Southern	1.90	0.14

Final Compliance Deadline: On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not provided; therefore, the final compliance deadline was March 26, 2012.

A9.7.5.2.10 Los Angeles River and Tributaries Metals Total Maximum Daily Load

Description: On December 12, 2016, U.S. EPA approved the Los Angeles River and Tributaries Metals TMDL because copper, lead, and zinc exceed the water quality concentrations established in the California Toxics Rule. Copper concentrations were exceeded only in dry weather conditions. In wet weather conditions, copper, lead, and zinc concentrations were exceeded.

Final Waste Load Allocations and Contributions Not Specific to the Department: This TMDL includes wet-weather and dry-weather waste load allocations for copper, lead, and zinc. Wet-weather conditions occur when the maximum daily flow of the Los Angeles River is greater than or equal to 500 cubic feet per second. Dry-weather conditions occur when the maximum daily flow is less than 500 cubic feet per second. Critical flows are also listed for each of the reaches in this TMDL. For dry-weather conditions, the Department is assigned waste load allocations that are grouped in with other municipal separate storm sewer system permittees.

Water effect ratios are included in these waste load allocations, but default to a value of 1 (unitless) unless site-specific values are approved by the Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

Final Mass-based Dry-Weather Waste Load Allocations for Stormwater Systems as Total Recoverable Metals (kilograms per day)

Waterbody	Critical Flow (cubic feet per second)	Copper	Lead	Zinc
Los Angeles River Reach 6	7.20	0.53 x WER	0.33 x WER	

Waterbody	Critical Flow (cubic feet per second)	Copper	Lead	Zinc
Los Angeles River Reach 5	0.75	0.05 x WER	0.03 x WER	
Los Angeles River Reach 4	5.13	0.32 x WER	0.12 x WER	
Los Angeles River Reach 3	4.84	0.06 x WER	0.03 x WER	
Los Angeles River Reach 2	3.86	0.13 x WER	0.07 x WER	
Los Angeles River Reach 1	2.58	0.14 x WER	0.07 x WER	
Bell Creek	0.79	0.06 x WER	0.04 x WER	
Tujunga Wash	0.03	0.001 x WER	0.0002 x WER	
Burbank Channel	3.3	0.15 x WER	0.07 x WER	
Verdugo Wash	3.3	0.18 x WER	0.10 x WER	
Arroyo Seco	0.25	0.01 x WER	0.01 x WER	
Rio Hondo Reach 1	0.50	0.01 x WER	0.006 x WER	0.16 x WER
Compton Creek	0.90	0.04 x WER	0.02 x WER	

Table Legend:

WER = water effect ratio is equal to 1 (unitless)

Final Concentration-Based Reach-Specific Numeric Targets for Total Recoverable Metals (micrograms per liter)

Waterbody	Copper	Lead	Zinc
Los Angeles River Reach 6	WER [1] × 30	WER [1] × 19	
Los Angeles River Reach 5	WER [1] × 30	WER [1] × 19	
Los Angeles River Reach 4	WER [2] × 26	WER [1] × 10	

Waterbody	Copper	Lead	Zinc
Los Angeles River Reach 3 above Los Angeles-Glendale Water Reclamation Plant	WER [2] × 23	WER [1] × 12	
Los Angeles River Reach 3 below Los Angeles-Glendale Water Reclamation Plant	WER [2] × 26	WER [1] × 12	
Los Angeles River Reach 2	WER [2] × 22	WER [1] × 11	
Los Angeles River Reach 1	WER [2] × 23	WER [1] × 12	
Bell Creek	WER [1] × 30	WER [1] × 19	
Burbank Western Channel (above Water Reclamation Plant)	WER [2] × 26	WER [1] × 14	
Burbank Western Channel (below Water Reclamation Plant)	WER [2] × 19	WER [1] × 9.1	
Verdugo Wash	WER [2]× 23	WER [1] × 12	
Compton Creek	WER [1] × 19	WER [1] × 8.9	
Arroyo Seco	WER [2] × 22	WER [1] × 11	
Rio Hondo Reach 1	WER [1] × 13	WER [1] × 5.0	WER [1] × 131
Monrovia Canyon		WER [1] × 8.2	

Table Notes:

1. Water effects ratio is equal to 1 (unit less).
2. Water effects ratio for this constituent in this reach is 3.96.

Table Legend:

WER = Water effects ratio

Final Mass-based Wet-Weather Waste Load Allocations, Total Recoverable Metals

Metal	Waste Load Allocation in Kilograms Per Day
Cadmium	(WER x 5.3 x 10^{-11} x daily volume in liters) – 0.03
Copper	(WER x 2.9 x 10^{-10} x daily volume in liters) – 0.2
Lead	(WER x 1.06 x 10^{-09} x daily volume in liters) – 0.07
Zinc	(WER x 2.7 x 10^{-09} x daily volume in liters) – 1.6

Final Compliance Deadline: The final compliance deadline is January 11, 2028, by which the Department is required to demonstrate that 100 percent of the shared drainage area served by the Department's municipal separate storm sewer system complies with both the dry-weather and wet-weather waste load allocations.

A9.7.5.2.11 Los Cerritos Channel Metals Total Maximum Daily Load

Description: On March 17, 2010, U.S. EPA established the Los Cerritos Channel Metals TMDL because copper, lead, and zinc exceed the concentrations listed in the California Toxics Rule's water quality standards. Copper concentrations exceeded the dry weather conditions. Copper, lead, and zinc concentrations exceeded the wet weather conditions.

Final Waste Load Allocations*:* The Department is assigned wet-weather waste load allocations for copper, lead, and zinc. The Department is assigned a dry-weather waste load allocation only for copper.

Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cubic feet per second. Dry weather is where the maximum daily flow of the Channel is less than 23 cubic feet per second. Final mass-based wet-weather waste load allocations are divided among the Department, other municipal separate storm sewer system permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department's estimated percent area of the watershed is 0.8 percent.

Final Metals Waste Load Allocation Specific to the Department (grams per day)

Copper (Dry weather flow only)	Lead (Wet weather and Dry weather)	Zinc (Wet weather and Dry weather)

0.070 x daily storm volume x 10^{-6}	0.397 x daily storm volume x 10^{-6}	0.680 x daily storm volume x 10^{-6}

Contributions Specific to the Department: Only the Department and other municipal separate storm sewer systems have a mass-based waste load allocation for copper in dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

Final Compliance Deadline: On March 17, 2010, U.S. EPA established the TMDL. An implementation schedule was not provided; therefore, the final compliance deadline was March 17, 2010.

A9.7.5.2.12 Machado Lake Pesticides and Polychlorinated Biphenyls Total Maximum Daily Load

Description: The Los Angeles Water Board developed the Machado Lake Pesticides and Polychlorinated Biphenyls TMDL to protect beneficial uses and to prevent increases in bottom sediment concentrations. U.S. EPA approved it on March 20, 2012. While these compounds have been banned for many years, they continue to persist in the environment and cause water quality impairments. The point sources to the lake are from municipal separate storm sewer system discharges, including those from the Department's system.

Final Waste Load Allocations and Contributions Specific to the Department: The Department is identified as a point source contributing to the impairment of Machado Lake watershed. Contributions specific to the Department are not identified. The Department's waste load allocations for suspended sediment are provided in the table, below.

The Department's Waste Load Allocations for Suspended Sediment

Pollutants	Waste Load Allocations as a 3-Year Averaging Period (microgram per kilogram dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Total Chlordane	3.24
Dieldrin	1.9

Table Legend:

PCBs = polychlorinated biphenyls

DDT = dichlorodiphenyltrichloroethane

DDD = dichlorodiphenyldichloroethane

DDE = dichlorodiphenyldichloroethylene

Final Compliance Deadline: The final compliance deadline was September 30, 2019.

A9.7.5.2.13 Marina Del Rey Harbor Toxics Pollutants Total Maximum Daily Load

Description: The Los Angeles Water Board developed the Marina Del Rey Harbor Toxics Pollutants TMDL, which was established due to elevated concentrations of copper, lead, zinc, and organics. U.S. EPA approved the TMDL on March 16, 2006. The Department is identified as a point source contributing to the impairment of Marina Del Rey Harbor.

Final Waste Load and Contributions Specific to the Department: For copper, lead and zinc, a grouped mass-based waste load allocation was developed for stormwater permittees. From that group allocation, permittees are apportioned separate allocations based on an estimate of the percentage of land area covered under each permit. The Department is assigned approximately one percent of the waste load allocation for each pollutant, based on an estimate of area within the watershed. Waste load allocations for organics are concentration based and are not apportioned by permittees.

The Department's apportion of mass-based waste load allocations for copper, lead, zinc, and organics are provided in the two tables, below.

Department's Apportion of Total Mass-Based Metals Waste Load Allocations in Stormwater (kilograms per year)

Copper	Lead	Zinc
2.06	2.83	9.11

Department's Apportion of Organics Mass-Based Waste Load Allocations in Stormwater (grams per year)

Chlordane	Total PCBs	Total DDT	DDE
0.0005	0.024	0.0017	0.0024

Table Legend:

PCBs = polychlorinated biphenyls

DDT = dichlorodiphenyltrichloroethane

DDE = dichlorodiphenyldichloroethylene

Final Compliance Deadline: On March 20, 2012, U.S. EPA approved the TMDL. An implementation schedule was not provided; however, a final compliance deadline of March 16, 2021, was established if an integrated water resource approach is employed. Otherwise, the final compliance deadline was March 20, 2012.

A9.7.5.2.14 San Gabriel River and Impaired Tributaries Metals Total Maximum Daily Load

Description: U.S. EPA established the San Gabriel River and Impaired Tributaries Metals TMDL on March 26, 2007. On June 6, 2013, the Los Angeles Water Board adopted the Implementation Plan for Total Maximum Daily Loads for Metals and Selenium in the San Gabriel River and Impaired Tributaries Metals, which was approved by the U.S. EPA on May 11, 2017. The San Gabriel River, tributaries, and the estuary each exceed water quality objectives for one or more of the following: copper, lead, selenium, and zinc. The Department is identified as a point source contributing to the impairment of the watershed. Segments (i.e., reaches) of the San Gabriel River have been identified as impaired, which includes the tributaries San Jose Creek Reach 1, San Gabriel River Reach 2, and Coyote Creek. The Department discharges to all the reaches.

Final Metals Waste Load Allocations and Contributions Specific to the Department: The 2013 Implementation Plan states that dry-weather and wet-weather waste load allocations shall be incorporated into the Department's stormwater permit and shall apply to the Department's discharges in the San Gabriel River Watershed.

- For San Gabriel River Reach 2, wet weather TMDLs apply when the maximum daily flow at United States Geological Survey station 11085000 is 260 cubic feet per second or greater.
- For the Coyote Creek, wet-weather TMDLs apply when the maximum daily flow at Los Angeles County Department of Public Works flow gauge station F345-R is 156 cubic feet per second or greater.
- For San Jose Creek, a dry-weather selenium waste load allocation as an effluent limitation is 5 micrograms per liter.
- For dry-weather copper, the Department is assigned concentration-based waste load allocations specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

Dry-Weather Copper Waste Load Allocations (micrograms per liter)

Waterbody	Concentration-Based Waste Load Allocation
San Gabriel River Estuary	3.7
San Gabriel Reach 1	18
Coyote Creek	20

Wet-Weather Waste Load Allocations (kilograms per day)

Reach	Copper	Lead	Zinc
San Gabriel Reach 2		Daily storm volume × 166 micrograms per liter × 49%	
Coyote Creek	Daily storm volume × 27 micrograms per liter × 91.5%	Daily storm volume × 106 micrograms per liter × 91.5%	Daily storm volume × 158 micrograms per liter × 91.5%

In the above table, the mass-based waste load allocation is the daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by the TMDL. The daily storm volume is equal to the total daily flow either in San Gabriel River Reach 2 or Coyote Creek.

The 2013 Implementation Plan states that if a permittee provides a quantitative demonstration that control measures and best management practice will achieve wet-weather waste load allocations, then compliance with wet-weather waste load allocations may be demonstrated by implementation of those control measures and best management practices, subject to Executive Officer approval. The 2013 Implementation Plan also states that a storm water permittee shall demonstrate that 100 percent of the total drainage area served by its storm drain system is effectively meeting both the dry-weather and wet-weather waste load allocations and attaining water quality standards for copper, lead, and zinc.

Final Compliance Deadline: The final compliance deadline to meet waste load allocations is September 30, 2026.

A9.7.5.2.15 Santa Monica Bay Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane Total Maximum Daily

Description: U.S. EPA established the Santa Monica Bay Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane TMDL on March 26, 2012. The purpose of the TMDL is to address impairments that affect water

consumption and aquatic life. The Department is identified as a point source contributing to the impairment of the watershed.

Final Waste Load and Contributions Specific to the Department: Allocations for NPDES-regulated stormwater discharges from multiple point sources are expressed as a single categorical waste load allocation, referred to as grouped waste load allocations. Thus, the waste load allocations are apportioned, as a group, to the Los Angeles County municipal separate storm sewer system permit, the Department's municipal separate storm sewer system permit, and enrollees under the general construction and industrial stormwater permits. Further, the Department's municipal separate storm sewer system is 2.7 percent of the area within the Santa Monica Bay watersheds. Thus, the Department's apportion of the aggregate allocation, as shown in the table below, are 2.7 percent of the aggregate allocations in the TMDL for all NPDES-regulated stormwater discharges.

Department's Final Polychlorinated Biphenyls and Dichlorodiphenyltrichloroethane Waste Load Allocations

Total Polychlorinated Biphenyls (grams per year)	Total Dichlorodiphenyltrichloroethane (grams per year)
3.9	0.75

Final Compliance Deadline: On March 26, 2012, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.5.3 Santa Ana Region Metals/Toxics/Pesticides Total Maximum Daily Load

A9.7.5.3.1 Rhine Channel Area of Lower Newport Bay Chromium

Description: U.S. EPA established the Rhine Channel Area of Lower Newport Bay Chromium TMDL on June 14, 2002. The purpose is to help restore and protect impaired water quality. Chromium concentrations exceed California Toxics Rule water quality standards. Discharges from municipal separate storm sewer systems to Rhine Channel Area of Lower Newport Bay are from point sources contributing to the impairment of the watershed. The Department is considered a point source.

Final Waste Load Allocations and Contributions Specific to the Department: The mass-based chromium waste load allocation for the Department is 0.89 kilograms/year. This waste load allocation, specific to the Department, is based on the Department's relative contribution to the

chromium loading of approximately three percent of the total, based on the area of the Department's facilities within the watershed.

Final Compliance Deadline: U.S. EPA established the TMDL on June 14, 2002. An implementation schedule was not included; therefore, the final compliance deadline was June 14, 2002.

A9.7.5.3.2 San Diego Creek and Newport Bay, including Rhine Channel Metals Total Maximum Daily Load

Description: U.S. EPA established the San Diego Creek and Newport Bay Metals TMDL on June 14, 2002. The TMDL includes the Rhine Channel. Dissolved copper concentrations in San Diego Creek and Upper Newport Bay exceed California Toxics Rule water quality standards. The purpose of the TMDL is to restore and protect water quality of Newport Bay, San Diego Creek, and tributaries. Discharges from municipal separate storm sewer systems to San Diego Creek, Newport Bay and Rhine Channel are from point sources contributing to the impairment of the watershed. The Department is considered a point source.

Final Waste Load Allocations: The TMDL establishes waste load allocations for copper in San Diego Creek, Newport Bay, and the Rhine Channel. San Diego Creek is a freshwater stream, while Newport Bay and Rhine Channels are saltwater waterbodies. For San Diego Creek, the Department is assigned concentration-based waste load allocations for copper. There are no wet-weather or dry-weather waste load allocations; instead, there are four sets of waste load allocations for each metal for four different flow tiers. All flow tiers have an acute and chronic waste load allocation, except for the highest flow tier, which only has an acute waste load allocation.

On April 20, 2020, the Santa Ana Water Board stated that cadmium, lead, and zinc were delisted for San Diego Creek and Newport Bay. However, the following waste load allocation for all four metals continue to be in effect and apply to the Department's discharges.

Concentration-Based Waste Load Allocation Based for San Diego Creek Watershed by Flow Tiers (micrograms per liter) Applicable to the Department

Metal	Flow Tier 1 Acute	Flow Tier 1 Chronic	Flow Tier 2 Acute	Flow Tier 2 Chronic	Flow Tier 3 Acute	Flow Tier 3 Chronic	Flow Tier 4 Acute
Copper	50	29.3	40	24.3	30.2	18.7	25.5

Table Notes:

Flow Tier 1 = Base flow is less than 20 cubic feet per second; hardness = 400 milligrams per liter

Flow Tier 2 = Small flows are 21–181 cubic feet per second; hardness = 322 milligram per liter

Flow Tier 3 = Medium flows are 182–815 cubic feet per second; hardness = 236 milligram per liter

Flow Tier 4 = Flows greater than 815 cubic feet per second; hardness = 197 milligram per liter

Final Mass-Based Dissolved Metals Waste Load Allocations in Newport Bay including Rhine Channel (pounds per year) Applicable to the Department

Copper Newport Bay and Rhine Channel	Lead Rhine Channel	Zinc Rhine Channel
423	2,171	22,866

Final Concentration-Based Dissolved Metal Waste Load Allocations Newport Bay including Rhine Channel (micrograms per liter) Applicable to the Department

Metal	Dissolved Saltwater Acute	Dissolved Saltwater Chronic
Copper	4.8	3.1

Final Compliance Deadline: On June 14, 2002, U.S. EPA established the TMDL. An implementation schedule was not included in the TMDL. Therefore, the final deadline was June 14, 2002.

A9.7.5.3.3 San Diego Creek Upper and Lower Newport Bay, Revised Organochlorine Compounds Total Maximum Daily Load

Description: U.S. EPA established the San Diego Creek and Newport Bay TMDL for Toxic Pollutants on June 14, 2002. The waterbody-pollutant

combinations for which organochlorine compounds The Santa Ana Water Board approved revised TMDLs for organochlorine compounds in 2011, which differ from those established by U.S. EPA in 2002 because of an updated impairment assessment and corrections and modifications made to loading capacities identified by U.S. EPA. These revised TMDLs were approved by U.S. EPA in 2013. The purpose of the TMDL is to restore and protect the water quality of Newport Bay, San Diego Creek, and tributaries. Toxic pollutants are found in the water column, bottom sediments, or fish tissue at potentially unsafe levels that exceed applicable water quality standards. For this TMDL, toxic pollutants include polychlorinated biphenyls, chlordane, toxaphene, and dichlorodiphenyltrichloroethane. Toxic pollutants have a potential to cause short term adverse impacts to aquatic life, aquatic-dependent wildlife, or long-term human health and aquatic life impacts due to pollutant bioaccumulation and biomagnification in the aquatic food web.

Final Waste Load Allocations and Department-Specific Proportion: The Department is listed as a primary source of pollutant loads contributing to the impairment of San Diego Creek watershed. The mass-based waste load allocations are expressed as daily and annual values, as shown in the table, below. Toxic pollutants include total dichlorodiphenyltrichloroethane, chlordane, total polychlorinated biphenyls, and toxaphene. Based upon the percentage of the total urban land use comprised by urban roads, the Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall waste load allocations accordingly.

Department-Specific Waste Load Allocations Expressed as a Daily Value (grams per day)

Watershed	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	0.11			0.002
Upper New port Bay	0.04	0.03	0.02	
Lower Newport Bay	0.02	0.01	0.07	

Table Legend:

PCBs = Polychlorinated Biphenyls

DDT = Dichlorodiphenyltrichloroethane

Department-Specific Waste Load Allocations Expressed as an Annual Value (grams per year)

Watershed	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	39.2			0.6
Upper Newport Bay	15.8	9.2	9.1	
Lower Newport Bay	5.8	3.4	23.9	

Table Legend:

PCBs = Polychlorinated Biphenyls

DDT = Dichlorodiphenyltrichloroethane

Final Compliance Deadline: The final compliance deadline for this TMDL was December 31, 2020.

A9.7.5.4 San Diego Region Metals Total Maximum Daily Load

A9.7.5.4.1 Chollas Creek Dissolved Copper, Lead and Zinc Total Maximum Daily Load

This Order implements the Chollas Creek Dissolved Metals TMDL with requirements for monitoring, reporting, and best management practices. The TMDL states that compliance with the waste load allocations shall be assessed by showing that dissolved metals concentrations in the receiving water do not exceed the waste load allocations. Further, if receiving water monitoring shows that the Department's discharges contribute to an exceedance of the numeric water quality criteria in Chollas Creek, then the Department will be required to implement best management practices to meet the waste load allocations before runoff is discharged to Chollas Creek.

Description: The San Diego Water Board adopted the Chollas Creek Dissolved Copper, Lead, and Zinc TMDL, which was approved by U.S. EPA on December 18, 2008. The purpose of the TMDL is to protect aquatic life due to copper, lead, and zinc concentrations exceeding the California Toxics Rule for water quality criteria. Point sources contributing to the impairment include discharges from municipal separate storm sewer systems. The Department is identified as a contributing point source of these metals.

Final Waste Load Allocations and Contributions Specific to the Department: The TMDL states that modeling efforts point toward freeways and commercial/industrial land uses as the major contributors. The Department is required to meet the waste load allocations provided below, which are concentration-based and are 90 percent of the numeric targets for acute and chronic conditions. The allocations are in units of micrograms per liter as dissolved metals. These formulas provide calculations for acute and chronic conditions for dissolved copper, lead, and zinc concentrations.

As stated above, the TMDL states that compliance with the waste load allocations shall be assessed by showing that dissolved metals concentrations in the receiving water do not exceed the concentrations shown in the table, below, by the final compliance deadline. These waste load allocations apply to the entirety of Chollas Creek and during all times of the year.

Waste Load Allocations Expressed as 90 Percent of the Numeric Targets for Acute Conditions (microgram per liter) in Receiving Water

Metal	Waste Load Allocation
Copper	0.9 × WER × (0.96) × {e^ [0.9422 × ln (hardness) – 1.700)}
Lead	0.9 × WER × {1.46203 – [0.145712 × ln (hardness)]} x {e^ [1.273 × ln (hardness) – 1.460]}
Zinc	0.9 × WER × (0.978) × {e^ [0.8473 × ln (hardness) + 0.884]}

Waste Load Allocations Expressed as 90 Percent of the Numeric Targets for Chronic Conditions (microgram per liter) in Receiving Water

Metal	Waste Load Allocation
Copper	0.9 × WER × (0.96) × {e^ [0.845 × ln (hardness) – 1.702]}
Lead	0.9 × WER × {1.46203 – [0.145712 × ln hardness)]} × {e^ [1.273 × ln (hardness) – 4.705]}
Zinc	0.9 × WER × (0.986) × {e^ (0.8473 × ln (hardness) + 0.884]}

Table Legend:

WER is defined as the water effects ratio. The site-specific water effects ratio applies during wet weather, which is defined as a storm event with greater than 0.1 inch of rainfall. Wet weather copper water effects ratio is 6.998 and wet weather zinc water effects ratio is 1.711. Dry weather water effects ratios are equal to 1.0. There is no site-specific water effects ratio for lead due to neutral pH conditions (making lead very insoluble) and low concentrations of lead detected in Chollas Creek. In absence of a site-

specific value, the water effects ratio for lead remains the default value of 1.0, as described in San Diego Regional Water Quality Control Board Resolution R9-2017-0015.

Final Compliance Deadline: The final compliance date for the Department shall meet 100 percent of waste load allocation (i.e., 90 percent of the numeric target) is December 18, 2028.

A9.7.6 Pollutant Category—Trash Total Maximum Daily Loads

The Department is identified as a responsible contributor of ten trash TMDLs. Two trash TMDLs were established by U.S. EPA and eight were adopted by the Los Angeles Water Board.

- U.S. EPA established the Los Angeles Area Lakes TMDLs, which identifies the Department as a responsible party for trash impairment to Peck Road Park Lake and Echo Park Lake.
- The Los Angeles Water Board adopted eight trash TMDLs for which the Department is identified as a responsible party for trash impairment to the following waterbodies/watersheds: Ballona Creek; Los Angeles Area Lakes, Legg Lake; Los Angeles River; Machado Lake; Malibu Creek Watershed; Revolon Slough and Beardsley Wash; Santa Monica Bay Nearshore and Offshore; and Ventura River Estuary.

These ten TMDLs explicitly state that the trash waste load allocations “will be implemented through permit requirements.” Thus, the Department is required to comply with these ten TMDLs as follows:

1. *TMDL Trash Reduction Allocations*: The TMDL allocations for the Department are zero. The TMDLs include baseline waste load allocations described as gallons per year of trash that the Department shall remove or reduce from discharges from its jurisdiction to satisfy its trash load allocations. The baseline waste load allocations were a result of establishing the Department’s default trash baseline for each watershed. Areas within the Department's jurisdiction include highway on- and off-ramps in high density residential, commercial, and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments.
2. *Control Measures:* To achieve the trash reduction allocation, the TMDLs require the installation of certified full capture systems that are designed to trap all particles that are 5 millimeter or greater and are sized to have a design treatment capacity that is not less than the peak flow rate resulting from a one-year, one-hour storm.

The statewide Trash Provisions, as discussed above in this Fact Sheet, do not apply to the watersheds within these ten trash TMDLs.

A9.7.6.1 Los Angeles Region Trash Total Maximum Daily Load

A9.7.6.1.1 Ballona Creek and Wetland Trash Total Maximum Daily Load

Description: The Los Angeles Water Board adopted the Ballona Creek and Wetland Trash TMDL, which was approved by U.S. EPA on June 30, 2016. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to Ballona Creek and Wetland watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Storm drains were identified as a major source of trash. Waste load allocations were assigned to permittees of the Los Angeles County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 1,635 cubic feet per year.

Compliance Deadline: The final compliance date with 100 percent reduction of trash was September 30, 2015.

A9.7.6.1.2 Los Angeles Area Lakes, Legg Lake Trash Total Maximum Daily Load

Description: The Los Angeles Water Board developed the Legg Lake Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to Legg Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point sources and nonpoint sources are identified as trash sources. Waste load allocations were assigned to stormwater point sources, which includes NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

Baseline Trash Waste Load Allocations Specific to the Department: The Department's baseline waste Load allocation is 586.92 gallons per year.

Final Compliance Deadline: The final compliance deadline for 100 percent reduction of trash from the baseline waste load allocation was March 6, 2016.

A9.7.6.1.3 Los Angeles River Trash Total Maximum Daily Load

Description: The Los Angeles Water Board adopted the Los Angeles River Trash TMD. The TMDL was approved by U.S. EPA on December 24, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations. The point source discharge of trash to the Los Angeles River watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point sources and nonpoint sources are identified as trash sources. Waste load allocations were assigned to stormwater point sources, which includes NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

Baseline Trash Waste Load Allocations Specific to the Department. The Department's baseline trash waste Load Allocation is 59,421 gallons per year and 66,566 pounds per year.

Final Compliance Deadline: The final compliance deadline was September 30, 2014.

A9.7.6.1.4 Machado Lake Trash Total Maximum Daily Load

***Description*:** The Los Angeles Water Board developed the Machado Lake Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The waste load allocation is zero. Both point sources and nonpoint sources are identified as sources. These sources discharge trash to the Machado Lake watershed, shoreline, and channels. Point sources that were assigned waste load allocations include stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

Baseline Trash Waste Load Allocations Specific to the Department. The Department's baseline waste load allocation is 4,215.84 gallons per year.

Final Compliance Deadline: The final compliance deadline was March 6, 2016.

A9.7.6.1.5 Malibu Creek Watershed Trash Total Maximum Daily Load

Description: The Los Angeles Water Board adopted the Malibu Creek Watershed Trash TMDL. The TMDL was approved by U.S. EPA on June 26, 2009. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to the Malibu Creek watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point source and nonpoint sources of trash were identified as sources. For point sources, waste load allocations were assigned to stormwater permittees of the Los Angeles County municipal separate storm sewer system permit, the Ventura County municipal separate storm sewer system permit, and the Department.

Baseline Trash Waste Load Allocations Specific to the Department: The Department's baseline trash waste load allocation is 10,813 gallons per year.

Final Compliance Deadline: The final compliance date was July 7, 2017.

A9.7.6.1.6 Revolon Slough and Beardsley Wash Trash Total Maximum Daily Load

***Description*:** The Los Angeles Water Board developed the Revolon Slough and Beardsley Wash Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to the Revolon Slough and Beardsley Wash watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified in the Revolon Slough and Beardsley Wash and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees of the Ventura County municipal separate storm sewer system permit and the Department.

Baseline Trash Waste Load Allocations Specific to the Department: The Department's baseline waste load allocation is 11,215.45 gallons per year.

Final Compliance Deadline: The final compliance deadline was February 27, 2016.

A9.7.6.1.7 Santa Monica Bay Nearshore and Offshore Debris

Description: The Los Angeles Water Board adopted the Santa Monica Bay Nearshore and Offshore Debris Trash and Plastic Pellets TMDL. The TMDL was approved by the U.S. EPA on March 20, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to the Santa Monica Bay Nearshore and Offshore watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Both point source and nonpoint sources of trash were identified as sources. For point sources, waste load allocations were assigned to stormwater permittees of the Los Angeles County municipal separate storm sewer system permit, the Ventura County municipal separate storm sewer system permit, and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 36,129.0 gallons per year.

Final Compliance Deadline: The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. The final compliance deadline was March 12, 2020.

A9.7.6.1.8 Ventura River Estuary Trash Total Maximum Daily Load

Description: The Los Angeles Water Board developed the Ventura River
Description: The Los Angeles Water Board developed the Ventura River Estuary Trash TMDL. The TMDL was approved by U.S. EPA on February 27, 2008. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

***Waste Load Allocations*:** The point source discharge of trash to the Ventura River Estuary watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees of the Ventura County municipal separate storm sewer system permit and the Department.

***Baseline Trash Waste Load Allocations Specific to the Department*:** The Department's baseline waste load allocation is 2,049.86 gallons per year.

Final Compliance Deadline: The final compliance deadline was February 27, 2016.

A9.7.6.1.9 Los Angeles Area Lakes, Peck Road Park Lake Trash Total Maximum Daily Load

Description: U.S. EPA established the Peck Road Park Lake Trash TMDL on March 26, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat.

Waste Load Allocations: The point source discharge of trash to the Peck Road Park Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. Point source and nonpoint sources for trash were identified and were assigned allocations. For point sources, waste load allocations were assigned to NPDES stormwater permittees under the Los Angeles County municipal separate storm sewer system permit and the Department.

Baseline Trash Waste Load Allocations Specific to the Department: The Department's baseline waste load allocation is 150 gallons per year.

Final Compliance Deadline: An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.6.1.10 Los Angeles Area Lakes, Echo Park Lake Trash Total Maximum Daily Load

Description: U.S. EPA established the Echo Park Lake trash TMDL on March 26, 2012. The purpose of the TMDL is to attain trash water quality standards via discharge prevention and removal, which will lead to improved water quality and protection of aquatic life and habitat

Waste Load Allocation: The point source discharge of trash to Echo Park Lake watershed, shoreline, and channels is prohibited. The waste load allocation is zero. The Department is identified as a point source, and waste load allocations are implemented through the Department's NPDES stormwater permit requirements.

Baseline Trash Waste Load Allocations Specific to the Department: The Department baseline waste load allocation is 150 gallons per year.

Final Compliance Deadline: An implementation schedule was not included; therefore, the final compliance deadline was March 26, 2012.

A9.7.7 Pollutant Category—Bacteria Total Maximum Daily Load

***General Description of Pollutant Category*:** Receiving waters are often adversely affected by urban stormwater runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including stormwater runoff, dry-weather runoff, onsite wastewater, and pet and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

***Sources of Pollutant and How Pollutant Enters the Waterway*:** Major contributors are flows and associated bacteria loading from stormwater conveyance systems. The extent of bacteria loading from natural sources such as birds, waterfowl, and other wildlife, however, are not identified because data does not exist to quantify the impact of wildlife on the waterbodies.

***Watershed Contribution*:** The TMDLs in the bacteria pollutant category show that the Department is a relatively minor source of pollutants.

***Control Measures*:** Best management practices include structural and nonstructural controls to manage dry weather and wet weather discharges.

The Department has options that would be effective for controlling non-stormwater runoff during dry weather. This can be achieved through infiltration, diversion, or other methods. Generally, there should be no flow from areas during dry weather. Dry weather flows can be mitigated by ensuring that broken sprinklers and irrigation pipes are promptly repaired and by review of watering schedules annually.

Increasing infiltration through slowing runoff rates, improving soil structure, and augmenting soil texture to encourage stormwater infiltration are non-structural ways to reduce runoff. Structural best management practices such as biofiltration strips, biofiltration swales, and detention basis can work in concert with the non-structural best management practices to capture of the runoff.

Wet weather flows for the most part impact water contact recreation beneficial uses. Therefore, a combination of source control and treatment best management practices may be necessary. These treatment best management practices can include retention, detention, infiltration, and diversion of stormwater. Non-structural practices may include sweeping,

sanitary services at encampments that are occupied by persons experiencing homelessness, pollution prevention, and clean-up of illegal dumping.

A9.7.7.1 San Francisco Bay Bacteria Total Maximum Daily Load

A9.7.7.1.1 Petaluma River Fecal Indicator Bacteria Total Maximum Daily Load

Description: U.S. EPA approved the Petaluma River Fecal Indicator Bacteria TMDL on May 10, 2021, which was formerly approved by the San Francisco Bay Water Board. The Petaluma River and its tributaries are impaired by bacteria, which impacts recreational uses. Stormwater runoff has the potential to discharge bacteria to the waterbody. Discharges from the Departments stormwater conveyance system are identified as a bacteria source.

Final Waste Load Allocations and Contributions Specific to the Department: Discharges from the Department and from other municipal separate storm sewer systems are considered point sources with associated waste load allocations. The waste load allocation applicable to the Department's stormwater discharges is identified in the table below.

In the table, below, colony forming unit per 100 mL is the Colony Forming Unit per 100 milliliters of sample and is equivalent to Most Probable Number per 100 milliliters of sample.

Department-specific Waste Load Allocations for Bacteria in the Petaluma River Watershed (colony forming unit per 100 mL)

Pollutant Source Category	Estuarine waters Enterococcus	Fresh waters E. Coli
Department's stormwater runoff	Geometric mean less than 30 Statistical Threshold Value = 110	Geometric mean less than 100 Statistical Threshold Value = 320

Final Compliance Deadline: The TMDL states that the compliance date is six years of the TMDL effective date of the TMDL, which is May 10, 2021. Therefore, the compliance date is May 10, 2027.

A9.7.7.1.2 Richardson Bay Pathogens Total Maximum Daily Load

Description: U.S. EPA approved the Richardson Bay Pathogen TMDL on December 18, 2009, which was formerly approved by the San Francisco Bay Water Board. Richardson Bay is impaired by pathogens and the beneficial uses of shellfish harvesting and recreational water contact are not fully supported. Discharges from the Departments stormwater conveyance system are identified to be a source of pathogens.

Final Waste Load Allocations and Allocations Specific to the Department: The Department is assigned specific load allocation for stormwater discharges from its highways. The waste load allocation applicable to the Department's stormwater that discharges directly to Richardson Bay is a median fecal coliform density of:

- Less than 14 most probable number per 100 millimeters, and
- A 90th percentile limit of less than 43 most probable number per 100 millimeters (no more than 10 percent of total samples during any 30-day period may exceed this number).

Final Compliance Deadline: *A final compliance date is not specified in the TMDL. The TMDL states that monitoring results, progress toward attaining TMDL load allocations, and progress towards implementation measures will be evaluated through review of annual reports required under this Order. The TMDL was approved on December 18, 2009; therefore, the final compliance deadline is December 18, 2009.*

A9.7.7.1.3 San Pedro Creek and Pacifica State Beach Bacteria Total Maximum Daily Load

***Description*:** U.S. EPA approved the San Pedro and Pacifica State Beach Bacteria TMDL on August 1, 2013, which was formerly adopted by the San Francisco Bay Water Board. The TMDL identifies municipal stormwater runoff as a potential source to discharge bacteria to San Pedro Creek and Pacifica State Beach. Discharges from the Departments stormwater conveyance system are identified to be a source of bacteria.

Waste Load Allocations and Contributions Specific to the Department: The TMDL states the Department's "*existing best management practices and stormwater NPDES permit requirements, as of the effective date of the* TMDL*, are sufficient to attain and maintain its portion of the wasteload allocation*."

Final Compliance Deadline: The final compliance deadline for the Pacifica State Beach TMDL was August 1, 2021. The final compliance deadline for the San Pedro Creek TMDL is August 1, 2028.

A9.7.7.2 Los Angeles Region Bacteria Total Maximum Daily Loads

A9.7.7.2.1 Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria Indicator Densities Total Maximum Daily Load

Description: The Los Angeles Water Board adopted the revised Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria Indicator

Densities TMDL, and subsequently the U.S. EPA approved the revised TMDL on July 2, 2014. The creek, estuary, and tributaries are impaired due to bacteria, which is impacting recreational use. This TMDL addresses the impairments by establishing waste load allocations. The major bacteria sources are dry- and wet-weather urban runoff from stormwater conveyance systems, which includes runoff regulated under the Department's stormwater permit. Appendix B to the Ballona Creek TMDL states that the watershed is approximately 81,980 acres, of which the Department has 1,206 acres of right-of-way (approximately 1.5 percent).

Final Waste Load Allocations: The TMDL states that the responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach. Waste load allocations, as presented in the tables below, are group allocations that are expressed as the allowable number of days a numeric water quality objective may be exceeded. The numeric water quality objectives are the water contact recreation and limited water contact recreation objectives.

Waste load allocations are expressed as allowable exceedance days because the bacterial density and frequency of single sample exceedances are the most relevant to public health protection. The TMDL requires that these waste load allocations be met at the confluence of each tributary and its downstream reach.

<u>In Marine Waters Designated for Water Contact Recreation</u>

- Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml. c. Enterococcus density shall not exceed 35/100 ml.
- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

<u>In Fresh Waters Designated for Water Contact Recreation</u>

- Geometric Mean Limits
  - E. coli density shall not exceed 126/100 ml.
- Single Sample Limits
  - *E*. coli density shall not exceed 235/100 ml

In Fresh Waters Designated for Limited Water Contact Recreation (LREC-1)

- Geometric Mean Limits
  - E. coli density shall not exceed 126/100 ml.
- Single Sample Limits
  - E. coli density shall not exceed 576/100 ml.

In Fresh Waters Designated for Non-Contact Water Recreation

- Geometric Mean Limits
  - Fecal coliform density shall not exceed 2000/100 ml.
- Single Sample Limits
  - Fecal coliform density shall not exceed 4000/100 ml.

Contributions Specific to the Department: The TMDL states that responsible agencies and jurisdictions are jointly responsible for joint compliance with joint waste load allocations. Further, State Water Board staff concludes that a Department-specific waste load allocation is infeasible to determine due to the Department's small percentage of the waste load allocation (e.g., 1.5 percent multiplied by a waste load allocation). Thus, the Department is assigned the joint waste load allocations identified above and expressed as the number of sample days that may exceed the single sample target, as shown in the tables below.

Final Compliance Deadline: The final compliance deadline for the allowable exceedance days during wet and geometric mean targets for all seasonal periods was July 15, 2021.

Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria: Final Allowable Exceedance Days by Reach

Time Period	Ballona Estuary*	Ballona Creek Reach 2, and Sepulveda Channel *	Ballona Creek Reach 1
Dry Weather	Zero exceedance days for summer dry-weather Nine exceedance days (daily sampling) or two exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives for winter dry-weather	Five exceedance days (daily sampling) or one exceedance day (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10 percent of sample days
Wet Weather (days with ≥0.1 inch of rain + 3 days following the rain event)	17 exceedance days (daily sampling) or three exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	15*** exceedance days (daily sampling) or two exceedance days (weekly sampling) based on the applicable Single Sample Bacteria Water Quality Objectives	No more than 10 percent of sample days
Geometric Mean	Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives	Zero exceedances of the Geometric Mean Bacteria Water Quality Objectives

Table Legend:

* = Exceedance days for Ballona Estuary based on water contact recreation (REC-1) marine water numeric targets; for Ballona Creek Reach 2 based on limited water contact recreation (LREC-1) freshwater numeric targets; and for Sepulveda Channel, based on freshwater contact recreation (REC-1) numeric targets.

** = Exceedance frequency for Ballona Creek Reach 1 based on freshwater non-contact water recreation **(**REC-2) numeric targets

*** = In Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria, Final Waste Load Allocations as Allowable Exceedance Days for Tributaries to the Impaired Reaches

Tributary	Point of Application	Waste Load Allocation (Number of Exceedance Days)
Ballona Creek Reach 1	At confluence with Reach 2	For single sample objectives: Five dry weather, fifteen* wet weather For geometric mean objectives: Zero for all periods
Benedict Canyon Channel	At confluence with Reach 2	For single sample objectives: Five dry weather, fifteen* wet weather For geometric mean objectives: Zero for all periods
Ballona Creek Reach 2	At confluence with Ballona Estuary	For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather. For geometric mean objectives: (0) for all periods
Centinela Creek	At confluence with Ballona Estuary	For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather. For geometric mean objectives: (0) for all periods
Del Rey Lagoon	At confluence with Ballona Estuary	For single sample objectives: Zero summer dry-weather, nine winter dry-weather, seventeen wet weather. For geometric mean objectives: (0) for all periods

Table Legend

*= At the confluence with Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply. Sepulveda Channel was not assigned a waste load allocation at its confluence with Reach 2 since the TMDL requires the more stringent water contact recreation **(**REC-1) objectives to be met in this waterbody, which should lead to the attainment of the less stringent limited water contact recreation (LREC-1) objectives of the downstream reach.

A9.7.7.2.2 Long Beach City Beaches and Los Angeles River Estuary Indicator Bacteria Total Maximum Daily Load

Description: U.S. EPA established the Long Beach City Beaches and Los Angeles River Estuary Indicator Bacteria TMDL on March 26, 2012. The TMDL addresses exceedance of indicator bacteria water quality standards. The beaches and estuary are contaminated by bacteria, which poses a health risk to recreational use. This TMDL identifies stormwater runoff as a source, which includes discharges from the Department's stormwater conveyance system. The Department's discharges are identified as a source in some areas in the Los Angeles River Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

Final Waste Load Allocations: Waste load allocations are expressed as the allowable number of days that numeric water quality objectives, as identified in the Basin Plan, may be exceeded. To implement the water quality objectives for e-coli, fecal coliform, enterococcus, and total coliform, the number of exceedance days was set for three seasons (summer dry, winter dry and winter wet).

Number of Allowable Exceedance Days for Summer Dry Sampling Based on the Reference Year

Site Identification	Monitoring Location	Summer Dry Daily Sampling	Summer Dry Weekly Sampling
DHS (010) 4	Leo Carrillo Beach	0	0
LARE	Los Angeles River Estuary	0	0

Number of Allowable Exceedance Days for Winter Dry and Winter Wet Sampling Based on the Reference Year

Site Identification	Monitoring Location	Winter Dry Daily Sampling	Winter Dry Weekly Sampling	Winter Wet Daily Sampling	Winter Wet Weekly Sampling
DHS (010) 4	Leo Carrillo Beach	9	2	17	3
LARE	Los Angeles River Estuary	9	2	17	3

Contributions Specific to the Department: The Department is not assigned a specific load allocation for stormwater discharges. Due to the grouped nature of the waste load allocations, the Department is assigned the joint waste load allocations identified above and expressed as the number of allowable exceedance days, as shown in the tables above.

Final Compliance Deadline: The TMDL did not include an implementation schedule; therefore, the final compliance deadline was March 26, 2012.

A9.7.7.2.3 Los Angeles River Watershed Bacteria Total Maximum Daily Load

Description: U.S. EPA established the Los Angeles River Watershed Bacteria TMDL on March 23, 2012. Recreating in waters with elevated bacteria indicator densities has been associated with adverse health effects. Discharges from storm sewer conveyance systems into the Los Angeles River and its tributaries are the principal sources of bacteria contributing to impairment. Discharges from the Department's stormwater conveyance system are identified as a source.

Final Waste Load Allocations and Contributions Specific to the Department: The Department's relative contribution to bacteria pollutant loading is not defined. The Department's stormwater conveyance system covers approximately 6,950 acres, which is equal to approximately one percent of the urban watershed. The table below provides dry weather and wet weather waste load allocations the Department shall comply with.

Department-specific Final Dry-Weather Waste and Wet-Weather Waste Load Allocation for the Single Sample Targets

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-High Flow Suspension Waterbodies Wet Weather	15	2
High Flow Suspension Waterbodies Wet Weather	10 (not including High Flow Suspension days)	2 (not including High Flow Suspension days)

If the final dry weather waste load allocations are not met instream, then a demonstration of compliance with one of the following conditions at outfalls to the receiving waters shall be performed as follows:

1. Flow-weighted concentration of E. coli in stormwater conveyance discharges during dry weather is less than or equal to 235 Most

Probable Number per 100 milliliters, based on a weighted-average using flow rates from all measured outfalls;

2. Zero discharge during dry weather; or
3. Demonstration that the Department's E. coli loading to a segment or tributary during dry weather is less than or equal to 235 Most Probable Number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline ranges from September 23, 2020, to March 23, 2037, depending on the segment of the waterbody, as shown below.

Final Compliance Deadline for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment B (Upper and Middle Reach 2 – Figueroa Street to Rosecrans Avenue)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to discharging to Segment B, if using alternative compliance plan	March 23, 2022

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather Second Phase (if necessary) Load Reduction Strategy Only, Segment B (Upper and Middle Reach 2 – Figueroa Street to Rosecrans Avenue)

Implementation Action	Responsible Parties	Compliance Date
Achieve final WLAs in Segment B or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B, if using load reduction strategy	September 23, 2028

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase – Segment B Tributaries (Rio Hondo and Arroyo Seco)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B tributaries, if using alternative compliance plan	September 23, 2023

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Second Phase (if necessary) – Load Reduction Strategy Only, Segment B Tributaries (Rio Hondo and Arroyo Seco)

Implementation Action	Responsible Parties	Compliance Date
Achieve final WLAs Segment B tributaries or demonstrate that non- compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment B tributaries, if using load reduction strategy	March 23, 2030

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, First Phase, Dry Weather, Segment A (lower Reach 2 and Reach 1 – Rosecrans Avenue to Willow Street)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A, if using alternative compliance plan	March 23, 2024

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Second Phase, Dry Weather, Segment A (Lower Reach 2 and Reach 1 – Rosecrans Avenue to Willow Street)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation in Segment A or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A, if using load reduction strategy	September 23, 2031

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase – Segment A Tributary (Compton Creek)

Implementation Action	Responsible Parties	Compliance Date
Achieve interim (or final) waste load allocation and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary if using load reduction strategy	September 23, 2025

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary, if using alternative compliance plan	September 23, 2025

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (if necessary), Segment A tributary (Load Reduction Strategy only)

Implementation Action	Responsible Parties	Compliance Date
Achieve final WLAs in Segment A tributary or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment A tributary, if using load reduction strategy	March 23, 2032

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment E (Reach 6 – Los Angeles River Headwaters at the confluence with Bell Creek and Calabasas Creek to Balboa Boulevard)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E, if using alternative compliance plan	March 23, 2025

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase, Load Reduction Strategy (If Necessary), Segment E (Reach 6 – Los Angeles River Headwaters at the Confluence with Bell Creek and Calabasas Creek to Balboa Boulevard)

Implementation Action	Responsible Parties	Compliance Date
Achieve final WLAs in Segment E or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E, if using load reduction strategy	September 23, 2031

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment E Tributaries (Dry Canyon Creek, McCoy Creek, Bell Creek, and Aliso Canyon Wash)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E tributaries, if using alternative compliance plan	March 23, 2029

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (If Necessary), Load Reduction Strategy Only, Segment E tributaries (Dry Canyon Creek, McCoy Creek, Bell Creek, and Aliso Canyon Wash)

Implementation Action	Responsible Parties	Compliance Date
Achieve final WLAs in Segment E tributaries or demonstrate that non- compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment E tributaries, if using load reduction strategy	September 23, 2035

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, First Phase, Segment C (Lower Reach 4 and Reach 3 – Tujunga Avenue to Figueroa Street), Segment C Tributaries (Tujunga Wash, Burbank Western Channel, and Verdugo Wash), Segment D (Reach 5 and Upper Reach 4 – Balboa Boulevard to Tujunga Avenue), and Segment D Tributaries (Bull Creek)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocation or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries, if using alternative compliance plan	September 23, 2030

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, Second Phase (If Necessary), Load Reduction Strategy Only, Segment C (Lower Reach 4 and Reach 3 – Tujunga Avenue to Figueroa Street), Segment C Tributaries (Tujunga Wash, Burbank Western Channel, and Verdugo Wash), Segment D (Reach 5 and Upper Reach 4 – Balboa Boulevard to Tujunga Avenue), and Segment D Tributaries (Bull Creek)

Implementation Action	Responsible Parties	Compliance Date
Achieve final waste load allocations in Segment C, Segment C tributaries, Segment D, and Segment D tributaries or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Board	The Department and other municipal separate storm sewer system NPDES permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries if using load reduction strategy	March 23, 2037

Final Compliance Deadlines for Los Angeles River Watershed Bacteria TMDLs, Dry Weather, All Los Angeles River Segments and Tributaries

Implementation Action	Responsible Parties	Compliance Date
Achieve final wet-weather waste load allocations and submit report to Regional Board demonstrating wet weather and dry weather compliance.	All responsible parties	March 23, 2037

A9.7.7.2.4 Malibu Creek Watershed Bacteria Total Maximum Daily Load

Description: U.S. EPA established the Malibu Creek Watershed Bacteria TMDL on July 2, 2014. This TMDL includes stormwater runoff and dry weather runoff as possible sources of bacterial contamination. Discharges from the Department's stormwater conveyance system are identified as a source of bacteria. Stormwater permittees are individually responsible for the discharges from their municipal separate storm sewer systems to Malibu Creek, Malibu Lagoon, or tributaries. The TMDL strongly encourages the Department and the County of Los Angeles, Los Angeles County Flood Control District, County of Ventura, Ventura County Watershed Protection District, and municipalities within the Malibu Creek watershed, and the California Department of Parks and Recreation to pool efforts and develop cooperative compliance monitoring programs.

Final Waste Load Allocations and Contributions Specific to the Department: The Department's relative contribution to bacteria pollutant loading is not defined in the TMDL and the Department is jointly

responsible for compliance. Waste load allocations are presented in the table below as allowable number of days that numeric water quality objectives for water contact recreation that may be exceeded. The numeric water quality objectives are as follows:

- Marine Waters Designated for Water Contact Recreation

  Geometric Mean Limits

  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.
  - *Enterococcus* density shall not exceed 35/100 ml.

  Single Sample Limits

  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - *Enterococcus* density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

- Fresh Waters Designated for Water Contact Recreation

  Geometric Mean Limits

  - *E. coli* density shall not exceed 126/100 ml.
  - Single Sample Limits
  - *E.* coli density shall not exceed 235/100 ml

Final Compliance Deadline: The final compliance deadline for wet-weather waste load allocations (expressed as allowable exceedance days for wet weather) was July 15, 2021. The final compliance deadline for compliance with the waste load allocations, expressed as allowable exceedance days during dry weather was July 12, 2012.

Allowable Exceedance Days for Single Sample Limits by Sampling Location

Sampling Station Identification	Location Name	Dry Weather Daily	Dry Weather Weekly	Wet Weather Daily	Wet Weather Weekly
LA RWB	Triunfo Creek	5	1	15	2
LA RWB	Lower Las Virgenes Creek	5	1	15	2
LA RWB	Lower Medea Creek	5	1	15	2

Sampling Station Identification	Location Name	Dry Weather Daily	Dry Weather Weekly	Wet Weather Daily	Wet Weather Weekly
LVMWD (R-9)	Upper Malibu Creek, above Las Virgenes Creek	5	1	15	2
LVMWD (R-2)	Middle Malibu Creek, below Tapia discharge 001	5	1	15	2
LVMWD (R-3)	Lower Malibu Creek, 3 miles below Tapia	5	1	15	2
LVMWD (R-4)	Malibu Lagoon, above PCH	5	1	15	2
LVMWD (R-11)	Malibu Lagoon, below PCH	9*	2*	17	3
	Other sampling stations as identified in the Compliance Monitoring Plan	5	1	15	2

Table Notes:

1. The number of allowable exceedances is based on the lesser of the reference system or the existing levels of exceedance based on historical monitoring data.
2. The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the Los Angeles Airport meteorological station.
3. A dry day is defined as a non-wet day.
4. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.
5. The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.

Sampling Station Legend:

LVMWD: Las Virgenes Municipal Water District

LA RWB: Los Angeles Water Board

PCH: Pacific Coast Highway.

A9.7.7.2.5 San Gabriel River, Estuary, and Tributaries Indicator Bacteria Total Maximum Daily Load

Description: The Los Angles Water Board adopted the San Gabriel River, Estuary, and Tributaries Indicator Bacteria TMDL, which was subsequently approved by U.S. EPA on April 14, 2014. Elevated bacteria densities are causing impairment of water recreation uses, which can have adverse effects on human health. Discharges from the Department's stormwater conveyance system are identified to be a source of bacteria.

Final Waste Load Allocations and Contributions Specific to the Department: The Department's relative contribution to bacteria pollutant loading is not defined. The Department's jurisdiction covers one percent of the watershed. The Department is not assigned a specific load allocation for stormwater discharges. The Department is jointly responsible for complying with the waste load allocation. Waste load allocations are presented in the table below as the allowable number of days that numeric water quality objectives, as provided in the Basin Plan, that may be exceeded for certain time periods. The time periods are defined as summer dry-weather April 1 through October 31; winter dry-weather November 1 through March 31; and wet-weather is the days of 0.1 inch of rain or more plus three days following the rain event.

Final Compliance Deadline: The final compliance deadline is June 14, 2036.

Waste Load Allocations as Allowable Exceedance Days for Daily and Weekly Sampling in the San Gabriel River Estuary

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Summer Dry-Weather	0	1
Winter Wet-Weather	9	2
Wet Weather	20	3

Waste Load Allocations as Allowable Exceedance Days as Single Sample Objectives in the San Gabriel River and its Tributaries

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-High Flow Suspension	17	3
High Flow Suspension Waterbodies Wet Weather	11	2 (not including High Flow Suspension days)

A9.7.7.2.6 Marina del Rey Harbor Mother's Beach and Back Basin Bacteria Total Maximum Daily Load

Description: U.S. EPA approved the revised Marina del Rey Harbor Mother's Beach and Back Basin Bacteria TMDL on March 18, 2004, which was formerly adopted by the Los Angeles Water Board. This TMDL identifies dry-weather urban runoff and stormwater conveyed by storm drains as the primary source bacteria during dry and wet weather. Discharges from the Department's stormwater conveyance system are identified as a source of bacteria. The Department reported its jurisdiction covers one percent of the watershed.

Final Waste Load Allocations and Contributions Specific to the Department: The Department's relative contribution to bacteria pollutant loading is not defined in the TMDL. However, the Department's waste load allocations are defined as the allowable number of days that numeric water quality objectives (i.e., numeric targets) may be exceeded. For this TMDL, waste load allocations are based on water quality objectives on an acceptable health risk for marine recreational waters.

The targets apply throughout the year. The final compliance point is the point at which the effluent from a storm drain initially mixes with the receiving water where there is a freshwater outlet (i.e., publicly-owned storm drain) to the beach, or at ankle depth at beaches without a freshwater outlet, and at surface and depth throughout the Marina Del Rey Harbor. For Mothers' Beach the targets apply at existing or new monitoring sites, with samples taken at ankle depth. For Basins D, E, and F the targets apply at existing or new monitoring sites with samples collected at surface and at depth.

The numeric targets are:

- Rolling 30-day Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.
  - Enterococcus density shall not exceed 35/100 ml.
- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Department-specific waste load allocations are included in the table below.

Final Compliance Deadline: The final compliance deadline was July 15, 2021.

Department-Specific Waste Load Allocations: Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, Final Allowable Exceedance Days of the Numeric Targets by Sampling Location

Sampling Station Identification	Location Name	Summer Dry Weather Daily	Summer Dry Weather Weekly	Winter Dry Weather Daily	Winter Dry Weather Weekly	Wet Weather Daily	Wet Weather Weekly
Marina del Rey Harbor -1	Mothers' (Marina) Beach, at playground area	0	0	3	1	17	3
Marina del Rey Harbor -2	Mothers' (Marina) Beach, at lifeguard tower	0	0	3	1	17	3
Marina del Rey Harbor -3	Mothers' (Marina) Beach, between lifeguard tower and boat dock	0	0	3	1	17	3
Marina del Rey Harbor-4	Basin D, near first slips outside swim area	0	0	3	1	17	3
Marina del Rey Harbor -5	Basin E, in front of tide-gate from Oxford Basin	0	0	3	1	17	3
Marina del Rey Harbor -6	Basin E, center of basin	0	0	3	1	17	3
Marina del Rey Harbor -7	Basin E, in front of Boone-Olive Pump Outlet	0	0	9	2	17	3
Marina del Rey Harbor -8	Back of Main Channel	0	0	9	2	17	3
Marina del Rey Harbor -9	Basin F, center of basin	0	0	9	2	8	1

Table Notes and Legend:

1. The number of allowable exceedances is based on the lesser of either the reference system or the existing levels of exceedance based on historical monitoring data.
2. The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile storm year in terms of dry days at the Los Angeles Airport meteorological station.
3. The allowable number of exceedance days during wet weather is calculated based on the 90th percentile storm year in terms of wet days at the Los Angeles Airport meteorological station. Sampling is done daily or weekly and is reported in number of days.
4. Summer dry weather: April 1 to October 31. Winter dry weather: November 1 to March 31. Wet weather: November 1 to October 31.

α A dry day is defined as a non-wet day. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.

A9.7.7.2.7 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria Total Maximum Daily Load

Description: U.S. EPA approved the Santa Clara River Estuary and Reaches 3, 5, and 7 Indicator Bacteria TMDL on January 19, 2012, which was formerly adopted by the Los Angeles Water Board. The TMDL identifies dry- and wet-weather urban runoff discharges from the stormwater conveyance systems as significant contributors of bacteria. There are elevated bacterial densities in the watershed that are causing impairment of the water contact recreation uses. Discharges from the Department's stormwater conveyance system are identified to be a source of bacteria.

Final Waste Load Allocations and Contributions Specific to the Department: The Department is not assigned a specific load allocation for stormwater discharges. The Department's relative contribution to the bacteria pollutant loading is not defined, although the Department's jurisdiction covers one percent of the watershed. The Department is jointly responsible for complying with the waste load allocation. Waste load allocations as are presented in the table below as allowable number of days that numeric water quality objectives, as provided in the Basin Plan, may be exceeded.

Final Compliance Deadline: The final compliance deadline is January 19, 2029.

Santa Clara River Estuary and Reaches 3, 5, 6, and 7, Indicator Bacteria Allowable Exceedance Days

Time Period	Santa Clara River Reaches 3, 5, 6, and 7	Santa Clara River Estuary
Dry Weather	5 allowable exceedance days of single sample objectives 0 allowable exceedances of geometric mean objectives	Not applicable
Wet Weather	16 allowable exceedance days of single sample objectives 0 allowable exceedances of geometric mean objectives	25 allowable exceedance days of single sample objectives 0 allowable exceedances of geometric mean objectives

Time Period	Santa Clara River Reaches 3, 5, 6, and 7	Santa Clara River Estuary
Summer Dry Weather (April 1 – October 31)	Not applicable	10 allowable exceedance days of single sample objectives 0 allowable exceedances of geometric mean objectives
Winter Wet Weather (November 1 – March 31)	Not applicable	12 allowable exceedance days of single sample objectives 0 allowable exceedances of geometric mean objectives

A9.7.7.2.8 Santa Monica Bay Beaches Bacteria Total Maximum Daily Load

Description: U.S. EPA approved the revised and adopted Santa Monica Bay Beaches Bacteria TMDL on July 2, 2014. Bacteria for these beaches exceeds water quality standards that cause impairment of recreational use. Primary sources of impairment are stormwater runoff and dry weather urban runoff that is conveyed by storm drains and creeks. Discharges from the Department's stormwater conveyance system are identified as a source.

Final Waste Load Allocations and Contributions Specific to the Department: The Department is not assigned a specific load allocation for stormwater discharges and the Department's relative contribution is undefined. As reported in the April 7, 2004, Santa Monica Bay Beaches Coordinated Shoreline Monitoring Plan, the Department's jurisdiction covers approximately one percent (497 acres) of the total watershed (41,341 acres). The TMDL states that all responsible jurisdictions and agencies are jointly responsible for complying with the allowable number of exceedance days for each associated shoreline monitoring site. The TMDL states that waste load allocations, as shown in the table below, are expressed as the number of sample days at a shoreline monitoring site that may exceed the numeric target. Waste load allocations are expressed numeric targets and allowable exceedance days because these are the most relevant to public health protection.

- Geometric Mean Limits
  - Total coliform density shall not exceed 1,000/100 ml.
  - Fecal coliform density shall not exceed 200/100 ml.

- Enterococcus density shall not exceed 35/100 ml.

- Single Sample Limits
  - Total coliform density shall not exceed 10,000/100 ml.
  - Fecal coliform density shall not exceed 400/100 ml.
  - Enterococcus density shall not exceed 104/100 ml.
  - Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1

Waste load allocations are expressed as allowable number of days that numeric water quality objectives (i.e., numeric targets) may be exceeded. The table below provides the allowable number of days. The allowable number of exceedance days is set for three time periods: 1. summer dry weather (April 1 to October 31); 2. winter dry weather (November 1 to March 31); and 3. wet weather (year-round).

Final Compliance Deadline: The final compliance deadline was July 15, 2021.

Waste Load Allocations as Allowable Number of Exceedance Days for any Single Sample Numeric Target, Existing Shoreline Monitoring Stations

Santa Monica Beaches Station Identification Number	Location Name	Subwatershed	Summer Dry Daily	Summer Dry Weekly	Winter Dry Daily	Winter Dry Weekly	Wet Daily	Wet Weekly
1-1	Leo Cabrillo Beach (Reference Beach)	Arroyo Sequit Canyon	0	0	9	2	17	3
1-2	El Pescador State Beach	Los Alisos Canyon	0	0	1	1	5	1
1-3	El Matador State Beach	Encinal Canyon	0	0	1	1	3	1
1-4	Trancas Creek	Trancas Canyon	0	0	9	2	17	3
1-5	Zuma Creek	Zuma Canyon	0	0	9	2	17	3
1-6	Walnut Creek	Ramirez Canyon	0	0	9	2	17	3
O-1 [β]	Paradise Cove	Ramirez Canyon	0	0	9	2	15	3
1-7	Ramirez Creek	Ramirez Canyon	0	0	9	2	17	3
1-8	Escondido Creek	Escondido Canyon	0	0	9	2	17	3
1-9	Latigo Canyon Creek	Latigo Canyon	0	0	9	2	17	3
1-10	Solstice Creek	Solstice Canyon	0	0	5	1	17	3
O-2 [β]	Puerco Canyon storm drain	Corral Canyon	0	0	0	0	6	1
1-11	Wave wash of unnamed creek on Puerco Beach	Corral Canyon	0	0	9	2	17	3
1-12	Marie Canyon Storm Drain on Puerco Beach	Corral Canyon	0	0	9	2	17	3
1-13	Sweetwater Creek on Carbon Beach	Carbon Canyon	0	0	9	2	17	3
1-14	Las Flores Creek	Las Flores Canyon	0	0	6	1	17	3
1-15	Big Rock Beach at 19948 Pacific Coast Hwy	Piedra Gorda Canyon	0	0	9	2	17	3
1-16	Pena Creek	Pena Canyon	0	0	3	1	14	2
1-17	Tuna Canyon Creek	Tuna Canyon	0	0	7	1	12	2
1-18	Topanga Creek	Topanga Canyon	0	0	9	2	17	3
4-1	San Nicholas Canyon Creek	Nicholas Canyon	0	0	4	1	14	2
2-1	Castlerock (Parker Mesa) Storm Drain	Castlerock Canyon	0	0	9	2	17	3
2-2	Santa Ynez Storm Drain	Santa Ynez Canyon	0	0	9	2	17	3
2-3	Will Rogers State Beach at 17200 Pacific Coast Hwy.	Santa Ynez Canyon	0	0	9	2	17	3
2-4	Pulga Canyon storm drain	Pulga Canyon	0	0	9	2	17	3
2-5	Temescal Storm Drain	Pulga Canyon	0	0	9	2	17	3
2-6	Bay Club Storm Drain	Santa Ynez Canyon	0	0	9	2	17	3
2-7	Santa Monica Canyon, Will Rogers State Beach	Santa Monica Canyon	0	0	9	2	17	3
2-8	Venice Pier, Venice	Ballona	0	0	9	2	17	3
2-9	Topsail Street extended	Ballona	0	0	9	2	17	3
2-10	Dockweiler State Beach at Culver Bl. Storm Drain	Dockweiler	0	0	9	2	17	3
2-11	North Westchester Storm Drain	Dockweiler	0	0	0	0	17	3

Santa Monica Beaches Station Identification Number	Location Name	Subwatershed	Summer Dry Daily	Summer Dry Weekly	Winter Dry Daily	Winter Dry Weekly	Wet Daily	Wet Weekly
2-12	World Way extended	Dockweiler	0	0	9	2	17	3
2-13	Imperial Highway storm drain (Dockweiler)	Dockweiler	0	0	4	1	17	3
2-14	Opposite Hyperion Plant, 1 mile	Dockweiler	0	0	9	2	17	3
2-15	Grand Avenue Storm Drain	Dockweiler	0	0	9	2	17	3
3-1	Montana Ave. Storm Drain	Santa Monica	0	0	9	2	17	3
3-2	Wilshire Blvd., Santa Monica	Santa Monica	0	0	9	2	17	3
3-3	Santa Monica Municipal Pier at storm drain	Santa Monica	0	0	9	2	17	3
3-4	Santa Monica Beach at Pico/Kenter storm drain	Santa Monica	0	0	9	2	17	3
3-5	Ashland Av. storm drain (Venice)	Santa Monica	0	0	9	2	17	3
3-6	Rose Ave. Storm Drain on Venice Beach	Santa Monica	0	0	6	1	17	3
3-7	Venice City Beach at Brooks Storm Drain (projection of Brooks Ave.)	Ballona	0	0	9	2	17	3
3-8	Venice Pavilion at projection of Windward Av.	Ballona	0	0	9	2	17	3
3-9	Strand Street extended	Santa Monica	0	0	9	2	17	3
5-1	Manhattan State Beach at 40th Street (El Porto Beach)	Hermosa	0	0	1	1	4	1
5-2	Terminus of 28th Street Drain in Manhattan Beach	Hermosa	0	0	9	2	17	3
5-3	Manhattan Beach Pier	Hermosa	0	0	3	1	6	1
5-4	Near 26th Street on Hermosa Beach	Hermosa	0	0	3	1	12	2
5-5	Hermosa Beach Pier	Hermosa	0	0	2	1	8	2
6-1	Herondo Storm Drain	Redondo	0	0	9	2	17	3
6-2	Redondo Municipal Pier - 100 yards south	Redondo	0	0	3	1	14	2
6-3	4' × 4' outlet at projection of Sapphire Street	Redondo	0	0	5	1	17	3
6-4	120' north of Topaz groin	Redondo	0	0	9	2	17	3
6-5	Storm Drain at Projection of Avenue I	Redondo	0	0	4	1	11	2
6-6	Malaga Cove, Palos Verdes Estates	Redondo	0	0	1	1	3	1
7-1	Malaga Cove	Palos Verdes	0	0	1	1	14	2
7-2	Bluff Cove	Palos Verdes	0	0	1	1	0	0
7-3	Long Point	Palos Verdes	0	0	1	1	5	1
7-4	Abalone Cove	Palos Verdes	0	0	0	0	1	1
7-5	Portuguese Bend Cove	Palos Verdes	0	0	1	1	2	1
7-6	Royal Palms	Palos Verdes	0	0	1	1	6	1
7-8	Wilder Annex	Palos Verdes	0	0	1	1	2	1
7-9	Outer Cabrillo Beach	Palos Verdes	0	0	1	1	3	1

Santa Monica Beaches Station Identification Number	Location Name	Subwatershed	Summer Dry Daily	Summer Dry Weekly	Winter Dry Daily	Winter Dry Weekly	Wet Daily	Wet Weekly
MC-1	Malibu Point, Malibu Colony Dr.	Malibu Canyon	0	0	9	2	17	3
MC-2	Surfrider Beach (breach point of Malibu Lagoon)	Malibu Canyon	0	0	9	2	17	3
MC-3	Malibu Pier on Carbon Beach	Malibu Canyon	0	0	9	2	17	3

Table Notes:

1. The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the Los Angeles Airport meteorological station.
2. The number of allowable exceedances during winter dry weather is based on the lesser of 1) the reference system or 2) existing levels of exceedance based on historical shoreline data.
3. Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.
4. Daily and Weekly sampling data are in units of number of days.

Table Legend:

α Dry weather days are defined as those with less than 0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with greater than or equal to 0.1 inch of rain.

β Monitoring began in 2010 and data was examined from April 2010 to November 2011.

A9.7.7.3 Colorado River Region Bacteria Total Maximum Daily Load

A9.7.7.3.1 Coachella Valley Stormwater Channel Bacterial Indicators TMDL

***Description**:* U.S. EPA approved the Coachella Valley Stormwater Channel Bacterial Indicators TMDL on April 27, 2012, which was formerly adopted by the Colorado River Water Board. Bacterial indicators for E. coli concentrations exceed water quality objectives for warm water ecosystems, endangered species, and recreational uses. The TMDL identifies flows from urban storm sewer systems as a source, which includes the Department's stormwater conveyance system discharges.

***Final Waste Load Allocations**:* The Department is one of three point source discharges that have been assigned the same E. coli allocation. The Department's allocations are presented in the table below and are expressed as E. coli concentrations in most probable number per 100 milliliters.

Final Compliance Deadline: The final compliance deadline is July 15, 2022.

Department-Specific E. Coli Allocation

Parameter	E. Coli Allocation
E. coli	Less than or equal to the 126 Most Probable Number per 100 milliliters (based on a minimum of not less than five samples during a 30-day period) or 400 Most Probable Number per 100 milliliters for a single sample

A9.7.7.4 San Diego Region Bacteria Total Maximum Daily Load

A9.7.7.4.1 Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) Indicator Bacteria, Revised Total Maximum Daily Load

The beaches included in this TMDL include: Pacific Ocean Shoreline, San Joaquin Hills hydrologic subarea; Pacific Ocean Shoreline, Laguna Beach hydrologic subarea; Aliso Creek; Aliso Creek (mouth); Pacific Ocean Shoreline, Aliso hydrologic subarea; Pacific Ocean Shoreline, Dana Point hydrologic subarea; San Juan Creek; Juan Creek (mouth); Pacific Ocean Shoreline, Lower San Juan hydrologic subarea; Pacific Ocean Shoreline, San Clemente hydrologic area; Pacific Ocean Shoreline, San Luis Rey hydrologic unit; Pacific Ocean Shoreline, San Marcos hydrologic area; Pacific Ocean Shoreline, San Dieguito hydrologic unit; Pacific Ocean Shoreline, Miramar Reservoir hydrologic area; Pacific Ocean Shoreline, Scripps hydrologic area; Tecolote Creek; Forester

Creek; San Diego River (Lower); Pacific Ocean Shoreline, San Diego hydrologic unit; and Chollas Creek.

The Project I-Twenty Beaches and Creeks indicator bacteria TMDL sets the Department's wet weather waste load allocations equal to existing loads because the Department's discharges were found to account for less than one percent of the aggregate wet weather loads. The TMDL assumes that dry weather runoff from the Department's right-of-way does not discharge to receiving waters. To ensure that the Department continues to comply with the dry weather and wet weather waste load allocations, this Order implements the TMDL by requiring the Department to monitor for indicator bacteria and to implement best management controls for the bacteria.

Per the TMDL, this Order encourages the Department to participate in a local or regional monitoring program. At the TMDL compliance deadlines, the receiving waters must meet the receiving water limitations to be considered in compliance with the TMDL waste load allocations.

Description: U.S. EPA approved the Project I–Twenty Beaches and Creeks Bacteria Revised TMDL on June 22, 2011. Bacteria exceeds water quality standards, and municipal runoff is identified as a point source contributing to impairment. Both dry and wet weather runoff are sources, including wet weather discharges from the Department's stormwater conveyance system.

Final Waste Load Allocations Specific to the Department: The Department is identified as a point source contributing to the impairment of the watershed. The waste load allocations are expressed as numeric targets in receiving water, as shown in the two tables, below. An exceedance is also defined in these two tables. The TMDL states that if the receiving water limitations are met in the receiving waters, the assumption will be that Department has met its waste load allocations. If, however, the receiving water limitations are not being met in the receiving waters, and the Department's stormwater systems are identified as a source of bacteria causing exceedances, then the Department will be responsible for reducing its bacteria loads and/or demonstrating that controllable anthropogenic discharges from the Department's stormwater systems are not causing the exceedances

Final Compliance Deadline: The final compliance deadline for the dry weather receiving water limitation was April 4, 2021. The final compliance deadline for the wet weather receiving water limitation is April 4, 2031.

In the two tables below, MPN/100 ml is the most probable number per 100 milliliters.

Receiving Water Limitations for Beaches

Indicator Bacteria	Wet Weather Numeric Objective (MPN/100 mL)	Wet Weather Allowable Exceedance Frequency	Dry Weather Numeric Objective (MPN/100 mL)	Dry Weather Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%
Total Coliform	10,000	22%	1,000	0%
Enterococcus	104	22%	35	0%

Table Legend:

Wet weather days are the days with rainfall events of 0.2 inches or greater and the following 72 hours.

Dry weather days are the days with less than 0.2 inch of rainfall observed on each of the previous 3 days.

Receiving Water Limitations for Creeks

Indicator Bacteria	Wet Weather Numeric Objective (MPN/100 mL)	Wet Weather Allowable Exceedance Frequency	Dry Weather Numeric Objective (MPN/100 mL)	Dry Weather Allowable Exceedance Frequency
Fecal Coliform	400	22%	200	0%
Enterococcus	61	22%	33	0%

Table Legend:

Wet weather days are the days with rainfall events of 0.2 inches or greater and the following 72 hours.

Dry weather days are the days with less than 0.2 inch of rainfall observed on each of the previous 3 days.

A9.7.8 Pollutant Category—Diazinon Total Maximum Daily Load

General Description of Pollutant Category: Diazinon is an organophosphate insecticide that is widely used in agriculture to control insects. Residential use of diazinon was banned in the United States in 2004.

Sources of Pollutant and How the Pollutant Enters the Waterway: The most significant source of diazinon is runoff from agricultural land use that enters receiving waters via stormwater conveyance systems.

Watershed Contribution: The Department does not use diazinon. The Department is identified as a source of diazinon because it owns and operates stormwater conveyance systems that receive agricultural runoff and discharge to receiving waters.

C*ontrol Measures:* A integrated pest management program that prohibits the use of diazinon and continued implementation of other pollutant control activities required by this Order are the control measures for implementation of this TMDL.

A9.7.8.1 San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity Total Maximum Daily Load

Description: The San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity TMDL was approved by U.S. EPA on May 16, 2007. The TMDL explains that the exceedances of water quality objectives in these water bodies are due to urban runoff flows through storm drains as operated by all stormwater entities including the Department.

Final Diazinon Waste Load: The waste load allocation for each stormwater entity is 100 ng/L as a one-hour average. The pesticide-related toxicity waste load allocations are not to exceed 1.0 Toxicity Unit acute or 1.0 Toxicity Unit chronic.

Contributions Specific to the Department: The TMDL does not include specific allocations for the Department. The proportionate contribution from the Department's roads is not defined.

Final Compliance Deadline: The TMDL does not include a final compliance. deadline. The TMDL was approved by the U.S. EPA on November 16, 2005; therefore, the final compliance deadline was November 16, 2005. The TMDL states that pesticide-related toxicity is to be eliminated and prevented by using pest management alternatives that protect water quality and by not using pesticides that threaten water quality, which is accomplished through compliance with this Order.

A9.7.8.2 San Diego Region Diazinon Total Maximum Daily Load

A9.7.8.2.1 Chollas Creek Diazinon Total Maximum Daily Load

Description: The Chollas Creek Diazinon TMDL was approved by U.S. EPA on November 3, 2003. This TMDL was established because diazinon exceeds water quality standards, and excessive diazinon in the creek has contributed to aquatic toxicity. The beneficial uses of Chollas Creek include protection of aquatic life of the warm freshwater habitat. Diazinon sources include urban stormwater flows to

the creek, including the Department and other municipal separate stormwater system permittees.

Final Waste Load Allocations and Contributions Specific to the Department: According to the TMDL, the Department is responsible for the major freeways and roadways making up approximately four percent of the land in the watershed. Contributions specific to the department are not identified. Instead, the concentration-based waste load allocations provided below are applied equally to all diazinon discharge sources in the Chollas Creek watershed, Including the Department.

Chollas Creek Final Diazinon Waste Load Allocations (nanograms per liter)

Waterbody	Diazinon Acute (1-hour average)	Diazinon Chronic (4-day average)
Chollas Creek	72	45

Final Compliance Deadline: The TMDL does not include a final compliance deadline. The TMDL was by U.S. EPA on November 3, 2003. Therefore, the final compliance deadline was November 3, 2003.

A9.7.9 Pollutant Category—Selenium Total Maximum Daily Load

General Description of Pollutant Category: Selenium is a naturally occurring element found in geologic formations and soils. When ingested, selenium bioaccumulates to levels that cause severe impacts to invertebrates, fish, birds that prey on fish, and humans. Selenium has been found in high levels in some receiving waters.

Sources of Pollutant and How Pollutant Enters the Waterway: Selenium enters receiving waters via stormwater runoff, construction dewatering, ground water seepage, and irrigation runoff from soils with high selenium content.

Department's Watershed Contribution: The Department is a relatively minor source of selenium since the sources of selenium have been found to not be transportation related. The Department has not been assigned a waste load allocation for any watershed.

Control Measures: Compliance with the selenium TMDLs is through continued implementation of other pollutant control activities required by this Order.

A9.7.9.1 Los Angeles Region Selenium Total Maximum Daily Load

A9.7.9.1.1 Ballona Creek Selenium Total Maximum Daily Load

Description: Los Angeles Water Board Resolution R07-015 included a TMDL for selenium in Ballona Creek and specified a waste load allocation for the

Department. In an amendment to the Basin Plan adopted under Attachment A to its Resolution R13-010 on December 5, 2013, the Los Angeles Water Board determined that selenium is not present at levels exceeding numeric targets and is not impairing the designated beneficial uses; therefore, selenium is excluded from the TMDL. U.S. EPA approved the revised selenium TMDL on October 26, 2015.

A9.7.9.1.2 Calleguas Creek, Tributaries, and Mugu Lagoon Selenium Total Maximum Daily Load

Description: The Calleguas Creek, Tributaries, and Mugu Lagoon TMDL was developed to reduce excessive selenium concentrations in the water body and to assign waste load allocations to major sources, which includes NPDES stormwater permittees. U.S. EPA approved the TMDL on March 26, 2007. A revised TMDL was adopted by the Los Angeles Water Board on October 13, 2016, and was approved by the U.S. EPA on June 9, 2017. Selenium sources were analyzed as a function of wet and dry weather. Research showed that higher loads were delivered during wet weather due to the association between metals and particulate matter.

Final Selenium Waste Load Allocations*:* The TMDL specifies a group concentration-based waste load allocation for NPDES permitted stormwater discharges, including municipal separate storm sewer systems, the Department, general industrial and construction stormwater permittees, and the Naval Air Weapons Station Point Mugu. The TMDL specifies waste load allocations as receiving water limits measured in-stream at the base of Revolon Slough and Calleguas Creek, and in Mugu Lagoon and will be achieved through the implementation of BMPs as outlined in the implementation plan.

Waste load allocations are applied to receiving waters for dry and wet weather. Dry weather is defined as days when stream flows are less than the 86th percentile of the flow rate for each reach. Wet weather is defined as flows greater than 86th percentile. The daily maximum interim limit is set equal to the 99th percentile of available discharge data, the monthly average interim limit is set equal to the 95th percentile.

Final waste load allocations were not developed for the Calleguas and Conejo Creek tributaries.

Group waste load allocations for NPDES permitted stormwater dischargers for selenium in Revolon Slough are:

- Dry weather: Expressed in pounds per day is 0.004 low flow, 0.003 average flow, and 0.004 elevated flow.

- Wet weather: Expressed in pounds per day as $0.027 \times Q^2 + 0.47 \times Q$, where Q (flowrate) equals the daily storm volume, and Q^2 is the square of the daily storm volume. Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

Contributions Specific to the Department: Contributions and waste load allocations specific to the Department are not specified. Instead, a group concentration-based waste load allocation has been assigned for all permitted NPDES stormwater discharges, including the Department, municipal separate storm sewer system permitees, and general industrial and construction stormwater permitees.

Final Compliance Deadline: The TMDL does not include a final compliance deadline. The TMDL was approved by U.S. EPA on June 9, 2017. Therefore, the final compliance deadline was June 9, 2017.

A9.7.9.1.3 San Gabriel River and Impaired Tributaries Selenium Total Maximum Daily Load

Description: On March 26, 2007, U.S. EPA established the San Gabriel River TMDL for Selenium because the river exceeds selenium water quality standards. The San Gabriel River TMDL includes a dry weather selenium TMDL in San Jose Creek Reach 1. Excessive selenium is present in local marine sedimentary rocks and much of the selenium in San Jose Creek results from natural soils. Other potential sources are identified as mobilization of groundwater, such as by dewatering, irrigation of soils naturally high in selenium, and discharges from petroleum-related activities.

Final Waste Load Allocations and Contributions Specific to the Department*:* This TMDL sets a dry-weather selenium waste load allocation of five micrograms per liter for all combined municipal stormwater discharges to San Jose Creek. No specific selenium waste load allocations are assigned to the Department. The dry-weather waste load allocations for the stormwater permittees are shared by the municipal separate storm sewer system permittees and the Department because there is not enough data on the relative extent of municipal separate storm sewer system and the Department's areas. There is no proportional responsibility specific to the Department.

Final Compliance Deadline: The final compliance deadline is September 30, 2023.

A9.7.10 Pollutant Category—Temperature Total Maximum Daily Load

General Description of Pollutant Category: The North Coast Water Quality Control Plan (also referred to as Basin Plan) is the only region with temperature TMDLs, and it defines the water quality objective for temperature as follows:

Estuaries: For estuaries, the Water Quality Control Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California."

Surface Waters: The following temperature objectives apply to surface waters. The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any cold freshwater habitat water be increased by more than five degrees Fahrenheit above natural receiving water temperature. At no time or place shall the temperature of warm freshwater habitat of intrastate waters be increased more than five degrees Fahrenheit above natural receiving water temperature.

Beneficial Uses: The designated beneficial uses affected by thermal pollution of receiving waters include cold freshwater habitat; preservation of rare and endangered species; fish migration; and fish spawning; commercial and sport fishing; and contact and non-contact water recreation.

***Sources of Temperature and its Impacts on the Waterway*:** Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Sediment transport and deposition affects stream bed depth and width, thereby increasing the potential for temperature rise. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore, or mitigate sediment discharges. Unstable areas are characterized

by slide areas, gullies, eroding stream banks, or unstable soils that can deliver sediment to a watercourse. Slide areas include shallow and deep-seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges, and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

***Control Measures*:** Temperature TMDLs identify pollutant loads and waste load and load allocations, which in the North Coast Region typically include allocations to sources such as timber harvest, skid trails, roads, agriculture, and natural background. TMDLs use the best available information to construct source analyses, loading capacities, and assign waste load and load allocations to individual source categories. North Coast Region temperature TMDLs are implemented either under Action Plans or Policies adopted by the Regional Water Quality Control Board as amendments to the *Water Quality Control Plan for the North Coast Region* (Basin Plan). Action Plans and Policies are amended into the Basin Plan through Resolutions of the North Coast Water Board. The total maximum daily load Action Plans and Temperature Implementation Policy, and related Resolutions and workplans contain the key implementation directives for sediment and temperature discharge control in the North Coast Region, as described below.

Resolution No. R1-2014-0006, *Amending the Water Quality Control Plan for the North Coast Region to include the Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature* Impairments *in the Mattole, Navarro, and Eel River Watersheds (*Temperature Implementation Policy) requires the following actions to achieve temperature objectives and implement temperature total maximum daily loads, including EPA-established TMDLs: 1) restore and maintain riparian shade, as appropriate, through nonpoint source control programs, permits and waivers, grants and loans, and enforcement actions; 2) support restoration projects; and coordinate with other agencies with jurisdiction over controllable factors that influence water temperature, as appropriate; 3) continue to implement the Sediment TMDL Implementation Policy as a means of addressing elevated water temperature associated with excess sediment discharges; and 4) implement sediment controls consistent with the approach articulated in the Sediment total maximum daily load Implementation Policy to address temperature concerns associated with sediment in areas not impaired by sediment.

The Basin Plan for the North Coast Region notes, “The removal of vegetation that provides shade to a waterbody is a controllable water quality factor.” Riparian shade-related temperature TMDL allocations are based on the concept of “site-specific potential effective shade,” which means the shade equivalent to that provided by topography and potential vegetation conditions at a site. Shade controls that are effective at correcting temperature impairments also operate to prevent impairments

and provide other water quality protections such as bank stability and filtration of sediment and other waste discharges. The North Coast Water Board has discretion on how to implement load allocations on a case-by-case basis. This policy is not intended to predetermine precise parameters for riparian shade for a specific location or land use. Where non-Water Board programs provide riparian shade that result in attainment of water quality standards, the Regional Water Board will rely on and incorporate those programs."

Furthermore, the Basin Plan for the North Coast Region contains specific total maximum daily load Action Plans for certain watersheds, which are consistent with the direction provided in the Temperature Implementation Policy.

In summary, the Action Plans, Policies, Permits, and staff workplans adopted and/or recognized by the North Coast Water Board require the Department to restore lost riparian shade that has occurred previously and has the potential in the future to result from the presence of State Highways and their ongoing repair and maintenance.

A9.7.10.1 North Coast Region Temperature Total Maximum Daily Loads

The North Coast Water Board temperature TMDLs include requirements for riparian restoration. The travelled way and shoulders of the Department's highways are incompatible with the growth of trees and other vegetation that produces shade along a bank of natural watercourses. This growth is referred to as riparian shade. For the temperature TMDLs, the Department's contribution is a proportional responsibility of riparian shade which cannot exist within the intersection of the Department's highways and a streamside riparian corridor.

The temperature TMDLs assign load allocations as the percent of shade along a stream segment. This Order implements the temperature TMDLs by requiring riparian restoration according to the Department's proportional responsibility. Activities involving the removal of riparian vegetation may require other federal permits and a Clean Water Act section 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation within federal waters. These requirements are intended to prevent alterations to natural receiving water temperature from Department activities.

The acreage of riparian shade to be restored is equal to the roadway area within the riparian setback. The riparian setback was determined by the North Coast Water Board staff by creating a 200-foot buffer width along each side of United States Geological Survey mapped blue-line streams along the intersection of the Department's highways. The Department provided maps with GIS layers of blue line streams and roadway widths/lengths. North Coast Water Board staff developed the area of Department highways and proportional responsibility

shown in the following table. This Order requires riparian restoration as shown in the following table:

Table A-4. Department's Proportional Responsibility of Riparian Shade

Watershed	Area of Department Highways in the Watershed (acres)	Department's Proportional Responsibility of Riparian Shade (acres)
Eel River, Lower Hydrologic Area	456	37
Eel River, Middle Fork	57	17
Eel River, South Fork	748	143
Eel River, Upper Main	255	127
Klamath River	166	61
Navarro River	166	61
Shasta River	869	131

A9.7.10.1.1 Eel River (Lower Hydrologic Area) Temperature Total Maximum Daily Load

Description: On December 18, 2007, U.S. EPA established the Lower Eel River TMDL for Temperature and Sediment due to elevated temperatures resulting in a large decrease of salmon and steelhead populations.

Final Waste Load Allocations, Load Allocations, and Contribution Specific to the Department*:* Point source Waste load allocations are not assigned. Nonpoint sources are responsible for most heat loading in the watershed. The temperature TMDLs assign load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above.

Final Compliance Deadline: On December 18, 2007, U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 18, 2007.

A9.7.10.1.2 Middle Fork Eel River, Eden Valley, and Round Valley Hydrologic Subareas Temperature Total Maximum Daily Load

Description: U.S. EPA established the Middle Fork Eel River TMDL for Temperature on December 31, 2003, because the river exceeds temperature water quality standards that results in cold-water fish decline. Removal of trees in the riparian area is a contributing factor of increased temperature. A primary cause of stream temperatures appears to be the 1964 flood; the rainfall associated with the flood was natural, but the effects resulting from rain were exacerbated by land management activities in the basin. Thus, elevated temperatures are the result of natural and anthropogenic factors. U.S. EPA

concluded that shade is the factor in the Middle Fork Eel basin that is most likely to be altered by human activities from natural conditions; thus, the TMDL focuses on shade. The heat loading capacity is allocated to the various sources of heat in the watershed.

Load Allocations and Contribution Specific to the Department: This TMDL assigns load allocations, which are defined as percent of shade along a stream segment and by temperature. While the Department is not assigned a specific allocation, roads in general are a source. The load allocation is best achieved by allowing trees to grow to provide the equivalent amount of shade that would be provided under natural conditions. The temperature TMDLs assign load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above. Further, the tables below list the Department-specific required effective shade allocations by percent of stream shaded on each stream segment and the temperature allocation by subarea.

Final Deadline: On December 31, 2003, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final deadline was December 31, 2003.

Department-specific Effective Shade Load Allocations Expressed as Percent of Stream Shaded and by Stream Width in Meters

Vegetation Type	1 - 2 meters	2 - 5 meters	5 - 10 meters	10 - 15 meters	15 - 20 meters	20 - 30 meters
Mixed Conifer	96%	91%	82%	68%	52%	37%
Mixed Hardwood/Conifer dominated	96%	90%	79%	67%	49%	33%
Mixed Hardwood/conifer Hardwood dominated	96%	90%	79%	66%	49%	33%
Mixed Hardwood	95%	90%	78%	65%	47%	33%
Mixed Oak Woodlands	95%	89%	78%	64%	44%	26%

Department-specific Temperature Load Allocations by Subarea Expressed as Percent Shade

Upper Black Butte Subarea	North Fork Middle Fork Subarea	Basin Wide
74 percent	69 percent	72 percent

A9.7.10.1.3 South Fork Eel River Hydrologic Area Temperature Total Maximum Daily Load

Description: On December 16, 1999, U.S. EPA established the South Fork Eel River TMDL for Temperature because the river exceeds temperature water quality standards. The cold-water fishery is the most sensitive beneficial use in the watershed. A decline of cold-water fish populations can be attributed to temperatures that exceed the tolerances of these species. Temperature increases in the South Fork Eel River are the result of reductions in riparian vegetation and increased sediment. Stream heating in excess of natural levels arises due to removal of streamside vegetation, stream widening due to increased sedimentation, and the transport of excess heat downstream.

Final Waste Load Allocations and Contributions Specific to the Department: This temperature TMDL identifies load allocations in terms of effective shade by vegetation type and stream width. The Department is not specifically identified as contributing to the impairment of the watershed. However, roads are a contributing factor. This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 above.

Final Temperature Deadlines*:* U.S. EPA established this TMDL on December 16, 1999. An implementation schedule was not included; therefore, the final deadline was December 16, 1999.

A9.7.10.1.4 Eel River (Upper Main Hydrologic Area) Temperature Total Maximum Daily Load

Description: On December 29, 2004, U.S. EPA established the Eel River Upper Main TMDL for Temperature because the river exceeds temperature water quality standards. Historically large salmon and steelhead populations have been greatly reduced due to elevated water temperatures. The TMDL does not include an implementation plan.

Heat and Shade Allocations and Contribution Specific to the Department: U.S. EPA assigns a temperature wasteload allocation to the Department and other point source dischargers as zero net increase in receiving water temperature. The temperature TMDL assigns a load allocation as the percent of shade along a stream segment. This Order implements the temperature TMDL

by requiring riparian restoration according to the Department's proportional responsibility.

The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4 and the table, below:

Effective Shade Load Allocations Expressed as Stream Width in Meters and Percent of Stream Shaded

Vegetation Type	1 -2 meters	2 - 5 meters	5 - 10 meters	10 - 15 meters	15 - 20 meters	20 - 30 meters
Mixed Conifer	96%	91%	82%	68%	52%	37%
Mixed Hardwood/Conifer dominated	96%	90%	79%	67%	49%	33%
Mixed Hardwood/conifer Hardwood dominated	96%	90%	79%	66%	49%	33%
Mixed Hardwood	95%	90%	78%	65%	47%	33%
Mixed Oak Woodlands	95%	89%	78%	64%	44%	26%

Final Compliance Deadline: The TMDL was established by U.S. EPA on December 29, 2004. A deadline was not included; therefore, the compliance deadline was December 29, 2004.

A9.7.10.1.5 Klamath River in California Temperature, Total Maximum Daily Load

Description: The Klamath River Temperature TMDL states that water temperatures in the Klamath River regularly exceed thresholds protective of salmonids. The TMDL allocates sources of elevated temperatures in the watershed. This TMDL was approved by U.S. EPA on December 28, 2010. The Iron Gate Fish Hatchery is the only point source heat load in the Klamath River. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. Non-point sources include excess solar radiation, heat loads associated with increased sediment loads, heat loads from impoundments, and heat loads from Oregon.

***Final Load Allocations*:** The Klamath River Temperature TMDL identifies natural and non-point anthropogenic sources.

Contribution Specific to the Department: The Department is identified as a responsible party based on land use. This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The

Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4, above, and the following table:

Klamath River Temperature Load Allocations

Source	Allocation
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.
Impoundment Discharges	Zero temperature increase above natural temperature
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.[2]
Impoundment Discharges	Zero temperature increase above natural temperatures

Table Notes:

1. Natural temperature is the water temperature that exist in the absence of anthropogenic influences and are equal to natural background.
2. Substantial human-caused sediment-related channel alteration: “A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading.”

Final Compliance Deadline: The TMDL was approved by U.S. EPA on December 28, 2010, which is the effective date of the TMDL. An implementation schedule was not included; therefore, the final compliance deadline was December 28, 2010.

A9.7.10.1.6 Navarro River Temperature Total Maximum Daily Load

Description: On December 31, 2000, U.S. EPA established the Navarro River Temperature TMDL because of a temperature increase in the watershed;

therefore, actions to reduce heat are needed to implement water quality standards.

The TMDL for temperature in the Navarro River is divided among the non-point sources of heat in the watershed. The Department's roads are a non-point source for temperature elevation, which includes temperature elevation due to sediment deposits and vegetation removal along roads.

***Final Waste Load Allocations**:* The TMDL allocations are for non-point sources only and are expressed in terms of effective shade. The Department's responsibility for acres of riparian shade to be restored is equal to the roadway area within the riparian setback, as shown in Table A-4.

Contribution Specific to the Department: The proportioned contributions from the Department's roads are defined in Table A-4.

Final Compliance Deadline: On December 31, 2000, U.S. EPA established the TMDL. An implementation schedule was not included; therefore, the final deadline was December 31, 2000.

A9.7.10.1.7 Scott River Temperature Total Maximum Daily Load

Description: The North Coast Water Board developed the Scott River Temperature TMDL because the watershed is impaired by elevated water temperatures that adversely impact beneficial uses associated with cold freshwater salmonid fisheries. U.S. EPA approved the TMDL on August 9, 2006. The TMDL identifies the primary factor affecting stream temperatures is increased solar radiation resulting from reductions of shade provided by near-stream vegetation. Anthropogenic processes that influence water temperature include changes to the following: stream shade, stream flow via changes in groundwater accretion, stream flow via surface water use, microclimate, and channel geometry. While the Department is not specifically identified as a point source, roads are identified as a non-point source associated with sediment, and thus elevated temperature, in this watershed.

Final Load Allocations: Load allocations are from non-point sources and are expressed as effective shade and adjusted potential shade. The Department's responsibility for acres of riparian shade to be restored is equal to the roadway area within the riparian setback, as shown in Table A-4

Contributions Specific to the Department: The TMDL does not include specific allocations for the Department and the proportionate contribution from the Department's roads is not identified. North Coast Water Board staff determined the Department's level of proportional responsibility for the TMDL allocation. However, under the Action Plan for the Scott River Temperature TMDL, the North Coast Water Board evaluated the adequacy and effectiveness

of the Department's Stormwater Program to prevent, reduce, and control elevated water temperatures in the Scott River watershed and determined that the Department's stormwater management program was adequate and effective to control temperature in the Scott River and no further specific requirements were necessary at this time.

Final Compliance Deadline: The final compliance deadline is August 8, 2046.

A9.7.10.1.8 Shasta River Temperature Total Maximum Daily Load

Description: The Shasta River Temperature TMDL was adopted by the North Coast Water Board, which was subsequently approved by U.S. EPA on December 26, 2007. The TMDL was established because temperature exceeds water quality standards that has impaired the beneficial uses of water, including cold freshwater habitat and sport fishing. The TMDL does not identify the Department as a point source contributing to heat loads in the Shasta River. However, non-point sources that affect temperature elevation include activities such as flow modification and flow diversion during road construction, maintenance, and routine use.

Final Waste Load Allocations*:* There are no known point source heat loads to the Shasta River. The TMDL is allocated among the non-point source heat loads in the watershed: (1) solar heat load (i.e., sunlight) at streamside (riparian) locations in the watershed, (2) heat load from tailwater return flows, and (3) reduced assimilative capacity from surface water flow reductions.

Contributions Specific to the Department: This temperature TMDL assigns load allocations as the percent of riparian shade along a stream segment. The Department-specific proportional responsibility for restoration of riparian shade is specified in Table A-4, above.

Final Compliance Deadline: The final compliance deadline for all identified discharges associated with riparian land use activities to comply with water quality standards and the TMDLs was December 26, 2017.

A9.7.11 Pollutant Category—Chloride Total Maximum Daily Load

General Description of Pollutant Category: Elevated chloride concentrations are causing exceedances of the water quality objectives in some watersheds and result in impairment of beneficial uses. Elevated chloride levels in irrigation water of salt sensitive crops such as avocados, strawberries, and nursery crops result in reduced crop yields.

Sources of Pollutant and How Pollutant Enters the Waterway: The most significant sources of chloride are wastewater discharges from water reclamation plants.

Watershed Contribution: The Department is a relatively minor source of chloride since the sources of chloride are not transportation related.

Control Measures: Compliance with the chloride waste load allocation is expected without any additional control actions if the Department complies with this Order.

A9.7.11.1 Los Angeles Region Chloride Total Maximum Daily Loads

A9.7.11.1.1 Santa Clara River Reach 3 Chloride Total Maximum Daily Load

Description: On June 18, 2003, U.S. EPA established the Santa Clara River Reach 3 TMDL for chloride because the river exceeds the water quality standards for chloride. The purpose of the TMDL is to identify the amount of chloride that can be delivered to the river without exceedance of water quality standards and to allocate the total load among the sources. Runoff discharging from NPDES permitted stormwater systems is a source that are assigned waste load allocations. The Department is specifically identified as a minor point-source discharge. The Santa Paula and Fillmore water reclamation plants are the major point sources that discharge 80 percent of the total estimated load into Santa Clara River Reach 3.

Final Department-Specific Waste Load Allocation: The Department's waste load allocation for Santa Clara River Reach 3 is 80 milligrams per liter. The Department is one of five minor point sources that discharge to Santa Clara River Reach 3. The Department is considered a minor discharger because the chloride concentrations are distributed at a low flow over a short period.

Final Compliance Deadline: On June 18, 2003, U.S. EPA established this TMDL. An implementation schedule was not included; therefore, the final deadline was June 18, 2003.

A9.7.11.1.2 Upper Santa Clara River Chloride Total Maximum Daily Load

Description: On April 28, 2015, U.S. EPA approved the revised Upper Santa Clara River Chloride TMDL. Discharges from water reclamation plants are the primary source of chloride and contribute 70 percent to the load. Chloride from these sources accumulates and degrades groundwater used for crop irrigation.

Final Waste Load Allocations and Contribution Specific to the Department: Municipal stormwater systems each receive a waste load allocation of 100 milligrams per liter as a three-month rolling average. Further Department-specific waste load allocations and proportions are not defined. Thus, the Department's relative contribution to the chloride pollutant loading in the Upper Santa Clara

River is not defined. These waste load allocations are specified as from “other point source discharges.”

Final Compliance Deadline: The final compliance deadline was July 1, 2019.

ATTACHMENT B – ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

This Attachment spells out acronyms and abbreviations and defines certain phrases used in this Order.

Acronyms and Abbreviations

CEDEN	California Environmental Data Exchange Network
C.F.R.	Code of Federal Regulations
NPDES	National Pollutant Discharge Elimination System
Regional Water Board	Regional Water Quality Control Board
SMARTS	Stormwater Multiple Application and Report Tracking System
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
U.S. EPA	United States Environmental Protection Agency
Water Code	California Water Code

Definitions

Adaptive Management. An ongoing iterative process to evaluate, modify, and manage best management practices to ensure that the eventual goals of compliance with water quality standards, such as waste load allocations, are met.

Areas of Special Biological Significance. Thirty-four State Water Board-designated areas along the California coast that require special protection to maintain natural ocean water quality.

Basin Plans. Regional Water Quality Control Board-adopted water quality control plans that serve as the principal set of regulations for protection of water quality in the specific region. Basin Plans designate beneficial uses to water bodies within the region, water quality objectives to protect the beneficial uses, and the implementation program to maintain those objectives.

Batch Plant. A processing plant where concrete, asphalt or other batch materials are prepared and mixed prior to transport to a construction site. Batch plants are industrial activities as defined in 40 C.F.R. section 122.26(b)(14)(iii) and are regulated under the State Water Resources Control Board statewide NPDES Permit for Discharges of Stormwater from Industrial Activities (Industrial Stormwater General Permit).

Beneficial Uses. Uses of water and water bodies that are protected against water quality degradation, including but not limited to: municipal and domestic supply (MUN), agricultural supply (AGR), cold freshwater habitat (COLD), commercial and sport fishing (COMM), domestic supply (MUN), estuarine habitat (EST), freshwater replenishment (FRESH), groundwater recharge (GWR), industrial service supply (IND), marine habitat (MAR), and other uses.

Best Management Practices. Structural or non-structural controls, methods, measures, or practices designed and implemented to reduce or prevent pollutant discharges in stormwater to receiving waters. Best management practices include but are not limited to the following:

Institutional Controls. Non-structural best management practices that may include street sweeping, sidewalk trash bins, collection of trash, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

Non-Structural Best Management Practices. Non-structural best management practices focus on the prevention of pollution generation, and may include institutional changes, education, ordinance development, low impact development, and source control.

Post-Construction Best Management Practices. Structural or non-structural best management practices that are implemented after construction is complete to capture, reduce, or prevent the release of pollutants in post-construction stormwater runoff.

Source Control Best Management Practices. Schedules of activities, prohibitions of practices, maintenance procedures, managerial practices, and other operational practices that prevent stormwater pollution to receiving waters by reducing the potential for contamination at the pollutant source.

Structural Best Management Practices. Stationary and permanent structures that are designed, constructed, operated, and maintained to prevent or reduce the discharge of pollutants in stormwater to receiving waters, or to mitigate the adverse impact of stormwater runoff into receiving waters. Structural best management practices include structural treatment control processes as defined below.

Treatment Control Best Management Practices. Engineered systems designed to reduce or remove pollutants in stormwater using physical, biological, and/or chemical processes, including but not limited to gravity settling of particulate pollutants, filtration, biological uptake, and media absorption. For example, a treatment control best management practice may include the capturing, infiltrating, and reusing of stormwater runoff.

California Ocean Plan. The statewide water quality control plan for California near-coastal waters adopted by the State Water Board. The California Ocean Plan serves as statewide regulations to protect the beneficial uses and water quality of ocean water, adjacent coastal water bodies, and Areas of Special Biological Significance.

California Toxics Rule. United States Environmental Protection Agency (U.S. EPA) promulgated water quality criteria for priority pollutants applicable to California inland surface waters, enclosed bays, estuaries and ocean waters that are waters of the United States. (40 C.F.R. section 131.38).

Catch Basin. An engineered subsurface structure that collects and diverts stormwater runoff to a storm sewer system. The structure is designed to collect and prevent obstructive material from entering the storm sewer system.

Certified Full Capture Systems. Certified full capture systems are trash full-capture systems that are certified by the State Water Board Executive Director. Certified full capture systems include both trash treatment control devices and multi-benefit treatment systems. Certified full capture systems are listed on the State Water Board's Trash Implementation Program website (www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html).

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Cooperative Agreement. Cooperative agreements are agreements with other agencies/parties to implement projects, either within or outside of the Department's right-of-way, that result in, or progress towards, compliance with TMDLs. Cooperative agreements for the purposes of compliance with TMDL-related requirements in this Order, are for the implementation of cooperative projects, that either alone or in combination with other dischargers' projects in the watershed, are consistent with complying with the Department's waste load allocations for the watershed.

Cut and Fill. The process of (1) moving earth by excavating part of an area, and (2) placing earth to create embankments or to raise area elevations.

Department Facility. A maintenance facility, non-maintenance facility, highway facility, industrial facility, or vehicle maintenance facility.

Highway Facility. Linear facilities designed to carry vehicles and pedestrians, including freeways, highways, and expressways. Support infrastructure (including bridges, toll plazas, inspection and weigh stations, sound walls, retaining walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights, gutters, and guard rails) is considered a highway facility only when accompanied by an increase in highway impervious surface.

Industrial Facility. A collection of industrial processes discharging stormwater associated with industrial activity within the property boundary or operational unit.

Maintenance Facility. A facility under Department ownership or control that contains fueling areas, maintenance stations or yards, waste storage or disposal facilities, wash racks, equipment, vehicle storage, materials, or storage areas.

Non-Highway Facility. Any facility not meeting the definition of a highway facility, including rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Non-Maintenance Facility. Facilities including, but not limited to, laboratories and office buildings used exclusively for administrative functions.

Discharge. When used without qualification, discharge means the discharge of a pollutant.

Direct Discharge. Any discharge from the municipal separate storm sewer system that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the municipal separate storm sewer system that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the outlet of the municipal separate storm sewer system and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. (40 C.F.R. section 122.2(b)).

District Annual Workplans. District-specific workplans prepared by each Department district with descriptions of activities and projects for the upcoming year necessary to comply with the requirement of this Order.

Drainage Inlet. A location where stormwater runoff enters a storm sewer system.

Effluent. Any discharge from a municipal separate storm sewer system.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, other soil or geologic movements, and occurrences such as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind or water. Often, eroded material (silt or sediment) becomes a pollutant in stormwater runoff.

Existing Stormwater Outfalls. When used in reference to Areas of Special Biological Significance, outfalls that were constructed or under construction prior to January 1, 2005.

eRule. The U.S. EPA Electronic Reporting Rule that modernizes reporting under the Clean Water Act. The rule requires entities regulated under the Clean Water Act to report information electronically instead of filing paper reports. The rule also requires that regulatory authorities share data electronically with U.S. EPA.

Facility Pollution Prevention Plan. A plan that describes a facility's activities and implemented best management practices to reduce or eliminate the discharge of pollutants in stormwater runoff.

Full Capture System. A treatment control, or series of treatment controls, including but not limited to, a multi-benefit project or a low-impact development control that traps all particles that are 5-millimeters or greater, and has a design treatment capacity that is either:

1. Of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the sub-drainage area, or
2. Appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.

[Rational equation is used to compute the peak flow rate: $Q = C \cdot I \cdot A$, where Q = design flow rate (cubic feet per second); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = sub-drainage area (acres).]

Full Capture System Equivalency. The trash load that would be reduced if full capture systems were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land. The full capture system equivalency is a trash load reduction target that the Department quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of State Water Board Executive Director.

Illegal Connection, Illicit Discharge, and Illegal Dumping.

Illegal Connection. Any conveyance that is connected to a municipal storm sewer system without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to a municipal separate storm sewer system that is not composed entirely of stormwater except discharges pursuant to a NPDES permit and discharges resulting from fire-fighting activities.

Illegal Dumping. Disposal of trash and other wastes in non-designated areas within the Department's right-of-way, properties, or facilities, intentionally or unintentionally, that may contribute to stormwater pollution.

Impervious Cover or Surface. A surface that cannot effectively absorb or infiltrate rainfall, such as sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g. during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g. broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing).

Load Allocation. The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. (40 C.F.R. section 130.2(g)).

Low Impact Development. Systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater to protect water quality and aquatic habitat with the goal of mimicking or replicating the pre-project hydrologic regime using design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable. The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act section 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

“Maximum extent practicable” is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible best management practices, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the maximum extent practicable

standard, municipalities must employ whatever best management practices are technically feasible and are not cost-prohibitive. Reducing pollutants to the maximum extent practicable means choosing effective best management practices and rejecting applicable best management practices only where other effective best management practices will serve the same purpose, or the best management practices would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the State or Regional Water Boards.

Method Detection Limit. Minimum concentration of a substance that can be reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minimum Level. Concentration at which the entire analytical system gives a recognizable signal and acceptable calibration point. The minimum level is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming all method-specified sample weights, volumes, and processing steps have been followed.

Multi-Benefit Project. A treatment control project designed to achieve any benefits per section 10562(d) of the Water Code. Examples include projects to infiltrate, recharge or store stormwater for beneficial reuse; develop or enhance habitat and open space through stormwater and non-stormwater management; and reduce stormwater and non-stormwater runoff volume.

Municipal Separate Storm Sewer System. A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is (1) owned or operated by a state, city, town, village, or other public entity that discharges to waters of the United States; (2) designed or used to collect or convey stormwater; (3) not a combined sewer; and (4) not part of a publicly owned treatment works.

Natural Ocean Water Quality. The water quality that is required to sustain marine ecosystems and is without apparent human influence.

New Impervious Surface. The total impervious surface area after completion of a project minus the total impervious surface before the start of the project. Also see the definition of Redevelopment.

New Contribution of Waste. When used in reference to Areas of Special Biological Significance, any addition of waste beyond what would have occurred as of January 1, 2005.

New Development. Any newly constructed facility, street, road, highway, or contiguous road surface installed as part of a street, road, or highway project within the Department's right-of-way.

Non-Department Activities and Projects. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction and non-construction activities.

Non-Stormwater. Discharges that are not induced by precipitation and are not composed entirely of stormwater. Non-stormwater discharges include process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and firefighting activities.

Nonpoint Source. Any source of water pollution that is not released through a discrete conveyance but originates from dispersed sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Includes but not limited to the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) occurs during, or as a result of, the treatment or disposal of wastes. (Water Code section 13050(m)).

Pesticide. Any substance used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest that may infest or be detrimental to vegetation, man, animals, or households, or present in any agricultural or nonagricultural environment whatsoever. The family of pesticides includes herbicides, insecticides, rodenticides, fungicides, algicides, and bactericides.

Algicide. A pesticide used to kill and prevent the growth of algae.

Bactericide. A pesticide used to control or destroy bacteria.

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

Herbicide. A pesticide designed to control or kill plants, weeds, or grasses.

Insecticide. A pesticide used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage.

pH. A measure of the degree of acidity or alkalinity in a water sample.

Point Source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Includes conventional pollutants (biological oxygen demand, pH, total suspended solids, fecal coliform) (Clean Water Act 304(a)(4)); oil and grease (44 Federal Register 44501); 65 toxic pollutants (40 C.F.R. section 401.15); 126 priority pollutants (40 C.F.R. section 424, Appendix A); and dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. (Clean Water Act section 502(c)).

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under Clean Water Act section 303(d) are pollutants of concern.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following: (1) the waters for beneficial uses or (2) facilities which serve those beneficial uses. (Water Code section 13050(*l*)(1)).

Porter-Cologne Water Quality Control Act. The part of the Water Code that governs water quality regulation in California, established to protect water quality and beneficial uses. It applies to surface water, groundwater, and wetlands, and point source and nonpoint sources of pollution.

Portland Cement Concrete or Asphalt Concrete Grindings: Pulverized or ground particles of Portland cement concrete or asphalt concrete.

Priority land uses. Developed sites, facilities, or uses (i.e., not simply zoned land uses) within a municipal separate stormwater sewer system permittee's jurisdiction from which discharges of Trash are regulated by the Trash Provisions as follows:

Commercial. Land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.).

High-Density Residential. Land uses with at least ten (10) developed dwelling units/acre.

Industrial. Land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).

Mixed Urban. Land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).

Public Transportation Stations. Sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Project Limit. Expressed in latitude/longitude or milepost markers along the right-of-way of a project. For east-west oriented projects, the limits are the eastern and western boundaries of the project. For north-south oriented projects, the limits are the north and south boundaries of the project.

Reach. A section of a stream or river along which similar hydrologic conditions exist, such as discharge, depth, area, and slope. It can also be the length of a stream or river (with varying conditions) between two stream gages, or a length of river for which the characteristics are well described by readings at a single stream gage. In practical use, a reach is just any length of a stream or river. The term is used by hydrologists when referring to a small section of a stream or river rather than its entire length.

Receiving Waters. For the purpose of this Order, receiving waters means waters of the United States, as defined under the Clean Water Act.

Redevelopment. The creation, addition, or replacement of impervious surface on an already developed site. Replacement of impervious surfaces includes any activity that removes impervious materials and exposes the underlying soil or pervious subgrade.

Redevelopment includes the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces.

Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post construction treatment controls as provided in Attachment C of this Order.

Redevelopment does not include (1) trenching and resurfacing associated with utility work; (2) pavement grinding and resurfacing of existing roadways; (3) construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; (4) new pavement underneath existing guard rails; or (5) routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

Roadway. Any road within the Department’s right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way. Real property that is either owned or controlled by the Department or subject to a property right of the Department. Right-of-way that is in current use is referred to as operating right-of-way.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Significant Trash Generating Areas. All locations or facilities within the Department's jurisdiction where trash accumulates in substantial amounts, such as (1) highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses); (2) rest areas and park-and-rides; (3) State highways in commercial and industrial land uses (as such land uses are defined under priority land uses); (4) mainline highway segments to be identified by the Department through pilot studies or surveys.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. Sudden release of a potential pollutant to the environment, including pollutants such as sewage, hazardous waste, priority pollutants, pesticides, oils, and petroleum.

Standard Urban Stormwater Mitigation Plan. A design manual that designates the best management practices that must be used in specific development and redevelopment categories.

Storm Sewer System Asset Management. Storm sewer system asset management is the practice of managing stormwater infrastructure capital assets to minimize the total cost of owning, managing and operating the system(s). According to the Clean Water Act Regulations (40 C.F.R. section 122.41), NPDES permits must include requirements for dischargers to develop and implement operations and maintenance procedures and financial plans sufficient to ensure future operational integrity and to help their facilities to comply with permit discharge conditions. A storm sewer system infrastructure asset is any long-lived capital asset that is operated as part of a system or network. Asset Management Plans prioritize the most necessary projects by cataloging assets, identifying performance objectives, completing a life-cycle analysis, and identifying appropriate maintenance schedules.

Stormwater. Stormwater runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 C.F.R. section 122.26(b)(13).

Stormwater Multiple Application and Report Tracking System (SMARTS). A platform where dischargers, regulators, and the public can enter, manage, and view stormwater data including permit registration documents, compliance, and monitoring data associated with California's Stormwater General Permits.

Stormwater Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes.

Stream Crossing and Fish Passage Projects. Stream crossing and fish passage projects remove barriers in order to provide the ability for aquatic organisms, adult fish, and juvenile fish to safely move upstream and downstream. The manual, California Department of Fish and Wildlife, California Salmonid Stream Habitat Restoration Manual, XII-1, was published by Fish Passage Design and Implementation in July 2009.

Surface Water Ambient Monitoring Program. The State Water Board's monitoring, assessment, and reporting program for ambient surface water.

Threshold Drainage Area. Area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within project limits.

Threatened Noncompliance. Any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Total Dissolved Solids. A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution.

Total Kjeldahl Nitrogen. The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load. The maximum amount of a pollutant that a waterbody can receive while still meeting water quality standards. It is the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

Total Maximum Daily Load Characterization Monitoring. Monitoring performed on untreated stormwater discharges from the Department's right-of-way to determine whether a discharge is a significant contributor to a total maximum daily load for the pollutant of concern.

Total Petroleum Hydrocarbon. Any mixture of hydrocarbon compounds that originally come from crude oil, such as gasoline, jet fuels, and diesel.

Total Suspended Solids. Particulates, fine material, or soil particles that remain suspended in the water column.

Toxicity. Adverse response of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Toxicity Reduction Evaluation. Study conducted in a stepwise process designed to (1) identify the causative agents of effluent or ambient toxicity, (2) isolate the sources of toxicity, (3) evaluate the effectiveness of toxicity control options, and (4) confirm the reduction in toxicity.

Trash. All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

Trash Provisions. Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Amendment to Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. The provisions establish a narrative water quality objective for trash and provide implementation requirements for permitted dischargers.

Turbidity. Murkiness or cloudiness of water.

United States Environmental Protection Agency (U.S. EPA). A federal agency that works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Stormwater Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Load Allocation. The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution.

Water Quality Control Plan. A designation or establishment for the waters within a specified area of all the following: the beneficial uses to be protected, water quality objectives, and a program of implementation needed for achieving water quality objectives. Plans may be adopted by the State Water Board or the Regional Water Boards.

Water Quality Objectives. The description or numeric levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards. Provisions of state, territorial, authorized tribal or federal law approved by U.S. EPA that describe the desired condition of a water body and the means by which that condition will be protected or achieved. Water quality standards consist of three core components: designated uses, criteria, and antidegradation requirements.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in Water Code section 13050(e).

Waters of the United States. For purposes of this Order, the term “waters of the United States” means the term as it is defined at 40 C.F.R. section 122.2.

Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

ATTACHMENT C – STORMWATER MANAGEMENT PLAN AND AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE REQUIREMENTS

C1. STORMWATER MANAGEMENT PLAN

The Stormwater Management Plan is a document that describes the Department's plans for each of its 12 districts to comply with the requirements of this Order.

The Department shall continue to implement its existing Stormwater Management Plan, to the extent that it does not conflict with the requirements of this Order, until an updated Stormwater Management Plan is approved by the State Water Board Executive Director.

C2. GENERAL REQUIREMENTS OF THE STORMWATER MANAGEMENT PLAN

The Department shall comply with the following general requirements:

1. The Department shall implement its updated Stormwater Management Plan as approved by the State Water Board Executive Director. If there is a conflict between the Department's Stormwater Management Plan and the requirements of this Order, the requirements of this Order supersede.
2. The Department shall define terms used in its Stormwater Management Plan consistently with definitions in 40 C.F.R section 122.2 and in Attachment B (Acronyms, Abbreviations, and Definitions) of this Order.
3. The Department's referenced policies, guidelines, and manuals shall facilitate implementation of the Stormwater Management Plan and shall be consistent with the requirements of this Order.
4. The Department's manuals, guidance, and other related reference materials shall be revised as appropriate to reflect any approved updates to the Stormwater Management Plan.

C3. ELEMENTS OF THE STORMWATER MANAGEMENT PLAN

The Department shall include the following elements detailed in sections C.3.1 through C3.16, below, in its Stormwater Management Plan.

C3.1 Overview

The Department shall provide an updated overview of its Stormwater Management Program that describes the following components:

1. A Statement of Purpose for the Stormwater Management Plan;
2. A description of the regulatory background and current NPDES permit requirements; and

3. A description of the other regulatory permits that are addressed through, or overlap with, the Stormwater Management Plan.

C3.2 Management and Organization

The Department shall include management and organization information as described in sections C3.2.1 through C3.2.3, below.

C3.2.1 Municipal Coordination Plan

The Department shall include a Municipal Coordination Plan in its Stormwater Management Plan, that provides the strategy for compliance with the following requirements:

1. Comply with the lawful requirements of municipalities and other local, regional, or other State agencies regarding discharges of the Department's stormwater to separate storm sewer systems or other watercourses under agencies' jurisdictions;
2. Communicate, cooperate, and collaborate with other municipal separate storm sewer system agencies and their programs, including establishing local agreements with municipalities, flood control agencies, or districts as necessary or appropriate;
3. Identify the name and direct telephone number of one Designee and one Substitute Designee for each District who will serve as the primary District Stormwater Liaison and primary point of contact. This information shall be posted on the Department's website. The Department shall update the Department's website whenever designees are changed; and
4. Upload District-specific municipal coordination plans to the State Water Board's Stormwater Multiple Application and Report Tracking Systems (SMARTS) whenever the Municipal Coordination Plan defers implementation details to individual Districts. Upload to SMARTS within one month after the State Water Board Executive Director approves the Stormwater Management Plan. The Department shall notify the appropriate Regional and State Water Board municipal stormwater staff upon uploading to SMARTS.

C3.2.2 Annual Certification of Legal Authority

The Department shall maintain and annually certify its legal authority to implement and enforce each of the key regulatory requirements contained in 40 C.F.R. sections 122.26(d)(2)(i)(A) - (F). The Stormwater Management Plan shall provide detailed procedures for the Department's inclusion of its Certification of the Adequacy of Legal Authority in the Annual Stormwater Management Plan Report (Annual Report). The procedures shall address how the Department will establish, maintain, and

certify that it has adequate legal authority through statute, permit, contract, or other means to control discharges to and from the Department's properties, facilities, and activities.

As part of the annual certification, the Department shall provide a statement certified by its chief legal counsel that the Department has adequate legal authority to implement and enforce each of the key regulatory requirements contained in 40 C.F.R. section 122.26(d)(2)(i)(A)-(F).

C3.2.3 Fiscal Planning Strategy and Annual Fiscal Analysis Reports

The Department shall include the Fiscal Planning Strategy and the Annual Fiscal Analysis Reports, as described below:

1. The Fiscal Planning Strategy shall be included in the Stormwater Management Plan. The Fiscal Planning Strategy shall include the fiscal strategy to comply with this Order for the following stormwater program elements:
    a. Installation, implementation, inspection, maintenance, rehabilitation, and replacement of all stormwater related assets and best management practices;
    b. Development, implementation, and iterative improvement of an effective stormwater monitoring program; and
    c. Retention of qualified personnel to implement and manage the stormwater program.
2. The Annual Fiscal Analysis Report shall be submitted in each Annual Report. The Department shall submit an Annual Fiscal Analysis Report of its statewide stormwater management program in each Annual Report. At a minimum, the annual fiscal analysis shall provide the following:
    a. Funds allocated for stormwater asset rehabilitation and replacement activities, as identified in the Asset Management Plan and Retrofit Plan;
    b. Funds allocated for trash reduction and implementation as required in Attachment E;
    c. Funds allocated to each Department District for compliance with this Order;
    d. Funds allocated for each element of the Stormwater Management Plan;
    e. Funds allocated for an effective stormwater monitoring program;
    f. Funds allocated for reporting;
    g. Comparison of actual past year expenditures with the current year expenditures and the next year proposed expenditures for each Stormwater Management Plan element;

h. Discussion of how the funding met the goals specified in the Stormwater; Management Plan and District Annual Workplans;

i. Description of all cost sharing agreements with other parties in implementing the Stormwater Management Program; and

j. A Fourth-Year Budget Analysis for consideration of the next 5-year permit cycle of this Order. This analysis shall be submitted in the fourth year's Annual Fiscal Analysis Report and no later than 180 days before the expiration date of this Order.

C3.2.4 Conflicts Between Stormwater Management Plan and Department's Policies and Practices

The Department shall include a description of any of its practices and policies that conflict with the implementation of the Stormwater Management Plan, proposed modifications to the Stormwater Management Plan, and implementation schedules to resolve any conflicts.

C3.3 Pollution Prevention Program for Construction Activities

The Department shall describe its pollution prevention program for construction activities, which shall be consistent with the requirements described in sections C3.3.1 through C3.3.5 of this Attachment.

C3.3.1 Statewide or Lake Tahoe Construction Stormwater General Permits

For stormwater discharges associated with construction activities not subject to the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction Stormwater General Permit) or the General Waste Discharge Requirements and NPDES General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer (Lake Tahoe Construction Stormwater General Permit), including demolition, clearing, grading, excavation, and other land disturbance activities that result in the disturbance of less than one acre of total land area that is not part of a larger common plan of development, the Department shall implement best management practices to reduce the discharge of pollutants to the maximum extent practicable. The Department shall comply with any region-specific waste discharge requirements, including any requirements applicable to activities involving less than one-acre land disturbance area.

For any stormwater discharges associated with construction activities which are subject to the statewide Construction Stormwater General Permit or the Lake Tahoe Construction General Permit, the Department shall obtain coverage and maintain compliance under the appropriate permit.

C3.3.2 Lead-Contaminated Soils

For construction projects that are regulated under the Department of Toxic Substances Control June 2016 Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils, the Department shall notify the appropriate Regional Water Board in writing 30 days prior to advertisement for bids to allow a determination by the Regional Water Board Executive Officer of the need for additional waste discharge requirements.

C3.3.3 Portland Cement Concrete and Asphalt Concrete Grindings

The Department shall include the following procedures for Portland cement concrete and asphalt concrete grindings:

1. The discharge to waters of the state of stormwater runoff that has come in contact with Portland cement concrete or asphalt concrete grindings is prohibited;
2. The Department shall include procedures to ensure Portland cement concrete and asphalt concrete grindings, produced from the Department's right-of-way and activities, are not stockpiled or used in a manner that may result in an unauthorized stormwater discharge to waters of the state;
3. The Department shall comply with its January 12, 1993, Memorandum of Understanding with the California Department of Fish and Wildlife regarding the reuse of grindings in embankments, shoulder backings, and other areas within its right of way, as referenced in the Department's November 2017 Highway Design Manual, Section 110.11, or subsequent updates thereof; and
4. The Department shall comply with the requirements of local and State regulations, and Titles 22 and 27 of the California Code of Regulations for management of temporary stockpiles of Portland cement concrete and asphalt concrete grindings.

C3.3.4 Contractor Compliance

The Department shall include procedures to ensure that contractors comply with this Order, applicable requirements of the Construction General Permit, and with applicable requirements of the Lake Tahoe Construction General Permit. The Department shall ensure pollution prevention awareness training is provided to contractor personnel. Training shall include general stormwater awareness, implementation of this Order, and implementation of the Construction General Permit and the Lake Tahoe Construction General Permit, as applicable. Training shall also include identification of stormwater pollution potential, spill response, and spill reporting.

C3.3.5 Environmentally Friendly Best Management Practices

The Department shall include procedures regarding the design and implementation of effective temporary and construction-stage best management practices consistent with the following requirements:

1. Ensure that all best management practices do not constitute a hazard to wildlife;
2. Utilize wildlife-friendly 100 percent biodegradable erosion and sediment control products. For purposes of this Order, photodegradable synthetic products are not considered biodegradable;
3. Remove when no longer needed any erosion and sediment control products containing non-biodegradable materials that are used for temporary site stabilization; and
4. Remove and replace any erosion control material, sediment control netting, or other best management practices or products that have entrapped or harmed wildlife at any site or facility. The Department shall immediately remove and replace any best management practices with wildlife-friendly biodegradable products.

C3.4 Statewide General Permit for Stormwater Discharges Associated with Industrial Activities

When the Department or a Department contractor has an industrial facility described in Attachment A of the Statewide General Permit for Stormwater Discharges Associated with Industrial Activities (Industrial General Permit), such as a concrete batch plant or borrow area, the Department or the Department contractor shall:

1. Enroll under the Industrial General Permit and submit required Permit Registration Documents to SMARTS for all facilities subject to regulatory coverage; and
2. Require the industrial facility owner/operator to comply with all applicable requirements of the Industrial General Permit.
3. The discharge of pollutants from facilities not covered by the Industrial General Permit must be reduced to the maximum extent practicable through implementation of best management practices.

C3.5 Maintenance and Operations

The Department shall describe the compliance protocol for maintenance and non-maintenance facility and highway maintenance activities described in sections C3.5.1 through 3.5.5, below. For activities that include inspections, inspection reports shall be prepared and submitted that include the following information: (1) date and time; (2) location (physical address or GIS location); (3) name of inspector; (4) results of

inspection; (5) photographs that document conditions; and (6) recommendations. Inspection reports shall be uploaded to SMARTS within 60 days of an inspection.

C3.5.1 Maintenance and Non-Maintenance Facility Pollution Prevention Plans

The Department shall provide and implement Facility Pollution Prevention Plans to reduce or eliminate the discharge of pollutants in stormwater runoff from maintenance facilities and activities. At a minimum, the Department shall:

1. Prepare Facility Pollution Prevention Plans for all Department maintenance facilities. Each facility shall be evaluated separately and assigned site-specific best management practices to reduce or eliminate pollutant discharges in stormwater. The Facility Pollution Prevention Plans shall describe the activities conducted at the facility and the best management practices to be implemented to reduce or eliminate the discharge of pollutants in stormwater runoff from the facility. Facility Pollution Prevention Plans shall describe the inspection program used to ensure that maintenance best management practices are implemented and maintained.
2. Identify priority pollutant reduction opportunities (e.g., improvements to existing best management practices) with priority given to sites in sensitive watersheds or where there is an existing or potential threat to water quality.
3. Establish and implement procedures for best management practices in accordance with this Order.
4. Include program and implementation requirements to reduce pollutant discharges from non-emergency firefighting flows from its fire suppression systems in tunnels and other structures in anticipation of the non-emergency firefighting flows.
5. Evaluate all non-maintenance facilities, excluding leased properties, for stormwater runoff quality problems. If the Department identifies a stormwater runoff quality problem at a non-maintenance facility, then the Department shall prepare a Facility Pollution Prevention Plan for that facility. If a Regional Water Board Executive Officer determines that a non-maintenance facility may discharge pollutants to the stormwater drainage system or directly to surface waters, the Department shall prepare a Facility Pollution Prevention Plan for that facility.
6. Identify in each Annual Report the status of the Facility Pollution Prevention Plan for each maintenance facility by District and by Water Board Region, including the date of the last update or revision to the Facility Pollution Prevention Plan and the nature of the updates or revisions.

C3.5.2 Maintenance Facility Inspection Program and Plan

The Department shall provide and implement a Maintenance Facility Inspection Program and Plan.

1. The Maintenance Facility Inspection Program shall ensure that this Order and the Stormwater Management Plan are implemented and that facilities are constructed, operated, and maintained in accordance with this Order and the Stormwater Management Plan. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches. The inspection program shall also include standard operating procedures for documenting inspection findings, a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) noncompliance), and a system to ensure the timely resolution of all violations of this Order or the Stormwater Management Plan. The Department shall delegate adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).
2. The Maintenance Facility Inspection Plan shall include protocols to ensure that maintenance facilities are constructed, operated, and maintained in accordance with the requirements of this Order and with the approved Stormwater Management Plan. Training and documentation, inspection, and inspection follow-up protocols shall be included, as described below:
    a. Training and documentation that describes training for inspection personnel; documentation of field activities; and a reporting system for tracking non-compliance, enforcement, and effectiveness of control measures.
    b. Procedures to inspect and maintain facilities no less than twice annually, as follows:
        i. Identify areas contributing to discharge of pollutants;
        ii. Determine if the control practices for reducing pollutant loadings identified in the Facility Pollution Prevention Plans are adequate and properly implemented;
        iii. Determine whether additional control practices are needed;
        iv. Conduct follow-up inspections when deficiencies are noted;
        v. Maintain records of all inspections, compliance certifications, and non-compliance reporting for a period of at least three years;
        vi. Maintain each District’s record of inspections;

vii. Assure inspection records include inspection dates, names and contact information of individuals performing the inspection, report of observations and recommendations for all corrective actions identified as needed; and

viii. Describe all previously recommended corrective actions undertaken since the prior inspection.

c. Procedures for inspection follow-up to implement the following:

i. Standard operating procedures for documenting inspection findings;

ii. Responsibilities and responsible personnel for all functional offices and branches affected by inspection findings; and

iii. Delegation of adequate authority to require corrective actions and stop work orders within all affected maintenance facilities and activities.

d. Procedures for non-compliance and enforcement, including the following:

i. A system for escalating enforcement for non-compliance (including procedures for addressing third party (e.g., contractor) non-compliance,

ii. Procedures for taking corrective action,

iii. Enforcement referral procedures, and

iv. A system to ensure the timely resolution of all violations of this Order and the Stormwater Management Plan.

C3.5.3 Highway Maintenance Activities

The Department shall include runoff management, vegetation control, waste management, and landslide management for highway maintenance activities, as described below.

C3.5.3.1 Runoff Management

The Department shall describe procedures, programs, and systems for maintenance of existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters according to the following requirements:

1. Collect trash before mowing vegetated areas and dispose of the trash appropriately;

2. Prioritize watershed pollutant reduction opportunities (e.g., improvements to existing best management practices). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water

quality;

3. Establish schedules for implementing appropriate best management practices; and
4. Prioritize road segments with slopes that are prone to erosion and sediment discharge in order to stabilize slopes to control the discharge of pollutants to the maximum extent practicable. An inventory of vulnerable road segments shall be addressed in each District Annual Work Plan. This section does not apply to landslides and other forms of mass wasting which are covered in the Landslide Management Plan section of this Attachment.

C3.5.3.2 Vegetation Control Plan

The Department shall include a Vegetation Control Plan in its Stormwater Management Plan. The Department and its contractors shall control handling and application of chemicals, pesticides, and fertilizers to reduce or eliminate the discharge of pollutants to the maximum extent practicable. The Vegetation Control Plan shall implement integrated pest management and integrated vegetation management practices that avoid the use of pesticides in locations, times, and quantities on right-of-way that could result in discharges that cause toxicity in receiving waters. The Department shall incorporate the Department's existing integrated pest management and integrated vegetation management practices into its Vegetation Control Plan that is required by this Order. The Department's Vegetation Control Plan shall comply with California Department of Pesticide Regulation requirements and shall incorporate the surface water protection requirements described below.

1. Prohibit the use of Diazinon. Diazinon is no longer registered by the California Department of Pesticide Regulation for non-agricultural uses.
2. Require Districts to have individual written vegetation control implementation protocol in every instance where the Vegetation Control Plan defers implementation details to the Districts. Written District protocol shall be uploaded to SMARTS within 30 days of the State Water Board's approval of the Stormwater Management Plan. The Department shall notify the appropriate State and Regional Water Board municipal stormwater programs upon uploading.
3. Provide pesticide and fertilizer handling and application procedures to reduce or eliminate the discharge of pollutants in stormwater to the maximum extent practicable.
4. Require that applicators and supervisors be certified and licensed according to the Department of Pesticide Regulations.

5. Apply herbicides and pesticides in compliance with federal, state, County Agricultural Commissioner, and product label directions. Require that pesticide reportable quantity releases and spills be immediately reported to the California Governor's Office of Emergency Services per the Office of Emergency Services guidelines.
6. Provide a protocol to assess site- and application-specific conditions to prevent chemical and pesticide discharge, which shall include the following variables:
    a. Expected precipitation events, particularly precipitation events with the potential for high intensity;
    b. Presence of wind that may cause drift;
    c. Proximity to water bodies;
    d. Intrinsic mobility of the chemical;
    e. Application method and any tendency for aerial dispersion;
    f. Fate and transport of the chemical after application;
    g. Effects of using combinations of chemicals; and
    h. Other conditions as identified by the applicator.
7. Require that violations of federal and state regulations identified by the Department or Department's contractor be reported to the California Governor's Office of Emergency Services within 24-hours at 1-800-852-7550; and
8. Require that violations of regulations be reported to the County Agricultural Commissioners within 10 business days.

C3.5.3.3 Waste Management Plan

The Department shall include a Waste Management Plan that includes the following information and procedures:

1. Inventory of waste storage, transfer, and disposal sites. The inventory shall include the sources and the physical and chemical characterization of the waste at each site. The inventory shall include estimated annual volumes of waste and existing or planned waste management practices for each waste and facility type;
2. Procedures to perform a minimum of once per year inspections of urban drainage inlets and catch basins;
3. Procedures to remove waste and debris from drainage inlets and catch

basins when waste and debris have accumulated to a depth of 50 percent of the inlet or catch basin capacity; and

4. Procedures to manage, dispose, and report waste and debris, sweeper truck waste, and vacuum truck waste in accordance with applicable laws and regulations, including California Code of Regulations Title 27, Division 2, Subdivision 1.

C3.5.3.4 Landslide Management Plan

The Department shall include a Landslide Management Plan with best management practices for construction and maintenance of landslide-related activities (e.g., prevention, containment, clean-up). The Landslide Management Plan shall address all forms of mass wasting such as slumps, mud flows, and rock falls, and shall include best management practices specifically for burn site management activities.

C3.5.4 Contractor Activities Outside the Right-of-Way

The Department shall include contract provisions that require contractors to obtain and comply with applicable permits for project-related facilities and operations outside the Department's right-of-way. The types of facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

C3.5.5 Asset Management Plan

For this Order, asset management is the process of managing stormwater best management practices capital assets to minimize total cost of owning and operating the assets. To treat stormwater to comply with this Order and to ensure the satisfactory condition of all stormwater best management practices assets implemented and installed during this and previous permit terms, the Department shall meet the following asset management requirements:

1. The Department shall implement and update its current asset management program through June 30, 2025, to address changing conditions, resources, and requirements.
2. The Department shall prepare and implement a revised Asset Management Plan by June 30, 2025 in accordance with the requirements below. The Department may include elements of the revised Asset management Plan by referencing specific sections and portions from its existing plans and programs.
3. The Asset Management Plan shall provide an asset inventory that includes the following: (i) location (latitude, longitude, and watershed); (ii) type and design

criteria of asset and structural best management practices. (iii) date of construction; (iv) party responsible for maintenance; (v) dates and findings of maintenance verifications, maintenance description, life cycle, maintenance cycle, and description of each asset; and (vi) corrective actions and/or resolutions when applicable.

4. The Asset Management Plan shall include an asset assessment strategy for prioritizing and scheduling maintenance, rehabilitation, and replacement of inventoried assets. The strategy shall include:
    a. A process for prioritizing and scheduling operation and maintenance activities.
    b. A process for evaluating the current condition of each asset and for identifying the need for the rehabilitation and replacement of each asset. The process shall include:
        i. Identification of the minimum condition necessary to achieve adequate performance level for each asset or asset type, including procedures.
        ii. Identification of the current performance level and effectiveness of each asset. Asset effectiveness shall be based on, at a minimum, factors such as design, capacity, and condition and function relative to the asset's design, intended operating conditions, and intended function, as necessary and applicable.
        iii. An evaluation or forecast of costs necessary for the rehabilitation and replacement of assets through the end of the current permit term. On an ongoing basis, the Department shall compare projections with available funding sources to determine the best manner in which to fund the operation, maintenance, rehabilitation, and replacement of assets.
        iv. Identification of potential climate change-related threats to assets and appropriate adaptation strategies.
5. The Department shall report any asset rehabilitation and replacement activities and costs in the Annual Fiscal Analysis Report.

C3.5.6 Best Management Practices Retrofit Program

The Department shall prepare and implement a Best Management Practices Retrofit Program that includes, but is not limited to, identifying, prioritizing, and either upgrading or replacing existing best management practices as described below.

The Retrofit Program shall include the following components:

1. Create a prioritized list of implemented best management practices for

retrofitting. This includes best management practices at high-risk of failure, due, for example, to impacts such as climate change, landslides, age, deferred maintenance, or other causes. It also includes best management practices not providing adequate stormwater treatment, for which correction of design deficiencies or performance deficiencies is needed, or for which the Department identifies other needs to be addressed. This includes the prioritization of best management practices implemented under sections C3.5.3.1, Runoff Management; section C3.5.3.4, Landslide Management Plan; section C3.10.6, Post-Construction Long-Term Operation and Maintenance Plans; section C5.16, Inventory of Best Management Practices; and other components of the Stormwater Management Plan.

2. Phase-in completion of retrofits over the term of the Order at a rate of 2 percent per year starting with the third year after the Effective Date of the Order and then 3 percent per year thereafter over the term of the Order.
3. Report the status of retrofits according to section C3.17.

C3.6 Non-Departmental Activities

The Department shall address non-departmental activities for the following requirements:

1. Summary of the Department's control over all non-departmental (e.g., third party) activities performed in the Department's right-of-way. The summary shall describe how the Department is going to ensure compliance with this Order in all non-departmental activities.
2. Description of the Department's process to refuse grants or renew encroachment permits or easements for any third party that is required to obtain coverage under the Statewide General Permit, Lake Tahoe Construction General Permit, or the Industrial General Permit unless the party has obtained coverage under the appropriate general permit.
3. In all leases, rental agreements, and all other contracts with third parties conducting activities within the right-of-way, the Department shall require the third party to comply with applicable requirements of this Order, the Construction General Permit, the Lake Tahoe Construction Permit, and the Industrial General Permit. The Department is ultimately responsible for stormwater and non-stormwater discharges from leased sites, including sites addressed by Executive Order N-23-20.

C3.7 Non-Stormwater Discharges

The Department shall describe the management activities for all non-stormwater discharges, including spills; illicit discharges, illegal dumping, and illegal connections;

and agricultural return flows. The Department shall include the following information and protocols.

C3.7.1 Spills

A spill is the sudden release of a potential pollutant to the environment, including pollutants such as sewage, hazardous waste, priority pollutants, pesticides, oils, and petroleum. The Department shall describe the protocol to comply with the following requirements for spills to receiving waters or municipal separate storm sewer systems from the Department's right-of-way and for spills outside the Department's right-of-way that include Department-generated pollutants:

1. The Department shall immediately control, abate, and cleanup all spills to its municipal storm separate sewer system and to receiving waters.
2. The Department shall follow the California Governor's Office of Emergency Services procedures and timelines specified in Water Code sections 13271 and 13272 for reporting spills.
3. The Department shall report to the California Office of Emergency Services, upon discovery, incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge to surface waters.

C3.7.2 Illegal Connection, Illicit Discharge, and Illegal Dumping

1. The Department shall implement best management practices and other requirements of the Stormwater Management Plan to reduce, eliminate, and remediate illegal connections, illicit discharges, and illegal dumping.
2. The Department shall provide and implement procedures for preventing, detecting, investigating, reporting to the appropriate Regional Water Board, and cleaning up illegal connections, illicit discharges, and illegal dumping.
3. The Department shall provide and implement plans for educating the public, raising awareness, and changing behaviors regarding illegal connections, illicit discharges, illegal dumping, and encouraging the public to contact the local authorities if the local authorities witness illegal dumping.

C3.7.3 Agricultural Return Flows

The Department shall describe its protocol to provide reasonable support of monitoring activities for agricultural dischargers whose runoff enters the Department's municipal separate storm sewer system. Reasonable support shall include facilitating monitoring activities, providing access to monitoring sites, and

cooperating with monitoring efforts as needed. It does not include actively conducting monitoring or providing funding. The Department may require agricultural dischargers to follow established Department access and encroachment procedures when establishing sites and conducting monitoring activities. The Department may deny access at sites that may restrict traffic flow or pose a danger to any party.

C3.8 Training Program

The Department shall describe its protocol to ensure that its employees and contractors who conduct operations in the Department's right-of-way are trained annually in stormwater pollution prevention. The training shall include the following:

1. Causes and effects of stormwater pollution,
2. Regulatory requirements,
3. Best management practices,
4. Penalties for non-compliance with this Order, and
5. Lessons learned.

C3.9 Public Education and Outreach Program

The Department shall include a Statewide Public Education and Outreach Plan that includes the following elements:

1. Continuation of statewide public education and outreach efforts that focus public awareness on preventing pollutants and litter from entering surface water. Continuation of stormwater management advertising campaigns. The Department may cooperate with other organizations to implement the public education campaign. Continuation of efforts to participate in public outreach and education activities with other municipal separate storm sewer system permittees.
2. Participation in public outreach events to influence the public's behavior.
3. Communication with commercial and industrial entities whose actions may add pollutants to the Department's stormwater.

C3.10 Post-Construction Requirements

The Department shall describe the plans, designs, implementation, and maintenance for post-construction best management practices, which shall be consistent with the requirements in section C3.10.1 through C3.10.10, below. The requirements are applicable to all new and redevelopment projects that (1) meet the size thresholds provided in this Attachment and (2) that have not completed the project initiation phase as of the Effective Date of this Order or that have completed the project initiation phase prior to the effective date of this order but have not commenced construction within five

years of the effective date of this order. The Department may submit a request for an extension for long-lead projects to the State Water Board Executive Director for review and consideration of approval in coordination with the Regional Water Board Executive Officer.

Where a Regional Water Board Executive Officer finds that a project will have a minimal impact on water quality, the Executive Officer may waive post-construction treatment control requirements or lessen the stringency of the requirements for a project. Waivers may not be granted for projects subject to post-construction treatment control requirements based on a waste load allocation assigned to the Department.

C3.10.1 Alternative Compliance Projects Located Within or Outside the Right-of-Way

Alternative compliance may be achieved outside the Department's project limits, either within or outside the Department's right-of-way, including within another Department project. An alternative compliance project may be a cooperative agreement with another entity. If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department shall prepare a proposal for alternative compliance for review and consideration of approval by the State Board Executive Director in coordination with the applicable Regional Water Board Executive Officer.

The Department's proposal shall include documentation supporting the determination of infeasibility. Alternative compliance shall be based on an equivalent rate such as acres of right-of-way to acres of an alternative compliance project; proportional responsibility calculated from pollutant loadings at the right-of-way compared to the loadings at an alternative compliance project; the Department's land use coverage in the watershed; or other methods as approved by the State Water Board Executive Director in consultation with the applicable Regional Water Board Executive Officer. Examples of potential alternative compliance projects include the following:

1. Maximizing stormwater treatment design and construction beyond the minimum mandatory post-construction best management practice controls.
2. Cooperating with municipalities for post-construction best management practice controls or cost-sharing projects.

Alternative compliance projects that the Department implements outside the project limits shall include provisions for the long-term maintenance of such alternative compliance projects.

C3.10.2 Projects Subject to Post-Construction Treatment Requirements

The Department shall describe the post-construction treatment requirements as required below:

1. The Department shall implement post-construction treatment control best management practices for the following new development or redevelopment projects:
   a. Highway Facility projects that create 10,000 square feet or more of new impervious surface, except for Highway Facility projects that create less than one (1) acre of new impervious surface and:
      i. That have completely proceeded through the Department's Project Initiation Document stage prior to the Effective Date of this Order, and
      ii. For which project construction has commenced within five (5) years of the Effective Date of this Order or seven (7) years of completing the Project Initiation Document stage, whichever is sooner.

      The Department shall submit a list of the Highway Facility projects that meet the exception criteria in section 1.a.i and ii above, within 6 months of the Effective Date of this Order.

      The Department may submit a request for an extension to the time criteria in item ii above, to the State Water Board Executive Director for review and consideration of approval in coordination with the Regional Water Board Executive Officer.
   b. Non-Highway Facility projects that create 5,000 square feet or more of new impervious surface.
2. For non-Department projects within the Department's right-of-way, the Department shall:
   a. Exercise control or oversight on non-Department projects through encroachment permits or other means.
   b. Ensure the new development or redevelopment projects comply with the same post-construction treatment control requirements as Department projects.
   c. Review and approve the design of post-construction treatment controls and best management practices prior to implementation for all non-Department projects that trigger post-construction treatment control requirements.

C3.10.3 Post-Construction Planning

The Department shall describe procedures and methodologies used in the selection of design and post-construction best management practices for Department projects. The Department shall ensure that Long-Term Operation and Maintenance Plans are prepared and implemented for every site subject to post-construction stormwater treatment design standards and best management practices required under this Order. The Department may prepare cooperative agreements with local agencies for post-construction treatment of highway runoff that is located outside of the Department's right-of-way.

C3.10.4 Post-Construction Implementation

1. The Department may drain effluent from stormwater best management practices to a local municipal separate storm sewer system only if the discharge does not cause or contribute to exceedances of water quality standards.
2. The Department shall complete required installation and shall inspect post-construction best management practices on or before the overall project completion date. The Department's inspections shall ensure the construction and installation is in accordance with the Long-Term Operation and Maintenance Plans. The Department shall take appropriate remedial actions for any best management practices or controls to comply with approved plans, as applicable.
3. The Department shall assure that all post-construction best management practices do not constitute a hazard to wildlife.

C3.10.5 Site Design Pollution Prevention Best Management Practices

The Department shall incorporate the following Site Design Pollution Prevention Best Management Practices into all projects that create disturbed soil area, including projects designed to comply with this Order's post-construction treatment requirements. The Department shall list site design measures that shall be considered for each project, including, but not limited to following:

1. Conserve natural areas by minimizing land disturbance, such as existing trees, stream buffer areas, vegetation, and soils.
2. Minimize the impervious footprint of the project.
3. Minimize disturbances to natural drainages.
4. Design and construct pervious surface to effectively receive runoff from impervious surfaces, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
5. Implement landscape and soil-based best management practices such as

compost-amended soils, vegetated strips, and vegetated swales.

6. Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers.
7. Design landscapes to comply with the California Department of Water Resources Water Efficient Landscape Ordinance (https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Model-Water-Efficient-Landscape-Ordinance). Where the California Department of Water Resources Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, the Department shall comply with the local ordinance.

C3.10.6 Post-Construction Long-Term Operation and Maintenance Plans

The Department shall describe the post-construction long-term operation, inspection, and maintenance program, which includes cooperative agreements with any local agency for post-construction treatment that is located outside the Department's right-of-way. Post-construction long-term operation and maintenance program shall be consistent with the following requirements:

1. Prepare and implement long-term operation and maintenance plans for every site subject to the post-construction stormwater treatment design standards. The plans shall ensure that:
   a. Long-term structural low impact development best management practices are maintained as necessary to ensure that the Department continues to work effectively,
   b. Proprietary devices are maintained according to the manufacturer's directions, and
   c. Post-construction best management practices are replaced if the best management practices lose their effectiveness.
2. Inspect all installed best management practices at minimum of once every two years.
3. Dispose retained sediments in accordance with applicable local, state, and federal acts, laws, regulations, ordinances, and statutes.
4. Inspect all newly installed best management practices and controls within 45 days of installation to ensure the construction and installation is in accordance with approved plans. The Department shall take appropriate remedial actions for the best management practices or control to comply with approved plans, as applicable.
5. Provide online and maintenance station access to the Long-Term Operation and Maintenance Plans.

C3.10.7 Best Management Practices Design and Numeric Sizing Criteria

The Department shall include procedures for design and numeric sizing criteria for best management practices according to the following:

1. Include procedures for construction of best management practices and treatment controls for Department and non-Department projects. The projects shall be designed to control and abate the discharge of pollutants in stormwater with primary consideration to infiltrating, harvesting, and/or re-using the stormwater runoff prior to consideration of treatment and discharge (e.g., biofiltration). The first priority shall be the use of vegetated landscape and soil based best management practices to treat stormwater runoff. The Department may identify in its Stormwater Management Plan areas of the state with deep vadose zones where non-vegetated landscape and soil based best management practices may be prioritized. The Department shall also consider other effective stormwater treatment control methods or devices for Department approval.
2. Include procedures for stormwater runoff volumes and rates that are used to size best management practices that shall be based on the 85th percentile, 24-hour storm event. This sizing criterion shall apply to the entire treatment train (i.e., a series of best management practices) within the project limit. Design pollution prevention best management practices can be used to comply with this requirement.
3. Include procedures for the event when the entire runoff volume from an 85th percentile, 24-hour storm event cannot be infiltrated, harvested, re-used, or evapotranspired. In this case, the excess volume may be treated by low impact development-based flow-through treatment devices. Where low impact development-based flow-through treatment devices are not feasible, excess volume may be treated through conventional volume-based or flow-based stormwater treatment devices.
4. The Department shall provide technical reports documenting the effectiveness and performance of any new Department approved best management practices, including any updates to previously approved best management practices.

C3.10.8 Design Criteria for Redevelopment Projects

1. For redevelopment projects of highway facilities with new impervious surface less than or equal to 50 percent of the total post-project impervious surface within project limits, the Department shall implement the following:
   a. The numeric sizing criteria shall only apply to the new impervious surface area and not to the entire project.
   b. When new impervious surface cannot be hydraulically separated from the

existing impervious surface, the Department shall either provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible (based on site conditions and constraints) and divert any excess flow around the treatment device to prevent overloading, or identify treatment opportunities equivalent to the untreated portion of the redeveloped area.

c. The Department shall complete post-construction best management practice installations on or before the overall project completion date.

2. For redevelopment projects of highway facilities with new impervious surface greater than 50 percent of the total post-project impervious surface, the Department shall implement the following:

   a. The numeric sizing criteria apply to the entire project.

   b. The Department may identify treatment opportunities equivalent to the untreated portion of the entire impervious area at an alternative compliance site (see the section on Alternative Compliance, above).

   c. The Department shall complete post-construction best management practice installations on or before the overall project completion date.

3. For redevelopment projects of non-highway facilities with new impervious surface less than or equal to 50 percent of the total post-project impervious surface, the Department *shall do the following:*

   a. The numeric sizing criteria shall only apply to the new impervious surface increase and not to the entire project.

   b. If the redeveloped impervious surface cannot be hydraulically separated from the existing impervious surface, the Department shall either provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible (based on site conditions and constraints) and divert any excess flow around the treatment device to prevent overloading or identify treatment opportunities equivalent to the redeveloped area (see the section on Alternative Compliance, above).

   c. The Department shall complete post-construction best management practice installations on or before the overall project completion date.

4. For redevelopment projects of non-highway facilities with new impervious surface increase greater than 50 percent of the total post-project impervious surface, the Department shall do the following:

   a. The numeric sizing criteria apply to the entire project; and

   b. The Department shall complete post-construction best management practice installations on or before the overall project completion date.

C3.10.9 Stability of Stream Channels

The Department shall provide a protocol to ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Unstable stream channels negatively impact water quality by yielding greater quantities of sediment than stable channels. The approach is described in section C3.10.9.1 through C3.10.9.5, below:

C3.10.9.1 Threshold Drainage Areas

The three sections below include requirements for Threshold Drainage Areas, which is defined as an area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within the Department's project limits.

C3.10.9.2 Projects that Add Between Five and Ten Thousand Square Feet of New Impervious Surface

Highway or non-highway facility projects that add between 5,000 and 10,000 square feet of new impervious surface shall implement the Site Design Pollution Prevention Best Management Practices section of this Attachment.

C3.10.9.3 Projects that Add Ten Thousand Square Feet of New Impervious Surface that is Completely Outside a Threshold Drainage Area

Highway or non-highway facility projects that add 10,000 square feet or more of new impervious surface completely outside of a Threshold Drainage Area shall implement the Site Design Pollution Prevention Best Management Practices and the Post-Construction Long-Term Operation and Maintenance Plans sections of this Attachment.

C3.10.9.4 Rapid Assessment for Projects that Add Ten Thousand Square Feet or More of New Impervious Surface with Any Portion of New Impervious Surface Located Within a Threshold Drainage Area

Highway or non-highway facility projects that add 10,000 square feet or more of new impervious surface with any impervious portion of the project located within a Threshold Drainage Area shall conduct a rapid assessment of stream stability at each stream crossing (e.g., pipe, culvert, swale or bridge) within that Threshold Drainage Area.

Guidance and worksheets for the rapid assessment of stream stability are in the 2006 Federal Highway Administration publication "Assessing Stream Channel Stability at Bridges in Physiographic Regions," (https://www.fhwa.dot.gov/publications/research/infrastructure/hydraulics/05072).

If the stream crossing is a bridge, a follow up rapid assessment of stream stability is required, which may be coordinated with the federally mandated bridge inspection process. The assessment will be conducted within a representative channel reach to assess lateral and vertical stability. A representative reach is a length of stream channel that extends at least 20-channel widths upstream and downstream of a stream crossing. For example, a 20-foot-wide channel would require analyzing a 400-foot distance upstream and downstream of the discharge point or bridge. If sections of the channel within the 20-channel width distance are immediately upstream or downstream of steps, culverts, grade controls, tributary junctions, other features, or other structures that significantly affect the shape and behavior of the channel, then more than 20 channel widths should be analyzed.

C3.10.9.5 Results of Rapid Assessment

If the results of the rapid assessment indicate that the representative reach is laterally and vertically stable (i.e., a rating of excellent or good), then the Department does not have to conduct further analyses and shall implement the requirements for Projects Subject to Post-Construction Treatment Requirements described in this Attachment.

If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of poor), the Department shall determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. The Department shall follow the Level 2 and 3 analysis guidelines contained in Hydraulic Engineering Circular No. 20 (Federal Highway Administration, fourth edition, 2012) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary, Level 3) analyses indicate that there is no risk to existing or proposed highway structures, the Department shall (1) implement the requirements for Projects Subject to Post-Construction Treatment Requirements described in this Attachment and document the methodologies used, (2) the results and the mitigation measures suggested as part of the appropriate Level 2 and, (3) if necessary, Level 3 analyses.

If the results of the Level 2 and 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options shall be implemented, including, but not limited to, (1) in-stream and floodplain enhancement or restoration, (2) fish barrier removal as identified in the report required under Article 3.5 of the California Streets and Highways Code, (3) regional flow control, (4) off-site best management practices, and, (5) if necessary, project re-design.

C3.10.10 Vector Control

The Department shall develop and implement post-construction stormwater best management practices to control mosquitoes and vectors in compliance with the following conditions:

1. The Department shall design, operate, and maintain best management practices to (a) minimize mosquito production and (b) drain within 96 hours of the end of a rain event unless specifically designed to control vectors through other features. The Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada above 5,000 feet elevation with similar alpine climates are exempt from the vector control-related post-construction requirements of this paragraph between October 1 and April 15. In addition, the requirements of this paragraph do not apply to Certified Full Capture Systems installed for compliance with the Trash Provisions and Attachment C if the installation complies with local Mosquito Vector Control District guidance.
2. All best management practices shall be maintained at the frequency specified in the Department's Maintenance Staff Guide or by the manufacturer, whichever results in more frequent maintenance;
3. The Department shall operate and maintain best management practices to prevent the propagation of vectors;
4. The Department shall comply with applicable provisions of the California Health and Safety Code relating to vector control;
5. The Department shall design and install best management practices to allow for inspections and treatment by mosquito and vector control agency staff;
6. The Department shall prepare and maintain an inventory of best management practices that retain water for more than 96 hours. The inventory shall be provided to California Department of Public Health in electronic format for distribution to local mosquito and vector control agencies. The initial inventory shall be provided within two years from the Effective Date of this Order. Subsequent inventories shall be provided to the California Department of Public Health every two years of the initial inventory submittal; and
7. The Department shall cooperate and coordinate with the California Department of Public Health and mosquito and vector control agencies on issues related to vector production in the Department's structural best management practices.

C3.11 Stream Crossing Design Guidelines

The Department shall include the following stream crossing design protocols:

1. The Department shall review and revise as necessary its 2009 Fish Passage Design

for Road Crossings, which is a guidance document. In reviewing and revising the guidance document, the Department shall be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Department of Fish and Wildlife's 2010 California Salmonid Stream Habitat Restoration Manual and the National Marine Fisheries Service's 2001 Guidelines for Salmonid Passage at Stream Crossings. The review shall be completed no later than one year after the Effective Date of this Order.

2. If it is infeasible to comply with any of the guidelines specified above, the Department shall prepare written documentation justifying the determination of infeasibility. Documentation shall be provided to the Regional Water Board Executive Officer for review and consideration of approval.

C3.12 Discharge to Sanitary Sewer Systems

Provided that the Department receives approval from the relevant sanitary sewer system or wastewater treatment plant agency, the Department may discharge to that sanitary sewer system for treatment by the wastewater treatment plant. The Department's application for discharge to the sanitary sewer system shall identify and provide the concentration of any pollutant anticipated to be in the discharge.

C3.13 Climate Change Impacts

The Department shall conduct a vulnerability assessment that identifies potential impacts due to climate change. The vulnerability assessment shall include increasing frequencies of extreme temperatures, drought, heavy rainfall, flooding, wind, wildfires, and sea level rise. The Department shall implement its vulnerabilities evaluations and strengthen efforts to implement adaptation measures for the storm sewer system's resilience to climate and severe weather impacts.

The Department shall provide the vulnerability assessment upon request.

C3.14 Storm Sewer Mapping

The Department shall maintain storm sewer maps. The Department shall include the (1) locations of best management practices via geographic informational system data layers, (2) information on structural best management practices (e.g., type, size, flow, pollutant, installation date), and (3) an indication of any green technology best management practices. Storm sewer mapping shall be made available upon request.

C3.15 Measurable Objectives

The Department shall identify measurable objectives to meet the requirements of this Order and the goals, proposed activities, tasks, and time schedule for the proposed activities and tasks in the Stormwater Management Plan.

In the Annual Report, the Department shall report progress in meeting the measurable objectives, proposed activities, proposed tasks, and schedule for proposed tasks.

C3.16 Program Evaluation, Field Compliance Evaluations, Self-Audits, and Effectiveness

1. Field Compliance Evaluations and Field Activities Self-Audit. The Department shall perform compliance evaluations for field activities for construction, highway maintenance, facility maintenance, and targeted program components. Results of the field compliance evaluations for each fiscal year shall be submitted as a Field Activities Self-Audit with the Annual Report.
2. Overall Program Effectiveness Evaluation. The Overall Program Effectiveness Evaluation shall be comparable to that outlined in the California Stormwater Quality Association (CASQA) Municipal Stormwater Program Effectiveness Assessment Guidance (https://www.casqa.org/resources/stormwater-effectiveness-assessment/guidance-document). This evaluation shall be conducted annually. The Department shall conduct the Overall Program Effectiveness Evaluation each year in response to collected environmental monitoring data. Based on the monitoring data evaluations, the scope shall be increased by adding more program effectiveness evaluation measures. The Overall Program Effectiveness Evaluation shall target pollutants of concern and shall emphasize the assessment of best management practices. The effectiveness evaluation shall include the following components:
    a. Assessment of program effectiveness in achieving permit requirements and measurable objectives.
    b. Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
    c. Identification of quantifiable effectiveness measurements for each best management practice, including measurements that link best management practice implementation with improvement of water quality and beneficial use conditions.
    d. Identification of how the Department will propose revisions to optimize best management practice effectiveness when effectiveness assessments identify best management practices or programs that are ineffective or need improvement.

C3.17 Annual Report of Retrofits

The Department shall annually report the status of its Best Management Practice Retrofits Program, including the prioritized list of retrofit projects, the rate of retrofits, and the number of completed retrofits per year.

C4. AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE COMPLIANCE PLAN

No later than 12 months after the Effective Date of this Order, the Department shall submit an Areas of Special Biological Significance Compliance Plan to the State Water Board Executive Director for review and consideration of approval. The State Water Board shall provide public notice of the proposed Areas of Special Biological Significance Compliance Plan and a minimum 30-day period for public comments. The Areas of Special Biological Significance Compliance Plan shall address the locations and monitoring results in Table C-1, which indicate that discharges may be causing or contributing to alterations of natural ocean water quality in Areas of Special Biological Significance.

The Department's Areas of Special Biological Significance Compliance Plan shall include the following information:

1. List of constituents, by location, in stormwater runoff that alter natural ocean water quality.
2. Map showing priority discharge locations, surface drainage of stormwater runoff, areas of sheet flow of stormwater runoff, priority discharge locations, and any structural best management practices already implemented and/or best management practices to be installed in the future to control the pollutants that are causing exceedance of the natural ocean water quality.
3. Implementation schedule with annual milestones for the type and installation date of best management practices. The implementation schedule shall ensure that natural ocean water quality conditions are achieved and maintained by either reducing flows from impervious surfaces, reducing pollutant loading, or a combination thereof. The implementation schedule shall be designed to bring the Department's discharges into compliance with the requirements of General Exceptions as soon as is practicable. The Department shall include documentation verifying that selected best management practices are designed such that the effluent will meet the natural ocean water qualities in the receiving water.
4. Description of the measures by which all non-authorized non-stormwater discharges (e.g., dry weather flows) will be eliminated, and how measures will be maintained, monitored, and documented.
5. Description of inspections and maintenance once prior to the beginning of the rainy season and once during the rainy season for stormwater outfall drains equal to or greater than 18 inches in diameter or width.
6. Descriptions of stormwater discharges during wet weather flows, including the necessary best management practices to achieve pollutant reductions to comply with the special conditions in the General Exception.

7. Description of how to address erosion control and the prevention of anthropogenic sedimentation in Areas of Special Biological Significance. The natural habitat conditions in the Areas of Special Biological Significance shall not be altered because of anthropogenic sedimentation.
8. Description of existing and planned non-structural best management practices, including construction activities, and a corresponding implementation schedule.
9. Description of and an implementation schedule for any low impact development measures currently employed and planned for higher threat discharges. To control stormwater runoff discharges (at the end-of-pipe) during a design storm, the Department must first consider, and use where feasible, low impact development practices to infiltrate, use, or evapotranspire stormwater runoff on-site, if low impact development practices would be the most effective at reducing pollutants from entering the areas of special biological significance.
10. Strategy to ensure Department discharges to areas listed in Table C-1, or in areas where future alterations of natural ocean water quality are detected, do not cause or contribute to alterations. The Department's strategy shall include one or more of the following to demonstrate that the Department is not causing or contributing to the alteration of natural ocean water quality for each location/parameter pair in Table C-1 and location/parameter pairs of future alterations of natural ocean water quality in Areas of Special Biological Significance to which the Department discharges: modeling, receiving water monitoring, discharge monitoring, or a demonstration of no discharge.
11. Technical description of best management practices to control stormwater runoff discharges during a design storm, including the achievement, on average, of the following target levels:
    a. Instantaneous Maximum Water Quality Objectives in Chapter II, Table 3, of the Ocean Plan; or
    b. A 90 percent reduction in pollutant loading during storm events, for the Department's total discharges.

Table C-1. Areas of Special Biological Significance with Exceedances

Areas of Special Biological Significance Index No. and Name	Ocean Receiving Water Site Identification Number	Reported Exceedances of Natural Ocean Water Quality
ASBS 08, Redwood National Park	1-323	Total suspended solids, arsenic, copper, lead, mercury, nickel, selenium
ASBS 09, James G. Fitzgerald	4-342	Dissolved orthophosphate, total suspended solids, copper, lead,

Areas of Special Biological Significance Index No. and Name	Ocean Receiving Water Site Identification Number	Reported Exceedances of Natural Ocean Water Quality
		zinc, toxicity
ASBS 15, Ano Nuevo	4-346	Fecal coliform, enterococcus, total suspended solids, oil & grease, nitrogen, arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc
ASBS 34, Carmel Bay	5-305	Cadmium, lead, mercury, zinc
ASBS 24, Laguna Point to Latigo Point	7-407	Ammonia, selenium, polycyclic aromatic hydrocarbons

In Table C-1, an exceedance of natural water quality is the same as defined in the flow chart of State Water Board Resolution No. 2012-0031, General Exception to the Ocean Plan, Attachment 1 (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0031.pdf)

C5. ANNUAL STORMWATER MANAGEMENT PLAN REPORT (ANNUAL REPORT)

The Annual Stormwater Management Plan Report (Annual Report) shall be uploaded to the statewide SMARTS database, except that the database of the Inventory of Structural Best Management Practices shall be made available upon request by the State Water Board Executive Director or a Regional Water Board Executive Officer.

The reporting period for all reports required under this Attachment is the fiscal year from July 1 through June 30. The Annual Report shall include information required under sections C5.1 through C5.15.

The Annual Report shall be submitted by November 30 of each year and shall cover the previous and forthcoming fiscal years.

C5.1 Fiscal Analysis

The Department shall include a Fiscal Analysis that includes the requirements specified in the Fiscal Planning Strategy and Annual Fiscal Report section of this Attachment.

C5.2 Certification of Adequacy of Legal Authority

The Department shall include a Certification of Adequacy of Legal Authority, as required in this Attachment.

C5.3 Technology, Monitoring, and Development Status Report

The Department shall include a Stormwater Best Management Practice Technology, Monitoring, and Development Status Report that shall include pilot study results of any new best management practices evaluations and investigations.

C5.4 Public Education Program Progress Report

The Department shall include a Public Education Program Progress Report with details regarding how the Department complied with the public education requirements in this Attachment.

C5.5 Overall Program Effectiveness Evaluation Report

The Department shall include an Overall Program Effectiveness Evaluation Report based on the conclusions from the Field Activities Self-Audits.

C5.6 Vegetation Control and Chemical Usage

The Department shall include a report of the Department's vegetation control and chemical usage that includes the following information:

1. A summary of chemical use, including the quantity of chemicals used during the previous reporting period by name and type of chemical, by District, and by month.
2. An assessment of long-term trends in herbicide usage and a table with yearly herbicide totals by chemical type and by District.
3. A comparison of the Department's statewide herbicide uses with the Department's herbicide reduction goals.
4. An analysis of the effectiveness of implementation of vegetation control best management practices, including a discussion of the improvements to best management practices implementation in use and proposed for use and an explanation when no improvements are proposed.
5. A justification for any increase in use of chemicals, herbicides, pesticides, and fertilizers.
6. A report on the number and percentage of employees who apply pesticides and have been trained and licensed in the Department's Pesticide and Fertilizer Pollution Control Program policies.
7. Training materials if requested by the State Water Board Executive Director.

C5.7 Best Management Practices Maintenance Summary

The Department shall provide a summary table of best management practices installed during the reporting period with certification dates for proper operation and

maintenance. The Department shall include discharge to sanitary sewer as a best management practice in the summary table where applicable.

C5.8 Post-Construction Best Management Practices Maintenance

The Department shall provide a report on any post-construction best management practices maintenance activities, including descriptions regarding how the Department complied with the post-construction requirements in this Order.

C5.9 Stormwater Best Management Practices

The Department shall provide a District-by-District description of construction and post-construction stormwater best management practices implemented during the reporting period. A summary of best management practices effectiveness and a description of iterative improvements implemented to address underperforming best management practice shall be included.

C5.10 Measurable Objectives Progress Report

The Department shall provide a progress report on how the Department met the measurable objectives required under this Attachment.

C5.11 Proposed Revisions to Stormwater Management Plan

The Department shall provide proposed revisions, including revisions to the existing best management practices and corresponding justifications.

C5.12 Summary of Non-Compliance

The Department shall provide a summary of non-compliance with this Order and the Stormwater Management Plan. The summary shall include incident dates, types, locations, and the status of the non-compliance.

C5.13 Summary of Updates to Facility Pollution Prevention Plans

The Department shall provide a summary table of updates to the Facility Pollution Prevention Plans for each maintenance facility, arranged by the Department's Districts and Regional Water Quality Control Board, including the date of the last update or revisions and the nature of any revisions.

C5.14 Other Items

The Department shall report annually on the following other items:

1. The status and progress of interagency coordination activities under the Municipal Coordination Plan.
2. The information required under Article 3.5 of the Streets and Highways Code

requiring the Department to report on the status of efforts in locating, assessing, and remediating barriers to fish passage.

3. The compliance evaluations for field activities including construction, highway maintenance, facility maintenance, and selected targeted program components. The results of the field compliance evaluations for each fiscal year shall be provided.
4. A summary of all construction project non-compliance items.
5. An inventory of vulnerable road segments, including the identity of road segments with slopes that are prone to erosion and sediment discharge and any stabilization of slopes to control the discharge of pollutants.
6. The details of participation in Regional Monitoring Programs, such as amount of contribution to the regional monitoring program, the activities performed by the Department, and achievement of waste load allocations.

C5.15 District Annual Workplans

Each District Annual Workplan shall cover the period of July 1 through June 30. By July 1 of each year and for each District, the Department shall upload to SMARTS electronic copies of the Department's District Annual Workplans. The Department shall notify appropriate Regional Water Board staff upon upload of the District Annual Workplans to SMARTS. District Annual Workplans are considered accepted 60 days after receipt by the applicable Reginal Water Board unless rejected in writing.

Prior to submittal of the District Annual Workplans and when requested by a Regional Water Board Executive Officer, Department staff shall meet with Regional Water Board staff on an annual basis to discuss District Annual Workplan alternatives and to ensure that appropriate post-construction controls are included in the project development process through review of the Workplan and early consultation and coordination between the Department and Regional Water board staff. Each District Annual Workplan shall include the following information for the period of July 1 through June 30:

1. A description of all anticipated soil disturbing activities and projects to be undertaken by the districts for the upcoming fiscal year of July 1 through June 30. This shall include a description of the construction and post-construction controls to be implemented for each activity and project.
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 required by the Regional Water Boards for each project or activity.

5. Potential and actual impacts of discharges from each project or activity.
6. The proposed best management practices to be implemented in coordination with other municipal separate storm sewer system permittees to comply with waste load allocations and load allocations assigned to the Department 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 or indirectly to municipal or domestic water supply reservoirs or ground water percolation facilities).
9. Spill containment, prevention, response, and control measures for high-risk areas.
10. An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge.

C5.16 Inventory of Best Management Practices

The database with the Inventory of Best Management Practices shall be maintained, kept current, and submitted upon request by a Regional Water Board Executive Officer or the State Water Board Executive Director. The inventory shall be a database of structural best management practices that shall be accurate and complete. The use of a geographic information system (GIS) is recommended. The database shall include the following: (i) location (latitude, longitude, and watershed); (ii) structural best management type and design criteria; (iii) date of construction; (iv) party responsible for maintenance; (v) dates and findings of maintenance verifications; (vi) corrective actions and/or resolutions, when applicable.

A summary of the Inventory of Best Management Practices database shall be included in the Annual Report.

C5.17 Annual Review of Stormwater Management Plan

The Department shall review the storm water management plan annually, modify as necessary, and submit any revised plan to the Executive Director for review and consideration of approval. Revisions to the Stormwater Management Plan are subject to public notice and the opportunity for a public hearing.

C6. Inspection Reports

Upload inspection reports to SMARTS within 60 days of the inspection.

ATTACHMENT D - TOTAL MAXIMUM DAILY LOAD IMPLEMENTATION REQUIREMENTS

D1. INTRODUCTION

This Attachment provides the implementation, compliance, and reporting requirements for the Department to comply with total maximum daily load (TMDL) requirements that the Department is identified as a responsible party. For each TMDL in which the Department is identified, Tables D-1, D-2, and D-3 list the impaired waterbody, TMDL pollutant, and implementation requirements. This Attachment includes the following:

- Technical requirements for best management practices (section D2),
- Reporting Requirements (sections D3 through D3.4.),
- TMDL Implementation Requirements (sections D5 through D5.14.) and
- Tables with TMDLs and corresponding compliance requirements (section D6).

Waste load allocations and compliance deadlines for the applicable existing TMDLs (as adopted in existing Regional Water Board basin plans) are provided in Attachment A (Fact Sheet), which is incorporated by reference into this Attachment.

D2. DESIGN, CONSTRUCTION, AND MAINTENANCE OF BEST MANAGEMENT PRACTICES FOR TMDL POLLUTANT REDUCTION

The Department shall comply with best management practices design, construction, and maintenance requirements in Attachment C of this Order, for compliance with TMDL requirements.

The Department shall maintain its inventory database of best management practices, as described in Attachment C of this Order. The inventory database shall be made available upon request by the State Water Board Executive Director or a Regional Water Board Executive Officer.

D3. REPORTING REQUIREMENTS FOR TMDL COMPLIANCE

- All TMDL compliance-related reports shall be uploaded to SMARTS. Uploaded reports shall have file names that are readily discernable by the general public, including the applicable reporting period followed by the report name. For example, the Annual TMDL Compliance Status Report shall have a filename such as “2021-2022_AnnualTMDLCompliance Status Report.”
- The reporting period for all TMDL-related compliance reports required under this Attachment is the state fiscal year of July 1 through June 30.
- Required reports include the Prioritized Inventory of Reaches, Annual TMDL Compliance Status Reports, the TMDL Compliance Plan, and Region-Specific Reports.

A tabulated list of reports required in this Attachment is provided in Attachment G of this Order.

D3.1 Prioritized Inventory of Reaches by Pollutant Category

The Department shall update its existing Prioritized Inventory of Reaches and submit the updated inventory within 12 months of the Adoption Date of this Order, as part of its TMDL Compliance Plan required in section D3.3 of this Attachment. The updated Prioritized Inventory of Reaches shall include the prioritization of all TMDLs the Department is required to comply with, including the following newly-implemented four TMDLs and other inventory updates: (1) Los Peñasquitos Lagoon Sediment TMDL in the San Diego Region; (2) San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDLs in the Los Angeles Region; (3) Pescadero-Butano Watershed Fine Sediment TMDL in the San Francisco Bay Region; and (4) Petaluma River Bacteria TMDL in the San Francisco Bay Region.

Prior to consideration of approval, the State Water Board Executive Director will publicly notice and issue the updated Prioritized Inventory of Reaches for a 30-day public comment period, with a limited scope for public comments on the updated prioritization incorporating the four above TMDLs.

D3.2 Annual TMDL Compliance Status Reports

The Department must submit an annual TMDL Compliance Status Report applicable to the TMDLs listed in Tables D-1, D-2, and D-3 of this Attachment. On November 30 following the Effective of this Order, the Department shall submit the first Annual TMDL Compliance Status Report covering compliance achieved during the previous fiscal year of July 1 through June 30, and the compliance proposed during the forthcoming two fiscal years.

Thereafter, the Department shall submit the Annual TMDL Compliance Status Report by November 30 of each year, which shall cover the compliance achieved during the previous fiscal year, and the compliance proposed during the forthcoming two fiscal years.

The Annual TMDL Compliance Status Report shall include the following information for the TMDLs listed in Tables D-1, D-2, and D-3:

1. Proposed list of TMDL waste load and load allocations with which the Department has come into compliance, including documentation demonstrating compliance and any ongoing maintenance or other efforts necessary to sustain compliance.
2. Tabulated inventory and descriptive summary of TMDL compliance activities performed in the previous fiscal year by watershed. Compliance activities include all efforts to identify, plan, and implement TMDL compliance projects. The tabulated

inventory shall include the status of planning, designing, permitting, contributions, and implementation of all TMDL projects. Compliance activities shall be described in detail and shall identify the activity location, impaired waterbody, best management practices, and TMDL pollutant. All TMDL work completed to date, work completed during the reporting period, work anticipated in the next two reporting periods, obstacles, and unresolved issues of concern.

3. TMDL compliance activities planned for the forthcoming two fiscal years for each impaired watershed. Compliance activities shall be described in detail and shall identify the activity, location, best management practices, and watersheds. Compliance activities shall include all efforts to identify, plan, and implement TMDL compliance projects and monitoring efforts.
4. Results of ongoing assessments of the performance, effectiveness assessments, and adaptive management of a representative fraction of each type of Department-installed best management practices and control measure.
5. Tabulated list of cooperative agreements that includes the name of each agreement, signatories or major participating entities, the impaired waterbody, the waste load allocation/TMDL pollutant, project type (e.g., within the Department's right-of-way, outside the Department's right-of-way, monitoring, best management practices, etc.), and the applicable waste load allocation implementation requirement. (See Attachment B, definition of cooperative agreements.)
6. Descriptive summary and tabulated data of all cooperative agreements, including the status of planning, designing, permitting, contributions, and implementing all cooperative agreement projects.
7. For the San Francisco Bay Water Board polychlorinated biphenyl and mercury TMDLs, project status of best management practices and control shall be included, as required by section D5.8, below.
8. For the Santa Ana Water Board Lake Elsinore and Canyon Lakes nutrients TMDL, an annual status report on the in-lake nutrient reduction program must be included, as described in section D5.13, below.
9. Updates to the Pollutant Load Reduction Plan required by the Lahontan Water Board.
10. Delays affecting project implementation, including delays or cancellations due to environmental or permitting factors (e.g., California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, local flood control agencies, local county, etc.) beyond the Department's control.
11. Copies of watershed implementation reports for cooperative agreements established to comply with this Attachment. Watershed implementation reports may be uploaded

to SMARTS as separate attachments if each electronic filename includes the report date, name, and TMDL watershed.

D3.3 TMDL Compliance Plan

D3.3.1 The Department shall develop, implement and update a TMDL Compliance Plan that provides the Department's long-term plan to comply with the TMDLs listed in Tables D-1, D-2, and D-3 of this Attachment. The Department shall submit its initially developed TMDL Compliance Plan within 12 months of the Adoption Date of this Order. The TMDL Compliance Plan shall cover the period from the Effective Date of this Order through the final TMDL compliance deadlines listed in Attachment A (and incorporated into this Order by reference).

The Department shall submit an updated TMDL Compliance Plan annually by November 30 of each year. The Department shall submit the TMDL Compliance Plan and subsequent annual updates for review and consideration of approval by the State Water Board Executive Director. Prior to consideration of approval, the State Water Board Executive Director will publicly notice and issue the updated TMDL Compliance Plan for a 30-day public comment period, with a limited scope for public comments on the initially submitted TMDL Compliance Plan, or on the subject Plan update, as applicable. Upon approval by the State Water Board Executive Director, the Department shall begin implementation.

D3.3.2 The Department shall meet annually, by March 1 of each year, with the appropriate Regional Water Board Executive Officer or designee to discuss:

- Previous work completed under the previous Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, WQ 2015-0036-EXEC and WQ 2017-0026-EXEC) to compliance with the Department's TMDL waste load allocations in this Order; and
- Proposed work and active cooperative projects proposed to provide compliance with the Department's TMDL load allocations or waste load allocations.

D3.3.3 The TMDL Compliance Plan and annual updates shall include the following:

1. A technical discussion that describes the proposed translation from previously earned compliance units under the previous Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, WQ 2015-0036-EXEC and WQ 2017-0026-EXEC) to compliance with TMDL waste load allocations in this Order.
2. A technical discussion that describes how the updated Prioritized Inventory of Reaches is reflected in the TMDL Compliance Plan.
3. A strategy for implementing Regional Water Board-specific requirements.

4. A summary of cooperative agreement projects that will be implemented.
5. A schedule for completing interim and final milestones for each of the TMDLs listed in the Time Schedule Order.
6. A spreadsheet of tabulated data containing the following information:
    - TMDL name,
    - Reach name,
    - Individual pollutant,
    - Proposed compliance strategy,
    - Total watershed acres,
    - Department's acres in the watershed,
    - The Department's percentage of right-of-way in the watershed, and
    - TMDL waste load allocations applicable to the Department.
7. Electronic geographic information system data files including location and information on the following:
    - TMDL watersheds,
    - Pollutants, and
    - Location and type of best management practices.
8. A proposed implementation schedule for each TMDL waterbody-pollutant combination, with the anticipated start and completion date for implementation of each TMDL.
9. A tabulated list and accompanying description of the TMDL watersheds and the locations and type of best management practices, cooperative agreements, and controls.
10. A tabulated list and accompanying description of the Department's compliance strategy to achieve compliance with each TMDL. One or more of the following compliance strategies shall be identified for each TMDL:
    a. *Modeling Analysis*. Modeling analysis, including analysis of cooperative projects, that quantitatively demonstrates that best management practices reduce pollutant loads to comply with TMDL waste load allocations;
    b. *Receiving Water Quality Monitoring*. Receiving water analysis demonstrates compliance with the TMDL allocations at the point of the Department's

discharge or as determined by monitoring immediately upstream and downstream of the Department's discharge location;

c. *Loads from Other Sources*. Analytical results demonstrate that exceedances of the receiving water limits are due to loads from other sources and that the Department's pollutant loads are not causing or contributing to the exceedances;

d. *Discharge Sampling*. Analytical results demonstrate that the Department's discharge complies with a concentration-based waste load allocation;

e. *Mass-Based Waste Load*. Analytical results demonstrate that the Department's discharge complies with the individual or joint allocation or the percent reduction where a mass-based waste load has been allocated individually, jointly to a group, or is expressed as a percent reduction in load;

f. *Allowable Exceedance Days*. Discharge conforms to the allowable exceedance days where a waste load allocation is expressed as the number of allowable exceedance days;

g. *No Discharge*. No discharges occurred during the relevant period either directly or indirectly from the Department's right-of-way to the waterbody; or

h. *TMDL-Specific Demonstrations*. Demonstration that the waste load allocation is attained through other factors as described by the specific TMDL.

11. The compliance strategy options selected for the North Coast, San Francisco Bay, Los Angeles, Lahontan, Santa Ana, and San Diego Water Boards, as described in sections D5.7, D5.8, D5.10, D5.11, D5.12, D5.13, and D5.14 of this Attachment.

12. The Inventory and Assessment Report with the drainage infrastructure condition for all Department facilities in the San Lorenzo River Watershed, as required by the Central Coast Water Board TMDL. The Inventory and Assessment Report shall include a schedule for completing necessary upgrades to the drainage infrastructure. See section D5.3, below.

D3.4 Regional Water Board-Specific Reports

The Department shall submit Regional Water Board-Specific Reports for review and consideration of approval by the State Water Board Executive Director in consultation with the appropriate Regional Water Board Executive Officer. The Department shall submit the following Regional Water Board-Specific Reports by the indicated due dates:

1. Lahontan Water Board. By March 15, 2022, the Department shall submit an updated Pollutant Load Reduction Plan for review and consideration of approval to the Lahontan Water Board Executive Officer. See section D5.12 of this Attachment.

2. North Coast Water Board Sediment and Temperature Load Reduction Projects. The State Water Board Executive Director in consultation with North Coast Water Board Executive Officer shall determine the Department's progress towards compliance with sediment and temperature load reductions in the North Coast Water Board region. For review and consideration of approval, the Department shall provide the following documentation:

   - For projects completed from the TMDL adoption date through this Order's adoption date, the Department shall provide the load reductions for any completed TMDL sediment or temperature load reduction projects.
   - For projects completed under pre-approval by the Regional Water Board Executive Officer and after this Order's adoption date, the Department shall provide the load reduction for any sediment load reduction project or activity at the time of completion (if in the Department right-of-way) or upon contribution to the implementing entity (if outside the Department right-of-way).

3. San Diego Water Board, Chollas Creek TMDL Reporting. In the TMDL Compliance Plan and Annual TMDL Compliance Status Reports, the Department shall report the status of Chollas Creek TMDL best practices implementation including: (i) current and proposed best management practices and treatment acres implemented through cooperative agreements; (ii) existing acreage treated with existing Department-specific best management practices; (iii) proposed Department-specific best management practices and acreage to be treated for the upcoming year; and (iv) proposed total acreage that will be treated with Department-specific best management practices by the compliance deadline. The Department shall demonstrate that the implementation schedule will be sufficient to meet the Department's waste load allocation interim and final deadlines.

D4. OTHER FACTORS AFFECTING PROJECT IMPLEMENTATION

The Department shall identify other factors (such as safety concerns, technical infeasibility, and conflicting local permits) that may affect TMDL compliance project implementation. The Department shall include factors affecting TMDL compliance project implementation in its TMDL Compliance Plan, and subsequent TMDL Compliance Plan updates.

D5. IMPLEMENTATION REQUIREMENTS BY POLLUTANT CATEGORY

The Department shall implement the requirements in sections D5.1 through D5.14, below, for the waterbody-pollutant combination that are listed in Tables D-2 and D-3.

D5.1 Cooperative Agreements

The Department may satisfy some or all of the Department's TMDL obligations through projects outside of the Department's right-of-way, provided that the projects, either alone or in combination with other dischargers' projects in the watershed, are consistent with attaining the waste load allocations for the watershed. When evaluating a cooperative agreement, the Regional Water Board and State Water Board shall consider potential localized impacts between the Caltrans discharge location and any cooperative agreement projects, with a goal of reducing areas of nonattainment and avoiding nonattainment in areas disproportionately impacted by pollutants. Prior to implementation of projects pursuant to cooperative agreements or other agreements (e.g., regional, task force, local, watershed, and Regional Water Board agreements), the allocation of the predicted waste load reductions between the Department and the cooperating agencies should be proposed as part of the Cooperative Agreement and shall be documented in the TMDL Compliance Plan. Following implementation of a cooperative agreement project, the actual waste load reductions claimed must be based on the constructed best management practice, and the Department must address and report on any discrepancy between the predicted planned and actual waste load reductions claimed, which must be reported in the annual TMDL Compliance Status Report. The Department should consult with Regional Water Board staff before entering into cooperative agreements to ensure that the projects are consistent with attaining with the relevant waste load allocations.

D5.2 Performance, Effectiveness, and Adaptive Management Assessment

The Department shall conduct ongoing assessments of the performance and effectiveness of a representative fraction of each type of Department-installed best management practices and control measures. The assessment shall include necessary modifications to achieve and maintain waste load allocations and best management practices performance standards. Where an assessment indicates that best management practices and/or control measures are inadequate to achieve waste load allocations and other performance standards, the Department shall implement adaptive management, which are modifications and improvement of control measures and best management practices necessary for compliance all TMDL-related requirements.

D5.3 Requirements for Sediment, Nutrients, Mercury, Siltation and Turbidity Total Maximum Daily Loads

Sediment in stormwater runoff from slopes adjacent to paved roads, hydromodification, induced landslides, and mass wasting events are sources of silt, turbidity, nutrients, and mercury in surface water. The Department shall implement best management practices:

- To prevent or minimize erosion and sediment discharge, including preventing channel incision and bank erosion; protecting and vegetating hillsides; intercepting, filtering, or infiltrating runoff; avoiding concentrated flows in natural channels and drains; and avoiding modification of natural runoff flow patterns.
- For spoils management and disposal to prevent runoff from contacting spoils and subsequently discharging such runoff to stormwater conveyance systems.

  The Department shall control discharges from all construction sites (regardless of the size) that drain to TMDL receiving waters.

For the San Lorenzo River watershed, the Department shall complete an inventory and assessment of the condition of drainage infrastructure for all its facilities. The Department shall submit an Inventory and Assessment Report to the State Water Board Executive Director and the Central Coast Water Board Executive Officer within 12 months of the Effective Date of this Order. The Inventory and Assessment Report shall include a schedule for completing necessary upgrades to the drainage infrastructure of its facilities.

D5.4 Requirements for Toxic Pollutants/Pesticides/Metals Total Maximum Daily Loads

Toxic pollutants, pesticides, and metals may adhere to sediment in stormwater. The Department shall control toxic pollutants, pesticides, and total and dissolved metals in stormwater discharges. Toxic pollutants include polychlorinated biphenyls, polyaromatic hydrocarbons, chlordane, dichlorodiphenyltrichloroethane, dieldrin, lead, mercury, nickel, selenium, zinc, cadmium, chromium, and copper.

The Department shall implement best management practices designed to prevent the discharge of sediment, including best management practices that protect hillsides from erosion, provide runoff interception and filtration, avoid concentrated flows in natural channels and drains, and avoid modification of natural runoff flow patterns.

For dissolved fraction metals, the Department shall prioritize best management practices to reduce the discharge of dissolved fraction metals in stormwater, such as preventing contaminated runoff from reaching receiving waters or by installing infiltration systems that allow runoff water to percolate into soil. Other best management practices include adsorption, filter media, precipitation, and ion exchange. The Department may discharge to sewer if such discharge is approved by the wastewater treatment facility.

D5.5 Requirements for Bacteria Total Maximum Daily Loads

The Department shall implement, monitor, and maintain best management practices to minimize the discharge of bacteria (i.e., fecal pathogens) to surface waters within each applicable reach. Potential sources of bacteria include stormwater runoff from untreated

human and pet wastes, which may occur at homeless encampments and other areas. The Department shall implement one or more of the following:

1. The Department's Homeless Encampment Policy (Chapter 1, section 1.07.3(B) of Department's Maintenance Manual) or subsequent policies addressing encampment removal and cleanup.
2. Cooperative agreement participation, such as leases to local municipalities for homeless services, where available.
3. Structural best management practices, such as retention, detention, diversion, infiltration, filtration, vegetated treatment, and similar.

D5.6 Requirements for Temperature Total Maximum Daily Loads

Sediment may increase surface water temperatures. The Department shall implement sedimentation and erosion control measures, such as protecting hillsides from erosion, intercepting, and filtering or infiltrating runoff, avoiding concentrated flows in natural channels and drains, and avoiding modification of natural runoff flow patterns. Because vegetation removal may also increase surface water temperatures, the Department shall:

1. Preserve existing riparian biotic conditions immediately adjacent to receiving waters susceptible to temperature increases;
2. Provide effective shade near receiving waters susceptible to temperature increases;
3. Maintain site potential effective shade near receiving waters susceptible to temperature increases; and
4. Receive written authorization by the applicable Regional Water Board Executive Officer prior to conducting activities where alteration of riparian biotic conditions may increase sedimentation or reduce effective shade.

D5.7 North Coast Water Board Sediment and Temperature Total Maximum Daily Loads

Activities involving the removal of riparian vegetation may require other federal permits and a Clean Water Act section 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation within federal waters. The requirements are intended to prevent alterations to natural receiving water temperature from Department activities.

Within the jurisdiction of the North Coast Regional Water Board, the Department shall implement the sediment and temperature controls to comply with the following requirements. The Department may implement necessary controls through cooperative projects, Department-specific implementation, or a combination to meet the

implementation requirements. The Department shall comply with the Department-specific sediment load allocations provided in the table, below:

Department-Specific Sediment Load Allocations in the North Coast Water Board Region

TMDL Name	Existing Load (tons/year)	Load Allocation (tons/year)	Reduction Needed (%)	Sediment Load Reduction (tons/year)
Albion River	7	2	74	5
Big River	193	44	77	149
Eel River, Upper Main	137	68	50	68
Eel River, Middle Fork	147	105	28	41
Eel River, Lower Main	354	74	79	280
Eel River, South Fork	18,027*	4,871	73	13,157
Garcia River	251	100	60	150
Gualala River	171	21	88	150
Mad River	4,595	515	88	4,056
Navarro River	2,868	1,364	52	1,504
Noyo River	116	33	71	83
Redwood Creek	5,337	856	84	4,481
Scott River	153	67	57	87
Ten Mile River	5	1	76	4
Trinity River	7,725	88	89	6,875
Trinity River, South Fork	1,983	358	82	1,625
Van Duzen River	447	68	85	379

*A typographical error in the existing load has been corrected.

D5.7.1 Load Reductions

The Department shall implement TMDL best management practices and control projects to reduce pollutant loads associated with Department roads within each sediment and temperature impaired watershed. The amount of load reduction in each watershed shall be commensurate with the length and area of Department right-of-way in each watershed (i.e., proportional responsibility). The Department shall coordinate closely with the North Coast Water Board to implement TMDL compliance projects that reduces sediment and temperature loads described in sections D5.7.1.1 and D5.7.1.2, below.

D5.7.1.1 Sediment Load Reductions

The Department shall control sediment loads in each TMDL watershed by implementing TMDL best management practices and controls that reduce sediment discharges and/or restore assimilative capacity to streams. The amount of sediment load reduction (in tons of sediment per year) that shall be reduced in each TMDL watershed is shown in Table A2 of Attachment A to this Order.

D5.7.1.2 Temperature Load Reductions

The Department shall reduce temperature loads in each TMDL watershed by implementing TMDL best management practices and control projects that increase effective shade to streams. Increasing effective shade to streams shall be accomplished through restoration of riparian acreage via TMDL best management practices and control projects. The riparian acreage to be restored is equal to the roadway area within the riparian setback. The riparian setback was determined by the North Coast Water Board by creating a 200-foot buffer width along each side of United States Geological Survey mapped blue-line streams. The acres of riparian restoration that shall be implemented in each TMDL watershed are provided below.

Department's Proportional Responsibility of Riparian Shade

Watershed	Area of Department Highways in the Watershed (acres)	Department's Proportional Responsibility of Riparian Shade (acres)
Eel River, Lower Hydrologic Area	456	37
Eel River, Middle Fork	57	17
Eel River, South Fork	748	143
Eel River, Upper Main	255	127
Klamath River	166	61
Navarro River	166	61
Scott River	163	28
Shasta River	869	131

D5.8 San Francisco Bay Water Board Mercury and Polychlorinated Biphenyls Total Maximum Daily Loads

For the San Francisco Bay Water Board mercury and polychlorinated biphenyls TMDLs, the Department shall implement the monitoring requirements in Attachment F and the best management practices described below.

The Department shall implement mercury and polychlorinated biphenyl best management practices in 2,970 acres of right-of-way which are located within the San Francisco Bay Water Board region. Both polychlorinated biphenyl and mercury are

satisfied by treating the 2,970 acres. Polychlorinated biphenyls are further targeted through the choice of treatment locations, which is explained in Attachment A (the Fact Sheet).

The Department shall submit the following information in the TMDL Compliance Plan and updates:

1. Caulk Removal for Polychlorinated Biphenyls. With the TMDL Compliance Plan, the Department shall submit standard operating procedure (similar to that used for the 2018 demolition of the old eastern span of San Francisco Bay Bridge) to identify, remove and properly dispose of polychlorinated biphenyl-containing caulk prior to or during the demolition, replacement, or rehabilitation of existing roadways, bridges, or other structures in the right-of-way containing such material. Standard operating procedures shall be described in the TMDL Compliance Plan and implemented for all projects no later than the date of submittal of the TMDL Compliance Plan.
2. Polychlorinated Biphenyls and Mercury TMDL Compliance Plan. The Department shall submit its plan for polychlorinated biphenyls and mercury treatment controls in the TMDL Compliance Plan, which is described in section D3.3, above. For polychlorinated biphenyls, this plan shall cover the reporting period from the Adoption Date of this Order through March 29, 2030. For mercury, this plan shall cover the reporting period from the Adoption Date of this Order through February 12, 2028. The plan shall include the following information:
    a. A schedule for planned implementation of control measures to treat 2,970 acres by March 29, 2030 for polychlorinated biphenyls and by February 12, 2028 for mercury. The schedule and updates to the schedule shall include the watershed, type of best management practice, installation date, and location by coordinates for controls planned in the following five years.
    b. Identify the watersheds where polychlorinated biphenyls and mercury best management practices are currently being implemented, the acres, and the type of best management practices.
    c. Describe the watersheds where polychlorinated biphenyls and mercury best management practices will be implemented, the date of planned implementation, and the acres that will be treated with the best management practices. Identify the type of best management practices that will be used at each location.
    d. Identify the selected best management practices option for each location by choosing and reporting on one of the following options:
        i. Implement best management practices within the Department's right-of-way; or

ii. Implement best management practices in areas managed by municipalities, local agencies, or private entities to which runoff from the Department's right-of-way is discharged. Treatment controls implemented in old urban and industrial areas within municipalities will be credited three times the acres of the Department's right-of-way treated. Old urban land use describes urbanized areas developed by 1974 according to the Interim Accounting Methodology published by the Bay Area Stormwater Management Agencies Association in 2017; or

iii. Implement best management practices that are a combination of items d.i and d.ii, above.

D5.9 Requirements for Los Angeles Water Board Trash Total Maximum Daily Loads

The Department shall comply with ten trash TMDLs in the Los Angeles Water Board's jurisdiction, as follows: Los Angeles Area Lakes, Peck Road Park Lake; Los Angeles Area Lakes, Echo Park Lake; Ballona Creek; Los Angeles Area Lakes, Legg Lake; Los Angeles River; Machado Lake; Malibu Creek Watershed; Revolon Slough and Beardsley Wash; Santa Monica Bay Nearshore and Offshore; and Ventura River Estuary. For the TMDLs listed above, the Department shall implement the following:

1. Trash Control Measures. The Department shall comply with waste load allocations by installing, operating, and maintaining any combination of full capture systems, multi-benefit projects, other treatment controls, and/or institutional controls for all storm drains that capture runoff from significant trash generating areas to achieve full capture equivalency as defined by the Trash Provisions in the Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan. Information on what qualifies as a full capture system and how to demonstrate full capture equivalency is included in Attachment E.
2. Trash Reduction Allocations. Trash reduction allocations are the gallons per year of trash that the Department shall remove or reduce from discharges from its jurisdiction to satisfy its trash load allocations. Areas within the Department's jurisdiction include highway on- and off-ramps in high density residential, commercial, and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments.

Trash TMDL Reduction Allocations

Trash TMDL	Reduction Allocations (gallons per year)
Ballona Creek	1,222
Los Angeles Area Lakes, Echo Park Lake	150

Trash TMDL	Reduction Allocations (gallons per year)
Los Angeles Area Lakes, Legg Lake	586.92
Los Angeles River	59,421
Machado Lake	4,215.84
Malibu Creek Watershed	10,813
Los Angeles Area Lakes, Peck Road Park Lake	950
Revolon Slough and Beardsley Wash	11,215.45
Santa Monica Bay Nearshore and Offshore	36,129
Ventura River Estuary	2,049.86

D5.10 Requirements for Los Angeles Water Board Other Total Maximum Daily Loads

For the Los Angeles Water Board region, the Department shall comply with the monitoring requirements in Attachment F and the implementation requirements provided below:

The Department shall comply with best management practices implementation requirements through selection of one of the following options:

1. The Department shall participate, or continue to participate, in cooperative agreement projects (as defined in Attachment B) with other entities and agencies, which contribute to the construction and maintenance of regional structural best management practices projects that will treat applicable TMDL pollutants for compliance with waste load allocations; or
2. The Department shall implement best management practices in its right-of-way to meet the TMDL allocations; or
3. The Department may implement a combination of items 1 or 2, above, provided that the Department complies with the relevant TMDL.

D5.11 Requirements for Central Valley Water Board Total Maximum Daily Loads

D5.11.1 Mercury for Cache Creek Watershed

For the Cache Creek watershed Mercury TMDL that includes Harley Gulch, Sulphur Creek, Cache Creek, and Bear Creek, the Department shall control sediment as required by the TMDL, as follows:

1. Control erosion from construction and maintenance activities using approved best management practices in the parts of the watershed identified above;
2. Comply with the Department's Stormwater Management Plan and implement best management practices to control erosion; and
3. Perform pre-project assessments to identify areas with enriched mercury. Identify and implement additional best management practices for areas with enriched mercury.

D5.11.2 Sacramento-San Joaquin Delta Methylmercury TMDL

For the Sacramento-San Joaquin Delta Methylmercury TMDL, the Department shall provide the compliance status, plans, reports, and implementation via the Annual TMDL Compliance Status and TMDL Compliance Plan described in sections D3.2 – D3.3, above. Monitoring requirements are provided in Attachment F.

Where the Department's storm sewer system is located within a Delta subarea but outside the jurisdiction of a municipal separate storm sewer system listed in the above table, the Department shall comply with the urban (nonpoint source) runoff load allocations for each Delta subarea shown in the table below, or if the Central Valley Water Board adopts revised load and waste load allocations in Phase 2 of the Delta Mercury Control Program and associated TMDL, the Department shall comply with the assigned revised allocations and monitoring requirements.

Applicable in Storm Sewer System Discharges Located Within a Delta Subarea but Outside the Jurisdiction of a Municipal Separate Storm Sewer System

Delta Subarea	Urban (Nonpoint Source) Runoff Load Allocation (grams per year)
Central Delta	0.14
Mokelumne River	0.018
Sacramento River	0.62
San Joaquin River	0.0022
West Delta	0.066

Urban Runoff Methylmercury Waste Load Allocations by Jurisdictional Municipal Separate Storm Sewer System

Jurisdictional Municipal Separate Storm Sewer System Permittee by Subarea	Permit No.	Waste Load Allocation (grams per year)
Central Delta		
Contra Costa (County of)	CAS083313	0.75
Lodi (City of)	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
San Joaquin (County of)	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
Marsh Creek		
Contra Costa (County of)	CAS083313	0.3
Mokelumne River		
San Joaquin (County of)	CAS000004	0.016
Sacramento River		
Rio Vista (City of)	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1
San Joaquin (County of)	CAS000004	0.11
Solano (County of)	CAS000004	0.041
West Sacramento (City of)	CAS000004	0.36
Yolo (County of)	CAS000004	0.041
San Joaquin River		
Lathrop (City of)	CAS000004	0.097
Port of Stockton MS4	CAS084077	0.0036
San Joaquin (County of)	CAS000004	0.79
Stockton Area MS4	CAS083470	0.18
Tracy (City of)	CAS000004	0.65
West Delta		
Contra Costa (County of)	CAS083313	3.2
Yolo Bypass		
Solano (County of)	CAS000004	0.021
West Sacramento (City of)	CAS000004	0.28
Yolo (County of)	CAS000004	0.083

Where the Department's storm sewer system is located within a Delta subarea but outside the jurisdiction of a municipal separate storm sewer system listed in the above table, the Department shall comply with the urban runoff load allocations for each Delta subarea shown in the table below. Information in the below table is from the Basin Plan for the Sacramento River Basin and the San Joaquin Basin, Fifth Edition (Table 4-15).

D5.11.3 Nutrients in Clear Lake

The Department is assigned a phosphorous waste load allocation of 100 kilograms per year in the Clear Lake Nutrients TMDL, which is managed by controlling sediment. For the Clear Lake Nutrients TMDL, the Department shall control sediment, as follows:

1. Control erosion from construction and maintenance activities using approved best management practices in the parts of the watershed identified above; and
2. Comply with the Department's Stormwater Management Plan and implement best management practices to control erosion for existing and all new Department projects.

D5.12 Requirements for Lahontan Water Board Lake Tahoe Sediment and Nutrients Total Maximum Daily Loads

Monitoring shall be implemented and reported according to the requirements in Attachment F of this Order. The Department shall implement the sediment and nutrient reduction requirements, and corresponding final compliance dates, specified in the TMDL for Sediment and Nutrients in Lake Tahoe, as follows:

D5.12.1 Pollutant Load Reduction

The Department shall plan, implement, and report the following for pollutant load reduction:

1. Measure pollutant load reductions in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook (https://clarity.laketahoeinfo.org/Home/UrbanJurisdictions), the Lake Tahoe Info Stormwater Tools (https://stormwater.laketahoeinfo.org), and in accordance with the program priorities and direction formalized in the most current Decisions Record Memo (https://clarity.laketahoeinfo.org/Home/ProgramManagement).
2. Reduce fine sediment particle, total phosphorus, and total nitrogen loads by 21, 14, and 14 percent, respectively, by September 30, 2021 (end of water year 2021). No later than January 15, 2022, the Department shall input data supporting pollutant load reductions to the online crediting platform (i.e., the Stormwater Tools at the link https://stormwater.laketahoeinfo.org).
3. Reduce fine sediment particle, total phosphorus, and total nitrogen loads by 34, 21, and 19 percent, respectively, by September 30, 2026 (end of water year 2026). No later than January 15, 2027, the Department shall input data supporting pollutant load reductions to the online crediting platform (i.e., the Stormwater Tools at the link https://stormwater.laketahoeinfo.org).

4. Reduce fine sediment particle, total phosphorus, and total nitrogen loads by 38, 23, and 22 percent, respectively, by September 30, 2031 (end of water year 2031). No later than January 15, 2032, the Department shall input data supporting pollutant load reductions to the online crediting platform (i.e., the Stormwater Tools at the link https://stormwater.laketahoeinfo.org).

D5.12.2 Pollutant Load Reduction Plan

The Pollutant Load Reduction Plan is a Region-specific Report, as listed in section D3.4, above. By March 15, 2022, the Department shall submit an updated Pollutant Load Reduction Plan that describes how it will achieve the pollutant load reduction requirements for the third five-year TMDL implementation period, defined as the fifteen-year load reduction milestone in the Lake Tahoe TMDL. The updated Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 34, 21, and 19 percent, respectively, by September 30, 2026 (end of water year 2026). The Department shall submit the updated Pollutant Load Reduction Plan for review and consideration of approval to the State Water Board Executive Director in consultation with the Lahontan Water Board Executive Officer. The approved Pollutant Load Reduction Plan shall be implemented. The updated plan shall include, at a minimum, the following elements:

1. The Pollutant Load Reduction Plan shall include the Department's previously approved Baseline Load Estimate.
2. The Pollutant Load Reduction Plan shall include a list of catchments (i.e., Catchment Registration Schedule) that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to comply with load reduction requirements. The list shall include catchments where projects will be constructed, and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) will be taken to achieve pollutant load reduction requirements.
3. The Pollutant Load Reduction Plan shall describe stormwater program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments.
4. A pollutant load reduction analyses shall be conducted on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is

adequate for extrapolation to other catchments. The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004, and pollutant load reductions from actions not yet taken.

5. The Pollutant Load Reduction Plan shall describe a schedule for achieving the pollutant load reduction requirements described in the Lake Tahoe Sediment TMDL. The schedule shall include an estimate of expected pollutant load reductions for each year of this Order term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Order.
6. The Pollutant Load Reduction Plan shall include a description of the processes and procedures to annually assess stormwater management activities and associated load reduction progress. The plan shall describe how the Department will use information from monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements.
7. The monitoring sampling, analysis, and reporting shall be implemented according to Attachment F of this Order.
8. The percent load reductions for each of the established five-year milestones is provided in the following two tables:

Lake Tahoe Fine Sediment Particles, Nitrogen, and Phosphorus

Description	Fine Sediment Particles	Nitrogen	Phosphorous
Basin-Wide Load	3.50E+20	63	18
% of Basin-Wide Load	72	18	47
Units	Particles per year	Metric ton per year	Metric ton per year

Lake Tahoe Percent Load Reductions by Five-Year Milestones

Milestone Year	Milestone Load Reductions (%)	Milestone Load Reductions (%)	Milestone Load Reductions (%)
10	21	14	14
15	34	19	21
20	38	22	23
25	41	25	26
30	45	38	26
35	48	31	31
40	52	34	33
45	55	37	36

Milestone Year	Milestone Load Reductions (%)	Milestone Load Reductions (%)	Milestone Load Reductions (%)
50	59	40	38
55	62	43	41
60	66	46	44
65	71	50	46

Information provided in the Lake Tahoe Percent Load Reduction by Five Year Milestones table, above, was obtained from the Lahontan Water Board Resolution R6T-2010-0050 that was adopted August 16, 2011.

D5.13 Requirements for Santa Ana Water Board, Lake Elsinore and Canyon Lake Nutrient Total Maximum Daily Load

For the Lake Elsinore and Canyon Lake Nutrient TMDL, the Department shall implement monitoring according to the requirements in Attachment F of this Order.

The Department shall comply with the Lake Elsinore and Canyon Lake Nutrient TMDL by implementing one of the compliance options described below. The Department shall report its selected option in the TMDL Compliance Plan:

1. Continue participation with the Lake Elsinore and Canyon Lake Nutrients TMDL Task Force commitment for cooperative implementation actions, monitoring, and special studies. The Department shall remain an active member of the Lake Elsinore and Canyon Lake Nutrients TMDL Task Force; or
2. If the State Water Board receives notice that the Department is not fulfilling its obligations to the Lake Elsinore Canyon Lake TMDL Task Force, the Department must develop and implement a program consistent with the Lake Elsinore and Canyon Lake TMDL Task force through completion of the following tasks:
    a. Conduct Canyon Lake in-lake monitoring consistent with the TMDL Task Force monitoring program;
    b. Submit a proposed facility monitoring program to evaluate nutrient discharges from the Department's facilities in the Lake Elsinore and Canyon Lake watershed;
    c. Develop and implement a Lake Elsinore in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load;
    d. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented;
    e. Develop and implement a Canyon Lake in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load;

f. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented;

g. Submit an annual monitoring results report by November 30 of each year; and,

h. Submit an annual Lake Elsinore in-lake nutrient reduction program status report with the Annual TMDL Compliance Report, as required in section D3.2 of Attachment D of this Order.

D5.14 Requirements for San Diego Water Board Total Maximum Daily Loads

D5.14.1 Project I – Twenty Beaches and Creeks Bacteria

For the Project I – Twenty Beaches and Creeks TMDL, the Department shall implement the TMDL bacteria monitoring requirements in Attachment F of this Order.

D5.14.2 Chollas Creek Dissolved Copper, Lead, and Zinc

The Chollas Creek Dissolved Copper, Lead, and Zinc TMDLs require the Department to implement and maintain best management practices, to monitor, and to report. The dissolved copper, lead, and zinc TMDLs for Chollas Creek are summarized in section A9.7.5.4 of Attachment A of this Order.

1. Monitoring shall be implemented and reported according to the requirements in Attachment F of this Order.
2. The Department shall plan, implement, and report on one of the following options:
   a. Cooperative Agreements. Implement best management practices through cooperative agreement projects (as defined in Attachment B) within areas managed by municipalities, local agencies, or private entities. Best management practices implemented through cooperative agreements shall treat TMDL-pollutants to comply with the Department's waste load allocations by the interim and final compliance dates; or
   b. Department-Specific. Include a plan and schedule in the TMDL Compliance Plan that identifies (1) the existing acreage treated within the Department's right-of-way with existing best management practices and (2) the proposed total acreage within the Department's right-of-way that will be treated with effective best management practices to comply with the Department's waste load allocations by the final compliance date. Best management practices shall meet the waste load allocations by the interim and final compliance dates; or

c. Combination. Utilize a combination of methods in sections 2.a and 2.b, above.

3. Chollas Creek Reporting. In the TDML Compliance Plan and Annual TMDL Compliance Status Reports, the Department shall report the status of Chollas Creek TMDL best practices implementation including: (i) current and proposed best management practices and treatment acres implemented through cooperative agreements; (ii) existing acreage treated with existing Department-specific best management practices; (iii) proposed Department-specific best management practices and acreage to be treated for the upcoming year; and (iv) proposed total acreage that will be treated with Department-specific best management practices by the compliance deadline. The Department shall clearly state whether the implementation schedule will be sufficient to meet the Department's waste load allocation interim and final deadlines.

D5.14.3 Los Peñasquitos Lagoon Sediment

Monitoring shall be implemented and reported according to the requirements in Attachment F of this Order.

The Department shall meet its sediment load reduction and tidal and non-tidal salt marsh restoration by participation in cooperative watershed agreements or by Department-specific implementation.

In addition to the tidal and non-tidal salt marsh restoration efforts, the Department's required sediment load reduction is 48 tons per wet season by the final TMDL compliance date of July 14, 2034. The Department shall meet the following interim milestones:

Interim Milestones

Interim TMDL Compliance Date	Interim Milestones as Percent Reduction in Sediment Loading	The Department's Interim Sediment Load Reduction (tons per wet season)
July 14, 2019 through July 13, 2023	20 percent reduction	9.6
July 14, 2023	40 percent reduction	19.2
July 14, 2027	60 percent reduction	28.8
July 14, 2029	80 percent reduction	38.4

To meet the requirements of this TMDL, the Department shall implement one of the options listed below:

1. The Department shall participate in cooperative agreements with local agencies, regional agencies, or private entities to ensure successful restoration of 80 percent of the 1973 acreage of tidal and non-tidal lagoon salt marsh (346 acres) in the Los Peñasquitos Lagoon, or
2. The Department shall demonstrate through best management practices implementation that its best management practices contribute to tidal and non-tidal salt marsh restoration and that the Department has met the 48 tons per wet season proportional responsibility for the sediment load reduction through:
    a. Self-monitoring, which shall also be used to demonstrate the Department's compliance with the interim milestones.
    b. Submittal of a work plan with the TMDL Compliance Plan (required in section D3.3, above). The work plan shall identify and list existing, proposed, and in-progress best management practices in the Los Peñasquitos Watershed used to meet the Department's required sediment load reduction. For each best management practices, the list must include the best management practice type, the location (e.g., longitude and latitude), the date of implementation, frequency of maintenance, date of last maintenance, functional design criteria (i.e., volume, flow rate, etc.), and amount of sediment captured.
    c. The Department may implement treatment controls within the Department's right-of-way or in areas managed by municipalities, local agencies, or private entities to which runoff from the Department's right-of-way is discharged.
3. The Department may utilize a combination of methods in D5.14.3, items 1 or 2, above.

D6. Tables with TMDLs and Corresponding Requirements

The following three sections provide an overview and lists of the compliance requirements for each of TMDLs for which the Department is responsible.

D6.1 No TMDL-Specific Requirements for TMDL Compliance

For the TMDLs listed in Table D-1, the Department shall comply with this Order and the reporting requirements listed in Table D-1 for each corresponding TMDL. For a TMDL listed in Table D-1, if the Department meets the requirements in this Order and the reporting requirements listed in Table D-1, then the Department is in compliance with that TMDL.

Table D-1. Comply with this Order and the Specific Reporting Requirements in this Attachment

Regional Water Quality Control Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
North Coast	Klamath River in California (shared TMDL)	Nutrients, microcystin, and dissolved oxygen	D3.2
North Coast	Shasta River (shared TMDL)	Dissolved oxygen	D3.2
North Coast	Scott River	Sediment and Temperature	D3.2
San Francisco Bay	Guadalupe River Watershed	Mercury	D3.2
San Francisco Bay	Napa River	Sediment	D3.2
San Francisco Bay	Pescadero-Butano Watershed	Fine sediment	D3.1 and D3.2
San Francisco Bay	Richardson Bay (shared TMDL)	Pathogens	D3.2
San Francisco Bay	San Francisco Bay Urban Creeks	Diazinon and pesticide toxicity	D3.2
San Francisco Bay	San Pedro Creek and Pacifica State Beach (shared TMDL)	Bacteria	D3.2
San Francisco Bay	Sonoma Creek	Sediment	D3.2
Central Coast	Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) (shared TMDL)	Sediment	D3.2
Los Angeles	Upper Santa Clara River	Chloride	D3.2

Regional Water Quality Control Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
Los Angeles	Santa Clara River Reach 3	Chloride	D3.2
San Diego	Chollas Creek	Diazinon	D3.2

D6.2 Comply with this Order and the Reporting and Implementation Requirements in Attachment D

The TMDLs in Table D-2 require additional TMDL-specific implementation requirements above and beyond complying with the baseline requirements of this Order. The TMDLs that require compliance with this Order and the Specified Reporting and Implementation Requirements are listed in Table D-2.

Table D-2. Comply with this Order and the Specified Reporting and Implementation Requirements in this Attachment

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
San Francisco Bay	Petaluma River	Fecal indicator bacteria	D3.1, D3.2, D3.3, D5, D5.1, D5.2, and D5.5
San Francisco Bay	San Francisco Bay (shared TMDL)	Mercury	D3.2, D3.3, D5.3 D5, D5.1, D5.2, and D5.8.2
San Francisco Bay	San Francisco Bay (shared TMDL)	Polychlorinated biphenyls	D3.2, D3.3, D5, D5.1, D5.2, D5.4, and D5.8.1
Central Coast	San Lorenzo River (includes Carbonera, Lompico, and Shingle Mill Creeks) (shared TMDL)	Sediment	D3.2, D3.3, D5, D5.1, D5.2, and D5.3
Central Valley	Clear Lake	Nutrients	D3.2, D3.3, D5.1, and D5.11.3
Los Angeles	Dominguez Channel and Greater Los Angeles and	Toxic Pollutants: Metals (copper, lead, zinc), dichloro-	D3.2, D3.3, D5, D5.1, D5.2, D5.4 and D5.10

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
	Long Beach Harbor Waters (shared TMDL)	diphenyl-trichloroethane, polynuclear aromatic hydrocarbons, and polychlorinated biphenyls	
Los Angeles	Los Angeles River Watershed (shared TMDL)	Bacteria	D3.2, D3.3, D5, D5.1, D5.2, D5.6 and D5.10
Los Angeles	San Gabriel River, Estuary and Tributaries (shared TMDL)	Indicator bacteria	D3.1, D3.2, D3.3, D5, D5.1, D5.2, D5.5 and D5.10
Central Valley	Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch (shared TMDL)	Mercury	D3.2, D3.3, D5, D5.1, D5.2, and D5.11.1
Central Valley	Sacramento - San Joaquin River Delta Estuary (shared TMDL)	Methylmercury	D3.2, D3.3, D5, D5.1, D5.2, and D5.11
Lahontan	Middle Truckee River Watershed (shared TMDL)	Sediment	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.3
Lahontan	Lake Tahoe	Sediment and nutrients	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.12
Colorado River	Coachella Valley Stormwater Channel	Bacterial Indicators	D3.2, D3.3, D5, D5.1, D5.2, and D5.5
Santa Ana	Rhine Channel Area of the Lower Newport Bay	Chromium and mercury	D3.2, D3.3, D5, D5.1, D5.2, D5.3 and D5.4
Santa Ana	Rhine Channel	Metals (copper, lead, and zinc)	D3.2, D3.3, D5, D5.1, D5.2, D5.4
Santa Ana	San Diego Creek and Newport Bay	Copper	D3.2, D3.3, D5, D5.1, D5.2, D5.4
San Diego	Chollas Creek (shared TMDL)	Dissolved copper, lead, and zinc	D3.2, D3.3, D3.4, D5, D5.1,

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
			D5.2, and D5.14.2
San Diego	Los Peñasquitos Lagoon (shared TMDL)	Sediment	D3.1, D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.14.3
San Diego	Project I - Revised Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek)	Indicator bacteria	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.14.1

D6.3 Total Maximum Daily Loads that Require Additional Time to Achieve Compliance

The TMDLs in Table D-3 may require more time to achieve compliance, so the implementation requirements are addressed both in this Attachment as well as an associated Time Schedule Order designed to give the Department adequate time where it may be necessary to come into compliance with past or near-future TMDL compliance deadlines.

Table D-3. Comply with Time Schedule Order 2022-0089-DWQ and Specified Implementation Requirements of this Attachment

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
North Coast	Albion River	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Big River	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Lower Eel River (shared TMDL)	Temperature and sediment	D5, D5.1, D5.2, D5.6, and D5.7 – D5.7.5
North Coast	Middle Fork Eel River	Temperature and sediment	D5, D5.1, D5.2, D5.6 and D5.7 – D5.7.5

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
North Coast	South Fork Eel River	Temperature and Sediment	D5, D5.1, D5.2, D5.6, and D5.7 – D5.7.5
North Coast	Upper Main Eel River and tributaries including Tomki Creek, Outlet Creek, and Lake Pillsbury	Temperature and sediment	D5, D5.1, D5.2, D5.6 and D5.7 – D5.7.5
North Coast	Garcia River (shared TMDL)	Sediment	D5, D5.1, D5.2, D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Gualala River (shared TMDL)	Sediment	D5, D5.1, D5.2, D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Klamath River in California (shared TMDL)	Temperature	D5, D5.1, D5.2, D5.6 and D5.7 – D5.7.5 (except D5.7.1.1)
North Coast	Lost River	Nitrogen, biochemical oxygen demand, and pH	D5, D5.1, D5.2, D5.3
North Coast	Mad River (shared TMDL)	Sediment and Turbidity	D5, D5.1, D5.2, D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Navarro River (shared TMDL)]	Sediment and temperature	D5, D5.1, D5.2, D5.6 and D5.7 – D5.7.5
North Coast	Noyo River (shared TMDL)	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
North Coast	Redwood Creek (shared TMDL)	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Shasta River (shared TMDL)	Temperature	D5, D5.1, D5.2, and D5.6 and D5.7 – D5.7.5 (except D5.7.1.1)
North Coast	Ten Mile River	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Trinity River	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	South Fork Trinity River and Hayfork Creek	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
North Coast	Van Duzen River and Yager Creek	Sediment	D5, D5.1, D5.2, and D5.7 – D5.7.5 (except D5.7.1.2)
Los Angeles	Ballona Creek	Metals (silver, cadmium, copper, lead, and zinc)	D5, D5.1, D5.2, and D5.4
Los Angeles	Ballona Creek	Trash	D5, D5.1, D5.2, and 5.9
Los Angeles	Ballona Creek, Ballona Estuary, and Sepulveda Channel (shared TMDL)	Bacteria	D5, D5.1, D5.2, D5.5, and D5.10

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
Los Angeles	Ballona Creek Estuary	Toxic pollutants: silver, cadmium, copper, lead, zinc, chlordane, polychlorinated biphenyls, polyaromatic hydrocarbons, and dichloro-diphenyl-trichloroethane	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Ballona Creek Wetlands (shared TMDL)	Sediment and invasive exotic vegetation	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Calleguas Creeks and its Tributaries and Mugu Lagoon (shared TMDL)	Metals and selenium	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Calleguas Creeks, its Tributaries and Mugu Lagoon	Organochlorine pesticides, polychlorinated biphenyls, and siltation	D5, D5.1, D5.4, and D5.10
Los Angeles	Colorado Lagoon (shared TMDL)	Organochlorine pesticides, polychlorinated biphenyls, sediment toxicity, polynuclear aromatic hydrocarbons, and metals	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles Area Lakes, Echo Park Lake	Trash	D5, D5.1, D5.2, 5.9, and D5.10
Los Angeles	Los Angeles Area Lakes, Echo Park Lake	Nitrogen and phosphorus,	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Los Angeles Area Lakes, Echo Park Lake	Chlordane, dieldrin, and polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles Area Lakes, Legg Lake	Trash	D5, D5.1, D5.2, 5.9, and D5.10

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
Los Angeles	Los Angeles Area Lakes, Lake Sherwood	Mercury	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles Area Lakes, North, Center and Legg Lake	Nitrogen and phosphorus	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Los Angeles Area Lakes, North, Center, and Legg Lake	Chlordane, dichloro-diphenyl-trichloroethane, dieldrin, polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles Area Lakes, Peck Road Park Lake	Nitrogen and phosphorus	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Los Angeles Area Lakes, Peck Road Park Lake	Chlordane, dichloro-diphenyl-trichloroethane, dieldrin, polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles Area Lakes, Peck Road Park Lake	Trash	D5, D5.1, D5.2, D5.9, and D5.10
Los Angeles	Los Angeles Area Lakes, Puddingstone Reservoir	Nitrogen and phosphorous	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Los Angeles Area Lakes, Puddingstone Reservoir	dichloro-diphenyl-trichloroethane, polychlorinated biphenyls, chlordane, mercury, dieldrin	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Angeles River	Trash	D5, D5.1, D5.2, D5.9, and D5.10
Los Angeles	Los Angeles River and Tributaries	Metals	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Los Cerritos Channel	Metals	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Machado Lake	Eutrophic algae, ammonia, and odors	D5, D5.1, D5.2, D5.3, and D5.10
Los Angeles	Machado Lake (shared TMDL)	Pesticides and polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
Los Angeles	Machado Lake	Trash	D5, D5.1, D5.2, and D5.9
Los Angeles	Malibu Creek and Lagoon	Sedimentation and nutrients	D5, D5.1, D5.2, D5.3, and D5.6,
Los Angeles	Malibu Creek Watershed	Bacteria	D5, D5.1, D5.2, D5.5, and D5.10
Los Angeles	Malibu Creek Watershed	Trash	D5, D5.1, D5.2, 5.9, and D5.10
Los Angeles	Marina del Rey Harbor	Toxic pollutants: copper, lead, zinc, chlordane and total polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Marina del Rey Harbor, Mothers' Beach, and Back Basins	Bacteria	D5, D5.1, D5.2, D5.5, and D5.10
Los Angeles	Revolon Slough and Beardsley Wash	Trash	D5, D5.1, D5.2, 5.9, and D5.10
Los Angeles	Santa Clara River Estuary and Reaches 3,5,6,7	Indicator bacteria	D5, D5.1, D5.2, D5.5, and D5.10
Los Angeles	San Gabriel River Estuary and Impaired Tributaries	Metals (copper, lead, zinc) and selenium	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Santa Monica Bay	dichloro-diphenyl-trichloroethane and polychlorinated biphenyls	D5, D5.1, D5.2, D5.4, and D5.10
Los Angeles	Santa Monica Bay Beaches (shared TMDL)	Bacteria	D5, D5.1, D5.2, D5.5, and D5.10
Los Angeles	Santa Monica Bay Nearshore and Offshore	Debris (trash and plastic pellets)	D5, D5.1, D5.2, D5.9, and D5.10
Los Angeles	Ventura River Estuary	Trash	D5, D5.1, D5.2, D5.9, and D5.10
Los Angeles	Ventura River and its Tributaries	Algae, eutrophic conditions, and nutrients	D5, D5.1, D5.2, D5.3, and D5.10
Santa Ana	Lake Elsinore and Canyon Lake	Nutrients	D5, D5.1, D5.2, D5.3, and D5.10
Santa Ana	Big Bear Lake	Nutrients	D5, D5.1, D5.2, and D5.3

Regional Water Board	TMDL Impaired Waterbody	TMDL Pollutant	Specific Reporting Requirement in this Attachment
Santa Ana	San Diego Creek Watershed	Organochlorine compounds: dichloro-diphenyl-trichloroethane, chlordane, polychlorinated biphenyls, and toxaphene	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.4
Santa Ana	Upper and Lower Newport Bay	Organochlorine compounds: dichloro-diphenyl-trichloroethane, polychlorinated biphenyls, and chlordane	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.4
San Diego	Rainbow Creek	Total nitrogen and total phosphorus	D3.2, D3.3, D3.4, D5, D5.1, D5.2, and D5.3

ATTACHMENT E – TRASH IMPLEMENTATION REQUIREMENTS

The requirements in this Attachment implement State Water Board Resolution 2015-0019, which amended the Water Quality Control Plan for Ocean Waters of California and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California to include trash-related requirements, referred to in this Order as the "Trash Provisions." The Trash Provisions are statewide prohibitions and requirements implemented in part through NPDES stormwater permits. This Attachment includes the trash-related prohibitions and requirements implemented through this Order.

E1. TRASH DISCHARGE PROHIBITION

The Department shall comply with the prohibition of discharge of trash to surface waters of the State or deposition of trash where it may be discharged into surface waters of the State through compliance with the requirements of this Attachment.

E2. TRASH REQUIREMENTS COMPLIANCE DEADLINE

By December 2, 2030, the Department shall demonstrate full compliance with the requirements of this Attachment.

E3. TRASH PROVISIONS IMPLEMENTATION

Implementation of the Trash Provisions includes the following:

1. The Department shall install, operate, and maintain any combination of full capture systems, other treatment controls, and/or institutional controls for all storm drains that capture runoff from Significant Trash Generating Areas. The Department shall develop and implement monitoring plans that demonstrate that such combinations achieve full capture system equivalency.
2. The Department shall coordinate efforts with municipal separate storm sewer system permittees subject to NPDES permits that implement the Trash Provisions, to install, operate, and maintain full capture systems, other treatment controls, and/or institutional controls in Significant Trash Generating Areas and/or Priority Land Uses.

E4. SIGNIFICANT TRASH GENERATING AREAS

Significant Trash Generating Areas include all locations or facilities within the Department's jurisdiction where trash accumulates in substantial amounts, such as:

1. Highway on-ramps and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under Priority Land Uses in Attachment B of this Order).
2. Rest areas and park-and-rides.

3. State highways in commercial and industrial land uses (as such land uses are defined under Priority Land Uses in Attachment B of this Order).
4. Mainline highway segments to be identified by the Department through pilot studies and/or surveys.
5. Areas identified by the State Water Board Executive Director in consultation with the appropriate Regional Board Executive Officer to be significant trash generating areas.

E5. STATE WATER BOARD-CERTIFIED FULL CAPTURE SYSTEMS

The Trash Provisions require the Department to address all significant trash generating areas either through the use of certified full capture systems or through an approach that achieves full capture system equivalency. The Department is not required to demonstrate full capture system equivalency (section E6) where it installs certified full capture systems, as defined in the Trash Provisions and as provided below:

1. Certified full capture systems are those that are certified by the State Water Board Executive Director. Certified full capture systems include both trash treatment control devices and multi-benefit treatment systems. Certified full capture systems are listed on the State Water Board's Trash Implementation Program website (www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html).

   Certified full capture systems trap all particles 5-millimeters or greater, and have a design treatment capacity that is either:

   a. Not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the sub-drainage area, or
   b. Designed and sized to carry at least the same flows as the corresponding storm drain.

   The Rational equation is used to compute the peak flow rate: $Q = C \cdot I \cdot A$, where Q = design flow rate (cubic feet per second); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = sub-drainage area (acres).

   To add a new trash treatment control device to the State Water Board Executive Director's Certified Full Capture System List of Trash Treatment Control Devices, the Department shall submit a Trash Treatment Control Device application to the State Water Board Executive Director. The Executive Director will issue a written determination approving or denying the certification of the proposed trash treatment control device.

2. Installation of other treatment controls that are not certified full capture systems will not satisfy the requirements of this section; however, they may be considered as part of an approach to achieve Full Capture System Equivalency under section E6.

E6. FULL CAPTURE SYSTEM EQUIVALENCY

For areas where the Department is not implementing all certified full capture systems and is seeking approval of a full capture system equivalency approach, the Department shall demonstrate that any combination of other treatment controls, source control activities, and/or institutional controls achieves full capture equivalency. Full capture system equivalency is a trash load reduction equivalent to the performance of certified full capture systems that are properly installed, operated, and maintained for all storm drains that capture runoff from Significant Trash Generating Areas. Full capture system equivalency is a Trash load reduction target that the Department quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, for review and consideration of approval by the State Water Board Executive Director.

E7. TRASH REDUCTION MILESTONES AND FINAL COMPLIANCE

The Department shall report its status towards compliance with the Trash Requirements of this Order, annually in the Trash Annual Monitoring Report described in section E12 of this Attachment, per the following Trash Reduction Milestones:

1. First Milestone. By December 2, 2025, the Department shall achieve full capture system equivalency at 35 percent or more of the 16,645 acres of Significant Trash Generating Areas identified in its April 12, 2019 Statewide Trash Implementation Plan submitted to the State Water Board.
2. Second Milestone. By December 2, 2028, the Department shall achieve full capture system equivalency at 70 percent or more of the following:
    a. The 16,645 acres identified in the Department's April 12, 2019 Statewide Trash Implementation Plan submitted to the State Water Board, plus
    b. The acres identified as Significant Trash Generating Areas in its Revised Trash Assessment Map required in section E10.
3. Final Compliance. By December 2, 2030, the Department shall achieve full capture system equivalency at 100 percent of the acres identified as Significant Trash Generating Areas in the Revised Trash Assessment Map required in section E10.
4. Until the Department completes its Trash Monitoring Plan as required in section E11, the Department shall implement its existing procedures and schedules to achieve compliance with the above milestones.
5. The Department may submit its own Trash Reduction Milestones for State Water Board Executive Director review and consideration of approval as part of the Trash Monitoring Plan required in section E11.1. If approved, the Department's own Trash Reduction Milestones will supersede the above First and Second Milestones. Without

approval of custom Trash Reduction Milestones, the Department must comply with the milestones above.

E8. ANNUAL TRASH REDUCTION ASSESSMENT

The Department shall provide an annual assessment of the amount of trash reduction achieved through implementation of full capture systems, other treatment controls, and institutional controls. The annual trash reduction assessment shall be reported in the Trash Annual Report described in section E13, below.

E9. TRASH ASSESSMENT METHODOLOGY

The Department's Trash Assessment Methodology shall establish mechanisms to assess the Department's entire transportation system regulated under this Order. The Trash Assessment Methodology shall include all requirements set forth in sections E9.1 through E9.4, below.

By the Effective Date of this Order, the Department shall amend its Trash Assessment Methodology submitted on April 12, 2019 and submit the amended Trash Assessment Methodology to the State Water Board Executive Director for review and consideration of approval. The Executive Director will provide a 30-day public comment period, and consider public comments prior to consideration of approval of the amended Trash Assessment Methodology.

The amended Trash Assessment Methodology must address the deficiencies in the Trash Assessment Methodology submitted on April 12, 2019 and include all the following required elements.

1. Regardless of the population, trash assessments shall include the Department's rights-of-way that are within a municipal separate storm sewer system's jurisdiction.
2. The Department's amended trash assessment methodology shall demonstrate compliance with the requirements of this Attachment, and includes:
    a. Proposed implementation schedule for each fiscal year following the Effective Date of this Order until December 2, 2030,
    b. Identification and geographic information system mapping of Significant Trash Generating Areas (section E4),
    c. Determination of full capture equivalency (section E6),
    d. Compliance with interim trash reduction milestones (section E7), and
    e. Assessment of the amount of annual trash reduction (section E8).
3. The Department's trash assessment methodology shall:

a. Identify all locations or facilities within the Department's jurisdiction that are located outside of other permitted municipal separate storm sewer systems where trash accumulates in substantial amounts;

b. Include visual assessment of all highway segments, highway on-ramps, and highway off-ramps within or adjacent to the jurisdiction of permitted municipal separate storm sewer systems to identify where trash accumulates in substantial amounts; and

c. Include an assessment of known homeless encampments within the Department's right-of-way.

d. Include technical details on how substitutes for visual assessments are performed, which shall include data sources, type of statistical analysis, and other documentation necessary to fully describe the substitute in technical terms.

e. Identify locations where substitutes for visual assessments are performed.

4. The Department shall report all results of its trash assessment methodology in units of trash volume per acre per year.

E10. REVISED TRASH ASSESSMENT MAP

Within six months of receiving Executive Director approval of its Trash Assessment Methodology as required in section E9, the Department shall revise its trash assessment map to implement the Executive Director-approved trash assessment methodology identifying the Department's Significant Trash Generating Areas by geographic information system mapping of Significant Trash Generating Areas (as required in section E9.1.b).

E11. TRASH MONITORING PLAN REQUIREMENTS

E11.1 Procedures and Schedules

Within six months of receiving Executive Director approval of its Trash Assessment Methodology, the Department shall develop and submit a Trash Monitoring Plan for State Water Board Executive Director review and consideration of approval. The Trash Monitoring Plan shall contain procedures and schedules demonstrating, at minimum, the following elements:

1. Implementation of the approved trash assessment methodology,
2. Compliance with interim milestones in this Order or approved by the State Water Board Executive Director,
3. The quantification and reporting methods for the actual annual trash reduction,
4. The effectiveness of implemented full capture systems, other treatment controls, and/or institutional controls,

5. Compliance with full capture system equivalency,
6. Necessary maintenance of the full capture systems, other treatment controls, and/or institutional controls. Maintenance frequency shall not be less than maintenance frequencies required for best management practices in Attachment C (Stormwater Management Plan) of this Order.
7. The compared quantity of trash discharged from the Department's municipal separate storm sewer system from the previous year.
8. The quantity of trash in the receiving waters, compared from the previous year and by how much it has decreased.

E11.2 Maps, Trash Generation, Trash Controls, and Tracking

The Trash Monitoring Plan shall include the following elements:

1. Geographic information system-mapped locations and drainage areas of all Significant Trash Generating Areas;
2. Geographic information system-mapped locations of all implemented full capture systems, other treatment controls, and/or institutional controls;
3. Estimated trash generation in all Significant Trash Generating Areas based upon trash assessments; and
4. Identification of each implemented full capture systems, other treatment controls, and/or institutional controls.

E12. OFFSITE/ONSITE TRASH TREATMENT DUE TO INFEASIBILITY

The following information provides the requirements for offsite trash treatment:

1. Where the Department finds that it is infeasible to implement trash controls sufficient to achieve full capture system equivalency, due to: (1) site-specific limitations within the Department's right-of-way or (2) health and safety concerns, the Department shall submit an Offsite Trash Treatment Project proposal for equivalent offsite treatment through implementation of permanent structural trash control devices for review and consideration of approval by the Deputy Director of Water Quality. Implementation of controls is not considered infeasible where the trash generated at the significant trash generating area can be treated through implementation of controls in the jurisdiction of the immediately adjacent municipal separate storm sewer system. Any such proposal must include, if applicable:
    a. Specific identification of the significant trash generating area or portion of significant trash generating area for which achievement of full capture system equivalency is infeasible;

b. Demonstration that the trash generated at the significant trash generating area cannot be treated through implementation of controls in the jurisdiction of the immediately adjacent municipal separate storm sewer system, if any;

c. Detailed explanation of the factors that have made achievement of full capture system equivalency infeasible;

d. Detailed proposal for equivalent offsite compliance, measured by the volume of trash captured, through implementation of permanent structural trash control devices at locations not subject to specific requirements for the control of trash under the Trash Provisions or through an NPDES permit, WDR, or waiver of WDRs. Equivalent offsite compliance is the treatment of an equal or greater amount of trash than would be treated at the significant trash generating area for which treatment is infeasible. The off-site locations shall be determined as follow:

   i. The locations must be outside the Department's right-of-way, have significant trash generation, and must discharge to the same receiving water body or watershed as the significant trash generating area for which treatment is infeasible.

   ii. If the Department cannot identify locations with significant trash generation within the same receiving water body or watershed, the Department may select a location within the Department's right-of-way without significant trash generation that discharges to the same water body or watershed as the significant trash generating area for which treatment is infeasible.

   iii. If the Department cannot identify locations consistent with subsections E12.d.i-ii above, the Department may select locations with significant trash generation that do not discharge to the same water body or watershed as the significant trash generating area for which treatment is infeasible.

e. Detailed quantitative justification of the Department's assessment that the proposal will result in equivalent trash treatment on an ongoing basis; and

f. Copies of any agreements with non-Department entities necessary for access to, the installation of, and the long-term operation and maintenance of the offsite trash control devices.

2. Prior to approval or denial of a proposal for offsite trash treatment, State Water Board staff shall provide public notice of the proposal and a minimum 30-day period for public comments.

3. The Department shall report on the status of the offsite trash control devices and associated agreements annually in the Trash Annual Monitoring Report.

4. Upon receiving approval for a proposal, the Department shall identify the location(s) that will not achieve full capture equivalency in its Revised Trash Assessment Map and the equivalent offsite location(s).

5. No proposal for an Offsite Trash Treatment Project will be approved for implementation prior to passage of the First Milestone in Section E.7 this Attachment.

E13. ANNUAL TRASH MONITORING REPORT REQUIREMENTS

By November 30 of each year, the Department shall submit to the State Water Board its Annual Trash Monitoring reports that addresses the reporting period of July 1 through June 30 of each year. The Annual Trash Monitoring Report shall be in accordance with the Department's Trash Monitoring Plan and shall include the following:

1. Status of compliance with interim trash reduction milestones as required in section E7 of this Attachment;
2. Annual amount of trash reduction as required in section E8 of this Attachment;
3. Implementation summary of the approved assessment methodology as required in section E9 of this Attachment;
4. Effectiveness of implemented controls as required in section E11.1.4 of this Attachment;
5. Compliance with full capture system equivalency as required in section E11.1.5 of this Attachment;
6. Geographic information system-maps as required in section E11.2.1 of this Attachment;
7. Estimated trash generation in all remaining Significant Trash Generating Areas; and
8. Description of each of the implemented full capture systems, other treatment controls, and/or institutional controls.
9. Proposed implementation schedule for the upcoming five fiscal years.
10. Status of any approved offsite projects as described in E12.

ATTACHMENT F – MONITORING REQUIREMENTS AND MONITORING REPORTING

F1. GENERAL MONITORING REQUIREMENTS

This Attachment establishes monitoring requirements in accordance with federal and state laws and regulations, including:

1. Water Code sections 13267 and 13383 authorizing the State and Regional Water Boards to require dischargers to submit technical and monitoring reports, and
2. Clean Water Act section 308 and Code of Federal Regulations, title 40 (40 C.F.R.) section 122.41(j), requiring National Pollutant Discharge Elimination System (NPDES) permits to specify monitoring and reporting requirements.

The Department shall comply with all monitoring and reporting requirements in this Order and shall implement all monitoring in approved monitoring plans. The State Water Board Executive Director may amend the monitoring and reporting requirements in this Order as necessary.

Monitoring is defined as sampling, analysis, field tests, and observations used to evaluate pollutant concentrations in receiving water, stormwater runoff, and best management practice effectiveness for compliance with permit requirements. Monitoring may be performed by the Department or through the Department's participation in local and regional cooperative monitoring and through regional monitoring programs.

F2. MONITORING PLAN

The Monitoring Plan shall include the elements required by section F2 through F2.15 of this Attachment. The Monitoring Plan shall be submitted within 12 months of the Effective Date of this Order. Annual updates shall be submitted by November 30 of each year. The Department shall submit updates to the Monitoring Plan and annual updates for review and consideration of approval by State Water Board Executive Director.

The Monitoring Plan shall address the requirements of this Attachment. The Monitoring Plan shall include all proposed monitoring and a monitoring schedule for the upcoming fiscal year and the following fiscal year, including monitoring of applicable water body reaches in total maximum daily load (TMDL) watersheds where the Department is named as a responsible party where required through region-specific monitoring requirements or, where there are no region-specific monitoring requirements, as needed to demonstrate compliance with TMDLs in accordance with the Department's TMDL Compliance Plan. The Monitoring Plan and annual updates shall be implemented upon approval by the State Water Board Executive Director.

F2.1 Quality Assurance Program Plan

The Monitoring Plan shall include a Quality Assurance Project Plan modeled after the State Water Board Surface Water Ambient Monitoring Program's Quality Assurance Project Plan (2008) available at www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf. All monitoring samples shall be collected and analyzed according to the Department's Quality Assurance Project Plan, as approved by the State Water Board Executive Director.

F2.2 Representative Samples, Field Tests, And Monitoring Results

All monitoring samples and measurements shall be representative of the monitored volume and characteristics of the monitored discharge. The Department shall conduct field tests for pH, temperature, dissolved oxygen, and turbidity concurrently with each sample collected for analytical laboratory analysis.

This Order allows best management practice effectiveness monitoring results at select locations to be used as representative of the water quality of stormwater discharges from best management practices of the same type at other locations. Selection of representative best management practices effectiveness monitoring sites shall be based on existing and proposed best management practices.

F2.3 Analytical Methods for Laboratory Analysis

Monitoring, sampling, and analysis shall be conducted according to U.S. EPA-approved test procedures in 40 C.F.R. section 136 unless another method is required under 40 C.F.R. subchapters N or O. The Department shall ensure samples are analyzed with U.S. EPA approved analytical methods that are sufficiently sensitive to detect and measure the pollutants at, or below, the applicable water quality criteria or waste load allocation, as specified below. Alternative methods that provide greater sensitivity may be used, subject to prior State Water Board Executive Director approval. Analytical methods are provided in Table F-1.

F2.4 Minimum Level and Method Detection Limits

The Department shall report, with each sample result, the minimum level and method detection limit as determined by the procedure in 40 C.F.R. section 136. The term "reporting limit" is synonymous with the term "minimum level." The Department shall report the sampling results using the following reporting protocols:

1. Sample results greater than or equal to the minimum level shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

2. Sample results less than the minimum level, but greater than or equal to the laboratory's method detection limit, shall be reported as "Detected, but Not Quantified." The estimated chemical concentration of the sample shall also be reported. For purposes of data collection, the laboratory shall write the estimated chemical concentration next to Detected, but Not Quantified.
3. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+/- a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.
4. Sample results less than the laboratory's method detection limit shall be reported as Not Detected.
5. The Department shall instruct laboratories to establish calibration standards so that the minimum level value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed.

F2.5 Sufficiently Sensitive Analytical Methods

Monitoring shall be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. section 136 for the analysis of pollutants or pollutant parameters, or required under 40 C.F.R. subchapter N. For the purposes of this Order, a method is sufficiently sensitive when:

1. The method minimum level is at or below the level of the effluent limitation established in this Order for the measured pollutant or pollutant parameter, and either (a) the method minimum level is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter, or (b) the method minimum level is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
2. The method has the lowest minimum level of the analytical methods approved under 40 C.F.R. section 136 or required under 40 C.F.R subchapter N, for the measured pollutant or pollutant parameter.
3. In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. section 136 or otherwise required under 40 C.F.R. subchapter N, monitoring shall be conducted according to a test

procedure specified in this Order or as approved by the State Water Board Executive Director. (40 C.F.R. sections 122.41(j)(4), and 122.44(i)(1)(iv).)

F2.6 Environmental Laboratory Accreditation Program Certification

All samples shall be analyzed by laboratories that are certified or accredited by Environmental Laboratory Accreditation Program, as required by Water Code section 13176 and Title 22, California Code of Regulations as detailed in State Board Resolution 2020-0012.[1] The Department shall ensure that the laboratory that receives samples for analysis holds a valid certificate of accreditation for the analytical test methods. All laboratory quality assurance/quality control records for the analyzed samples and resulting data shall be included with all submitted data reports.

F2.7 Sample Location Information

The Monitoring Plan shall include global positioning system coordinates for all monitoring sites in a consistent format, such as a decimal format. The global positioning system coordinates recorded shall be an accuracy of five decimal places and shall be collected and reported with all required monitoring reports.

F2.8 Monitoring Schedule and Type of Monitoring

The Monitoring Plan shall include a monitoring schedule that includes the type and category of monitoring (e.g., effectiveness, effluent, cooperative agreement, receiving water, etc.) and proposed sampling date, locations, parameters, watershed, and TMDL pollutant.

F2.9 Electronic Monitoring Data Reporting

All monitoring data shall be submitted electronically in the Stormwater Multiple Application and Report Tracking System (SMARTS) as electronic Excel files by November 30 of each year. The format of the file shall be in accordance with the State Water Board's California Environmental Data Exchange Network data submission template available at http://www.ceden.org/ceden_datatemplates.shtml, including but not limited to:

1. The global positioning system sampling location coordinates to 5 decimal places.

[1] California Code of Regulations, title 22, sections 64801.00, 64802.00, 64802.05, 64802.10, 64802.15, 64802.20, 64802.25, 64803, 64805, 64806, 64807, 64808.00, 64808.05, 64808.10, 64808.15, 64809, 64810.00, 64810.05, 64810.10, 64811, 64812.00, 64812.05, 64813, 64814.00, 64814.05, 64814.10, 64815, 64816.00, 64816.05, 64816.10, 64817, 64819, 64821, 64823, 64825, 64827, and 64860.

2. Project Identification Number.
3. Site Identification Number.
4. Monitoring point Identification Number.
5. Type of sample (e.g., best management practice effluent, receiving water, best management practice influent, etc.).
6. Date and time of sample.
7. Storm events shall be tracked with the location, storm start date, storm end date, time, and duration of the storm.
8. Whenever a new State Water Board data system is developed to accept direct electronic entry or upload of field and analytical data to the SMARTS database, the Department shall use that new data system upon notification by the State Water Board Executive Director.

F2.10 Analytical Methods and Monitoring Parameters

The Department shall select the monitoring parameters based on the sample location and sampling purpose (e.g., right-of-way, runoff to Areas of Special Biological Significance, etc.). Analytical methods are listed in Table F-1, below. The State Water Board Executive Director may authorize revisions to the analytical methods listed in Table F-1, including when U.S. EPA updates any of the methods in 40 C.F.R. section 136.

F2.11 Receiving Water Monitoring

The Department's participation in regional monitoring programs or local, regional, and any other cooperative monitoring programs shall be described and included in the Monitoring Plan, annual updated Monitoring Plan, and in the annual monitoring results report. In lieu of participation in the regional monitoring programs or local, regional, or any other cooperative monitoring program, the Department may submit proposed monitoring for individual monitoring.

F2.11.1 Cooperative Monitoring Programs with Local Agencies

In lieu of individual total maximum daily load (TMDL) monitoring, the Department may elect to work cooperatively with local agencies to maximize monitoring resources, as approved by the State Water Board Executive Director in coordination with the Executive Officer of the applicable Regional Water Board. The Department's participation any cooperative monitoring programs shall be included and described.

F2.11.2 Cooperative Water Quality Monitoring Programs

The Department's participation in any cooperative water quality monitoring programs shall be described and included. The Department is encouraged to participate in existing and future cooperative water quality monitoring programs, which includes, but is not limited to, the following existing monitoring programs:

1. The Phase I Methylmercury Delta Regional Monitoring Program, within the Central Valley Regional Water Board jurisdiction.
2. The Klamath Basin Monitoring Program within the North Coast Regional Water Board jurisdiction.
3. The Central Coast Ambient Monitoring Program within the Central Coast Water Board jurisdiction.
4. The Central Valley Region Salts Monitoring Program within the Central Valley Regional Water Board jurisdiction.
5. Big Bear Lake - In-Lake Nutrient Monitoring Program and Watershed-Wide Nutrient Water Quality Monitoring Program.
6. Lake Elsinore and Canyon Lake TMDL Task Force.

F2.11.4 Regional Monitoring Programs for Total Maximum Daily Loads

The Department's participation in any Regional Monitoring Programs shall be described and included. The Department is encouraged to participate in approved regional monitoring programs that correlate with the monitored watershed and the Department's waste load allocation in that watershed, as approved by the State Water Board Executive Director in coordination with the applicable Regional Water Board Executive Officer.

F2.11.5 Coordinated Integrated Monitoring Programs

The Department's participation in coordinated integrated monitoring programs shall be described and included. Coordinated integrated monitoring program are agreements whereby multiple entities form unified monitoring programs for a watershed where there is a water quality benefit and advantage for integrated monitoring over self-monitoring.

F2.12 Region-Specific Total Maximum Daily Load Monitoring Requirements

The Department's region-specific monitoring shall be included and described. Region-specific monitoring includes selection of monitoring options, as described below.

F2.12.1 Monitoring Options for North Coast Water Board Sediment Total Maximum Daily Loads

The Department's monitoring for sediment in the North Coast Water Board region shall be described and included. For each sediment TMDL, the Department shall meet the North Coast Water Board sediment TMDL monitoring requirements by complying with one of the TMDL watershed monitoring options below.

1. The Department shall either a) allocate a one-time funding contribution equivalent to ten percent of each TMDL sediment reduction project cost to maintain existing watershed-based status and trends monitoring programs or b) the Department shall contribute funding proportionate to its share of waste load allocation among stakeholders for each TMDL sediment reduction project. Examples of watershed-based monitoring programs include the Klamath Basin Monitoring Program; or
2. The Department shall implement a watershed monitoring program associated with state highways within the North Coast region TMDL watersheds. State highways are broadly distributed and therefore the monitoring shall be watershed-based to allow North Coast Water Board staff to assess water quality impacts from state highways and progress toward achieving TMDL targets from the Department's implementation of TMDL sediment reduction projects. The watershed-based monitoring program shall include a number of monitoring locations and frequency of monitoring proportional to the Department's sediment load in excess of its load allocation for each TMDL watershed. The Department may consult with North Coast Water Board staff on development of a watershed-based monitoring program.

F2.12.2 Monitoring Options for San Francisco Bay Water Board Mercury and Polychlorinated Biphenyls Total Maximum Daily Loads

F2.12.2.1 Mercury Monitoring Options for the San Francisco Bay Water Board

The Department shall select a mercury monitoring option and shall implement the selected option. The options for mercury monitoring are as follows:

1. Regional Monitoring. Participate in mercury monitoring via the Regional Monitoring Program for Water Quality in San Francisco Bay. The Department's financial contribution shall be calculated in the same manner as that of other urban stormwater permittees; or
2. Self-Monitoring. Develop and implement a mercury monitoring plan to quantify the mercury loads or load reductions achieved through treatment, source control, and other management efforts. Bedded fine sediment shall be sampled a minimum of four wet weather events per year over the term of the

Order. Sample locations shall be at or near a point of discharge from the right-of-way and into the system that discharges stormwater into San Francisco Bay.

3. Combination. The Department may implement a combination of monitoring requirements in options1 or 2, above, provided that the combination provides equivalent monitoring.

F2.12.2.2 Polychlorinated Biphenyls Monitoring Options for the San Francisco Bay Water Board

The Department shall select and implement one of the following polychlorinated biphenyl monitoring options:

1. Regional Monitoring Program. Participate in the Regional Monitoring Program for Water Quality in San Francisco Bay. Participation shall be equivalent to other urban stormwater permittees participation; or
2. Self-Monitoring. Develop, submit, and implement a Department-specific monitoring plan to quantify polychlorinated biphenyls stormwater runoff loads and the load reductions achieved through treatment, source control and other actions. Bedded fine sediment shall be sampled a minimum of four wet weather events per year over the term of the Order. Sample locations shall be at/near a point of discharge from the right-of-way and into the conveyance system that discharges stormwater into San Francisco Bay. Monitoring shall be representative of pollutant concentrations or loadings in discharges from the Department's right-of-way or shall be representative of the effects of discharges from the Department's right-of-way on water qualities in the TMDL waterbodies.
3. Combination. The Department may implement a combination of monitoring requirements in options1 or 2, above, provided that the combination provides equivalent monitoring.

F2.12.3 Monitoring Options for Los Angeles Water Board Total Maximum Daily Loads

The Department shall comply with the Los Angeles Water Board monitoring requirements by selecting and implementing one of the following options.

1. Coordinated Integrated Monitoring. The Department may continue to participate in Coordinated Integrated Monitoring Programs for individual TMDL watersheds or participate in other watershed cooperative monitoring programs in lieu of self-monitoring; or
2. Self-Monitoring. The Department shall implement self-monitoring through development of a monitoring plan and schedule to monitor its rights-of-way. The

monitoring plan shall be equivalent in methods, precision, accuracy, and quality to the (1) relevant Coordinated Integrated Monitoring Programs or other watershed cooperative monitoring programs and (2) the monitoring requirements in this Attachment. The monitoring plan shall include a work plan and schedule to implement the monitoring. The watershed and TMDL shall be identified in the monitoring plan; or

3. Combination. The Department may implement a combination of requirements in F2.12.3, options1 or 2, above, provided that the combination is equivalent to the monitoring via watershed cooperative monitoring and right-of-way monitoring.

F2.12.4 Central Valley Water Board Total Maximum Daily Load Monitoring Requirements

For the Sacramento-San Joaquin Delta Methylmercury TMDL, the Department is approved to participate in the Central Valley Water Board approved Delta Regional Monitoring Program. If, in the event the Delta Regional Monitoring Program is no longer approved by the Central Valley Water Board Executive Officer, the monitoring below will be required upon notice.

1. Methylmercury Monitoring Plan – The Department shall submit a Methylmercury Monitoring Plan for Central Valley Water Board Executive Officer approval that assesses attainment with the TMDL allocations in stormwater discharges. The sampling locations, frequencies, and reporting may be the same as the requirements in this Order. The Department shall implement the monitoring plan within six months of the Central Valley Water Board Executive Officer approval. At a minimum, the Methylmercury Monitoring Plan shall include the following information:

    a. Management questions to be answered by the Methylmercury Monitoring Plan;

    b. Methylmercury loads and concentrations, turbidity, and other constituents to be monitored in storm water discharges, analytical methods, and reporting limits;

    c. Sampling sites' locations representative of the Department's service area, including latitude and longitude coordinates, water body name, and water body segment, if applicable;

    d. Frequency of monitoring;

    e. Other monitoring efforts that will provide supplemental data for the local water quality monitoring program and assessment (if any); and

f. Proposed schedule and level of detail for monitoring reports. If a more comprehensive report is necessary every few years, the Monitoring Plan shall propose a schedule and description of the level of detail (consistent with the information described below) that will be included within the Annual Reports.

2. The Department must submit a Quality Assurance Project Plan with the Methylmercury Monitoring Plan to the Central Valley Water Board Executive Officer for review and approval. The Quality Assurance Project Plan must be consistent with the Surface Water Ambient Monitoring Project. All samples shall be collected and analyzed according to the Quality Assurance Project Plan. Monitoring Reports shall be submitted with the Annual Report and include the following information, consistent with the approved Monitoring Plan:

   a. The purpose of the monitoring, brief contextual background, and a brief description of the study design and rationale;

   b. Methods used for sample collection: list methods used for sample collection, sample or data collection identification, collection date, and media if applicable;

   c. Identification of and rationale for any deviations from the Quality Assurance Project Plan;

   d. Results of data collection, including concentration detected, measurement units, reporting limits, and detection limits;

   e. Comparison to reference sites (if applicable), guidelines or targets;

   f. Discussion of whether data collected addresses the objectives or questions of study design; and

   g. Quantifiable discussion of program/study pollutant reduction effectiveness.

For the Clear Lake Nutrients TMDL, the Department shall implement turbidity monitoring for construction projects. For the Cache Creek, Bear Creek, Sulphur Creek, and Harley Gulch Mercury TMDL, the Department shall implement turbidity monitoring for construction projects.

F2.12.5 Lahontan Water Board Total Maximum Daily Load Monitoring Requirements

Within 60 days of the Effective Date of this Order, the Department shall either (a) report its demonstration of participation in the Lake Tahoe Regional Stormwater Monitoring Program at a participation contribution equivalent to other municipal jurisdictions in the Lake Tahoe region or (b) prepare and submit a Stormwater Monitoring Plan for review and consideration of approval to the State Water Board Executive Director in consultation with the Lahontan Water Board Executive Officer. If option (b) is selected, the Department's monitoring plan shall have the same

monitoring parameters, locations, frequencies, and reporting as the Lake Tahoe Regional Stormwater Monitoring Program.

F2.12.6 Colorado River Total Maximum Daily Load Monitoring Requirements

For the Coachella Valley Stormwater Channel Bacterial Indicators TMDL, the Department shall monitor for Escherichia coli during a minimum of two qualifying precipitation events per calendar year that result in a discharge and for a minimum of eight sampled events over four years, excluding years less than two qualifying precipitation events. The Department shall sample at the monitoring locations identified in the Department's "Monitoring and Reporting Project Plan and Quality Assurance Project Plan for 2-Year Bacteria Indicator Monitoring in Conformance with Phase I Implementation for the Coachella Valley Stormwater Channel Total Maximum Daily Load Riverside County, California" as approved by the Colorado Water Board on December 12, 2013. If the water quality objectives are not achieved by the end of Phase I monitoring, then Colorado River Water Board staff will implement additional actions to control pathogenic sources (i.e., the TMDL Phase II actions).

F2.12.7 San Diego Water Board Total Maximum Daily Load Monitoring Requirements

The Department's Monitoring Plan shall describe the plans for monitoring the following watersheds in the San Diego Water Board region:

F2.12.7.1 Project I – Twenty Beaches and Creeks Bacteria Monitoring

For indicator bacteria in the Project I – Twenty Beaches and Creeks TMDL, the Water Quality Plan for the San Diego Basin (Tables 7-41 through 7-43 for Wet Weather and Tables 7-45 through 7-47 for Dry Weather) states that the Department is currently in compliance with the wet and dry weather waste load allocations if mass loads from the Department's rights-of-way have not increased with time; this also means that existing mass loads from the Department's rights-of-way cannot increase over time. To monitor for compliance with the Project I – Twenty Beaches and Creeks Bacteria TMDL, the Department shall either participate in cooperative watershed monitoring or shall develop and implement a Department-specific monitoring plan as described in the two options listed below, according to the San Diego Basin Plan, page 7-96. The options are as follows:

1. Cooperative Watershed Monitoring. The Department may participate in a cooperative watershed monitoring program with the other responsible municipalities, as approved by the State Water Board Executive Director in consultation with the San Diego Water Board Executive Officer. The Department's participation shall be a proportional responsibility that is

calculated in accordance with the Department's land use coverage in the watershed; or

2. Department-Specific Monitoring Program. The Department may conduct compliance monitoring to demonstrate the effectiveness of best management practices in controlling bacteria loads for this TMDL. Receiving water and outfall monitoring must be conducted. Receiving water monitoring shall be conducted in three representative watersheds annually for the permit term. For each of the twenty beaches and creeks watersheds, outfalls shall be monitored weekly during the dry season and a minimum of three rain events during one wet season. This monitoring shall occur twice per permit term. Sampling must occur in two different sampling years. Sample locations, number of samples, sampling time, methods, and frequencies shall be representative of pollutant concentrations or loadings in discharges from the Department's right-of-way or shall be representative of the effects of discharges from the Department's right-of-way on water qualities in the TMDL waterbodies. If there is no flow during dry weather, the department must document and record visual observations.

F2.12.7.2 Chollas Creek Dissolved Copper, Lead, and Zinc

The TMDLs require monitoring and reports to assess the effectiveness of implemented best management practices to meet the waste load allocations. The Department shall perform monitoring by choosing and implementing one of following two options:

1. Cooperative Watershed Receiving Water Monitoring Program. The Department may participate in or contribute to a cooperative watershed monitoring program with the other responsible municipalities (i.e., cities of La Mesa, Lemon Grove, and San Diego; the Port of San Diego; and the County of San Diego), as approved by the State Water Board Executive Director in consultation with the San Diego Water Board Executive Officer. Receiving water shall be sampled monthly during the wet season. Receiving water monitoring shall demonstrate watershed compliance/non-compliance with the waste load allocations; or

2. Self-Monitoring. The Department may develop and conduct compliance monitoring to demonstrate the effectiveness of best management practices at outfalls to achieve waste load allocations. Representative outfalls shall be monitored for applicable metals for one rain event per year over three separate years during the wet season per the permit term or per every five years, whichever is less. Monitoring shall be representative of the effects of the Department's discharges on water quality.

F2.12.7.3 Los Peñasquitos Lagoon Sediment Monitoring

For Los Peñasquitos Lagoon sediment monitoring, the Department shall perform sediment monitoring by selecting and implementing one of the two options listed below:

1. Cooperative Watershed Monitoring. The Department may participate in or contribute to a cooperative watershed monitoring program with the other responsible parties, as reviewed for consideration of approval by the State Water Board Executive Director in consultation with the San Diego Water Board Executive Officer; or
2. Self-Monitoring. The Department may develop and conduct compliance monitoring to demonstrate the effectiveness of best management practices and to demonstrate compliance with the load reduction. Sampling locations, number of samples, sampling time, methods, and frequencies shall be included in the monitoring plan.
    a. The Department shall demonstrate effectiveness of best management practices through monitoring a minimum of either (i) 20 percent of the total inventoried best management practices in the Los Peñasquitos Watershed or (ii) a total of three best management practices in the Los Peñasquitos Watershed, whichever is greater. The minimum number of treatment best management practices selected for monitoring must be representative of the BMPs being relied upon by the Department for meeting the Department's Required Sediment Load Reduction. Monitoring for the BMPs selected by the Department must be conducted annually for 3 rain events during the wet season (October 1 through April 30); and
    b. The Department shall monitor representative outfalls draining from the Los Peñasquitos, Carroll Canyon, and Carmel Creek locations prior to entering the Los Peñasquitos Lagoon. Monitoring shall address, at a minimum, representative values of flow rates and total suspended solids concentrations from the Department's outfalls. The Department shall monitor outfalls during three storms during two wet seasons over the permit term. The wet season is defined as October 1 through April 30.

F2.13 Runoff Characterization Monitoring for Selection of Best Management Practices

The Department shall describe its plans and procedures for runoff characterization monitoring. When performing runoff characterization monitoring, the Department shall obtain representative samples for analysis and field tests. The Department may use the results to assist in the selection of best management practices. The Department shall identify the locations, number, frequency, and parameters of all best management

practice monitoring in its Monitoring Plan. The Department shall annually report updates to its best management practice selection monitoring.

F2.14 Best Management Practices Effectiveness Monitoring for Demonstration of Compliance with Total Maximum Daily Loads

When the Department uses best management practice effectiveness monitoring results to represent the quality of its stormwater discharges, the Department shall sample at an influent point into the best management practices and a discharge point out of the best management practices structure. Representative samples shall be obtained for data analysis and field tests.

Best management practice effectiveness monitoring is a measurement of the treatment effectiveness of a structural best management practice installed at a specific location. The Department shall, at minimum, include the following in its Monitoring Plan:

- Recommended representative sampling locations for effectiveness monitoring,
- Number of samples,
- Frequency of monitoring, and
- Monitoring parameters.

The Department shall provide a list of the discharge point locations that are representative of best management practices, a monitoring schedule, and an updated list of best management practice effective monitoring.

F2.15 Conditionally Exempt Non-Stormwater Discharge Monitoring

This Order allows certain types of non-stormwater discharges that are not considered to be sources of pollutants. However, if the State Water Board Executive Director determines that any category of allowed non-stormwater discharge is a source of pollutants, the State Water Board Executive Director may require the Department to conduct additional monitoring and submit a report on such discharges. The State Water Board Executive Director may also order the Department to cease a non-stormwater discharge.

F3. ANNUAL MONITORING RESULTS REPORT

By November 30 of each year, the Department shall submit an Annual Monitoring Results Report that covers the period from July 1 of the prior year through June 30 of the current year, defined as the fiscal year. The Annual Monitoring Results Report shall include the following information:

1. All monitoring results, including from region-specific monitoring required in section F2.11 through F2.11.5 of this Attachment.

2. Description with accompanying tabulated summary of exceedances, including all information necessary to locate and identify the sample results in the Excel file (described below) and in the certified laboratory results.
3. Descriptive text of all monitoring results, including results from Areas of Biological Significance.
4. A list of all site locations with site identification numbers that were monitored during the reporting year, including the past fiscal year's monitoring activities, best management practices effectiveness monitoring, receiving water monitoring, and any other monitoring performed for the period by the Department.

Using the Stormwater Multiple Application and Report Tracking System (SMARTS) parameter entry field under requirements, the Department shall upload to SMARTS common data format files (Excel) containing certified laboratory analytical results, the laboratory and Department's sample identification numbers, sample locations and coordinates, reporting limits, method detection limits, minimum levels, laboratory qualifiers, and storm event identification numbers. The file shall comply with the requirements of Attachment F section F2.9. The California Environmental Data Exchange Network data entry template is the accepted format (click on the California Environmental Data Exchange Network submit data link for the template). The Excel file shall be uploaded to SMARTS.

1. Highlighted analytical and field test results that exceed applicable water quality standards, including toxicity objectives.
2. Certified laboratory reports as an appendix.
3. A summary of sites requiring corrective actions to achieve compliance with this Order, and a review of any iterative procedures (where applicable) at sites needing corrective actions.
4. Summary conclusion from any Regional Monitoring Program or cooperative monitoring program regarding whether the total maximum daily load watersheds comply with the waste load allocations.

F4. REPORTING DUE DATES

1. Within 12 months of the Effective Date of this Order, the Department shall submit a Monitoring Plan to the State Water Board Executive Director for review and consideration of approval. The Department's Monitoring Plan shall comply with the requirements of this Attachment.
2. Within 60 days of the Adoption Date of this Order, the Department shall either report its participation in the Lake Tahoe Regional Stormwater Monitoring Program or

submit a Stormwater Monitoring Plan according to the requirements of section F2.12.4.

3. By November 30 of each year, the Department shall submit a summary of annual updates to its Monitoring Plan. The Department's annual updates shall comply with Attachment F of this Order.
4. By November 30 of each year, the Department shall submit an Annual Monitoring Results Report for the period from July 1 of the prior year through June 30 of the current year. The Monitoring Results Report shall include the information required in Attachment F of this Order.
5. Upon a determination by the Department that a discharge is exceeding a receiving water limitation, the Department shall provide notification in accordance with Attachment G, Incident Reporting.

A tabulated summary of report and plan due dates is provided in Attachment G.

Table F-1. Analytical Methods

Pollutant Type	Constituent	Analytical Method	Minimum Level (Note [1])	Units
Conventional Pollutant	Flow	Field Test (Note [2])	-	-
Conventional Pollutant	pH	Field Test (Note [3])	-	pH Units
Conventional Pollutant	Temperature	Field Test (Note [3])	-	Degrees centigrade
Conventional Pollutant	Turbidity	Field Test (Note [3])	-	Nephelometric turbidity units
Conventional Pollutant	Dissolved Oxygen	Field Test (Note [3])	-	Milligrams/liter
Conventional Pollutant	Hardness as calcium carbonate	Standard Method 2340 B or C	5	Milligrams/liter
Conventional Pollutant	Total Dissolved Solids	U.S. EPA 160.1	1	Milligrams/liter
Conventional Pollutant	Total Suspended Solids	U.S. EPA 160.2	1	Milligrams/liter
Hydrocarbons	Oil and Grease	U.S. EPA 1664B	1.4	Milligrams/liter
Hydrocarbons	Polycyclic Aromatic Hydrocarbons	U.S. EPA 8310	0.05	Micrograms/liter
Nutrients	Ammonia	U.S. EPA 350.1	0.2	Milligrams/liter
Nutrients	Total Kjeldahl Nitrogen	U.S. EPA 351.2	100	Micrograms/liter

Pollutant Type	Constituent	Analytical Method	Minimum Level (Note [1])	Units
Nutrients	Nitrate as Nitrogen	U.S. EPA 300.0/300.1	100	Micrograms/liter
Nutrients	Total Phosphorus	U.S. EPA 365.1	30	Micrograms/liter
Metals	Aluminum	U.S. EPA 200.8	25	Micrograms/liter
Metals	Chromium	U.S. EPA 200.8	1	Micrograms/liter
Metals	Copper	U.S. EPA 200.8	1	Micrograms/liter
Metals	Iron	U.S. EPA 200.8/200.7	1	Micrograms/liter
Metals	Lead	U.S. EPA 200.8	1	Micrograms/liter
Metals	Mercury	U.S. EPA 1631	0.2	Micrograms/liter
Metals	Zinc	U.S. EPA 200.8	5	Micrograms/liter
Metalloids	Selenium	U.S. EPA 200.8	0.5	Micrograms/liter
Microbiological	Fecal Coliform	Standard Method 9221 C, E	2	Most probable number/100 milliliters
Microbiological	Enterococcus	Enterolert®	2[4]	colony forming units /100 milliliters
Polychlorinated biphenyls	Aroclor	U.S. EPA 1668	50	Picograms/kilogram
Organochlorine Pesticides	Dichlorodiphenyltrichloroethane, Chlordane, Dieldrin, Toxaphene	U.S. EPA 1669	5	Picograms/liter

Pollutant Type	Constituent	Analytical Method	Minimum Level (Note [1])	Units
Water Column Toxicity	Chronic	U.S. EPA 821-R-02-013	Pass/Fail	-

Notes to Table F-1:

[1] The State Water Board prescribes that only "sufficiently sensitive" methods be used for analyses of pollutants or pollutant parameters under an NPDES permit. Minimum levels, synonymous with the term reporting limits, must be sufficiently sensitive to detect the effluent limitations, which includes a waste load allocation, or an objective/criterion in the applicable Regional Water Board Basin Plan, or the numeric effluent limitation or action level in this Order

[2] Flow measurements shall be estimated using a U.S. EPA flow estimating methods provided in U.S. EPA Water Flow Webpage or U.S. EPA Water Flow Measurement Tech Notes.

[3] Field instruments shall be calibrated and standardized according to the manufacturer's directions. The Department shall maintain this documentation and provide it to Water Board staff for review upon request.

[4] Only applicable for direct discharges to marine waters. See Order Attachment B for definitions.

[5] List of polycyclic aromatic hydrocarbons shall be the full list specified in U.S. EPA method 8310.

Table Legend:

pH = potential of hydrogen.

ATTACHMENT G – SUMMARY OF REPORTING AND NOTIFICATION REQUIREMENTS

G1. GENERAL REPORTING AND RECORDKEEPING PROVISIONS

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring, reporting, and record retention requirements. Water Code section 13383 authorizes the State Water Board to establish monitoring, inspection, entry, reporting, recordkeeping, and notification requirements.

This Attachment summarizes the reporting and notification requirements in this Order that implement federal and State laws and regulations. The Executive Director may modify reporting requirements as deemed necessary. Table G-1 of this Attachment provides a summary of the reports and plans that the Department is required to submit to under this Order.

G2. ELECTRONIC REPORTING RULE

The Department shall comply with the U.S. EPA NPDES Electronic Reporting Rule (referred to as the "eRule"). On November 2, 2020, U.S. EPA published the NPDES eRule extension that provides states and EPA additional time to implement electronic reporting. U.S. EPA extended the compliance deadline by five years, from December 21, 2020 to December 21, 2025. Therefore, in compliance with the final eRule extension, all Reports required under this Order shall be submitted electronically per the eRule requirements no later than December 21, 2025. This Order incorporates the revised deadline.

G3. REQUIRED REPORTS, PLANS, MONITOIRNG DATA AND NOTIFICATION DUE DATES

The Department shall electronically certify and upload all required reports, plans, and monitoring data to the State Water Board's Stormwater Multiple Application and Report Tracking System (SMARTS) by the report due dates listed in Table G-1.

Table G-1. Reporting and Notification Due Dates

Reporting Requirement	Order Section	Due Date
Report of Waste Discharge	Order, Table 2	No later than 180 days before expiration date of this Order
Stormwater Management Plan	Attachment C, sections C1 through C3.15	By November 30 after the Effective Date of this Order

Reporting Requirement	Order Section	Due Date
Areas of Special Biological Significance Compliance Plan	Attachment C, section C4	Within 12 months of Effective Date of this Order
List of Highway Facility Projects	C3.10.2.1.a.i and ii	Within 6 months of the Effective Date of this Order
Prioritized Inventory of Reaches by Pollutant Category	Attachment D, section D3.1	Within 12 months of Adoption Date of this Order
TMDL Compliance Plan	Attachment D, section D3.3	Within 12 months of Adoption Date of this Order
Trash Assessment Methodology	Attachment E, section E9	By the Effective Date of this Order
Revised Trash Assessment Map	Attachment E, section E10	Within 6 months of approval of the Trash Assessment Methodology
Trash Monitoring Plan	Attachment E, section E11	Within 6 months of approval of the Trash Assessment Methodology
Monitoring Plan	Attachment F, sections F2 through F2.15	Within 12 months of Effective Date of this Order
Lake Tahoe Regional Stormwater Monitoring: demonstration of participation in the Lake Tahoe Regional Stormwater Monitoring Program or submittal of a self-monitoring plan	Attachment F, section F2.12.5	Within 60 days of the Effective Date of this Order
Annual Stormwater Management Plan Report (includes summary of the Inventory of Best Management Practices)	Attachment C, sections C5 through C5.16	Annually by November 30 of each year
Annual TMDL Compliance Status Report	Attachment D, section D3.2	Annually by November 30 of each year

Reporting Requirement	Order Section	Due Date
Annual Meeting to discuss Cooperative Projects	Attachment D, section D3.3	The Department to meet annually by March 1 with the appropriate Regional Water Board Executive Officers or designee to discuss proposed and active cooperative projects that may provide compliance with load allocations or waste load allocations.
Annual Trash Monitoring Report	Attachment E, section E13	Annually by November 30 of each year
Monitoring Plan Annual Update	Attachment F, section F2	Annually by November 30 of each year
Annual Monitoring Results Report	Attachment F, section F3	Annually by November 30 of each year
Database of Inventory of Best Management Practices	Attachment C, section C5	Upon State Water Board Executive Director or Regional Water Board Executive Officer request
Maintenance Facility Inspection Reports	Attachment C, sections C3.5 and C6	Upload to SMARTS within 60 days of the inspection
Post-Construction Inspection Report	Attachment C, sections C5.8 and C6	Upload to SMARTS within 60 days of the inspection
Incident Notifications and Reports	Attachment C, section C5.12 and Attachment G, sections G4 – G4.3	- Verbal Notification by Telephone: within 24 hours of incident occurrence. - Written Notification by Email: within 5 days of incident occurrence. - Upload to SMARTS: within 30 days of incident occurrence

G4. INCIDENT NOTIFICATIONS AND REPORTING

The Department shall report all known incidents of non-compliance with this Order based on the timeframe specified in the Non-Compliance Notification Schedule of the **Incident Notification Report Form** in section G4.3 of this Attachment. Non-compliance

includes emergency, field, or administrative events or occurrences that lead to non-compliance with the requirements of this Order.

The Department shall electronically submit a completed Incident Notification Report Form to SMARTS within 30 days of the incident and shall provide the following:

1. **Verbal notifications** must be conducted as soon as practicable, but no later than the time frames specified in Table G-1 above and the Incident Reporting Criteria in section G4.1 below. A verbal notification consists of a telephone call to the applicable Regional Water Board with a follow-up email for notification documentation. The Department shall provide verbal notification in accordance with the Incident Notification Report Form, provided below.
2. **Written notifications** must be submitted according to the Non-Compliance Notification Schedule on the Incident Notification Report Form, provided below.
3. **Additional information** must be submitted upon request by the State Water Board Executive Director or Regional Water Board Executive Officer.

G4.1 Incident Reporting Criteria

Incident reporting criteria includes the following:

1. The Department shall report any incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge to surface waters.
2. Failure to comply with any non-administrative requirement of the Stormwater Management Plan or this Order, or to comply any applicable water quality standard. This includes failure to install required best management practices or conduct required monitoring or maintenance that results in a discharge to a surface water. This also includes stormwater or prohibited non-stormwater discharges that do not comply with the definition of emergency incidents. This provision does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable water quality standard.
3. Failure to comply with any administrative or procedural requirement of the Stormwater Management Plan or this Order including submission of required reports, notifications, and certifications. The report of non-compliance shall be submitted to the State or Regional Water Board to which the required report was originally due. The report shall be uploaded to SMARTS within 30 days of incident occurrence.

G4.2 Incident Notification Report Form Submittal

The Department shall upload each incident report to SMARTS according to the schedule in the **Non-Compliance Notification Schedule** portion of the Incident Notification Report Form. The Incident Notification Report Form is provided below.

G4.3 Incident Notification Report Form and Non-Compliance Notification Schedule

The Department shall submit a complete Incident Notification Report certification for each incident. For Field incidents, complete Sections 1, 2, and 4 of the Incident Notification Report Form. For Administrative incidents, complete Sections 1 and 3 of the Incident Notification Report Form. See the Non-Compliance Notification Schedule, below, for the due dates for verbal and written non-compliance reports.

Each time an incident occurs, the Department shall complete this form, shall notify the California Office of Emergency Services, shall notify the applicable Regional Water Board within the incident jurisdiction area, and shall upload the incident report to SMARTS. The content of this form is enforceable under penalty of perjury.

STATE WATER RESOURCES CONTROL BOARD
ORDER 2022-0033-DWQ
STATEWIDE MUNICIPAL STORMWATER PERMIT FOR THE CALIFORNIA DEPARTMENT OF TRANSPORTATION

INCIDENT NOTIFICATION REPORT FORM

SECTION 1: Incident Type, Agency, and Contact Information

Type of incident: ☐ Field ☐ Administrative
Name of person completing this form: _____
Person's agency name and address: _____
Person's phone and e-mail: _____

SECTION 2: Field Incidents

1. Incident dates _____ Time(s)_____
2. Location of incident, county: _____
   a. Nearest city/town:_____
   b. Street address/nearest cross street: _____
   c. Latitude/longitude: _____
   d. Additional location detail: _____
3. Name of each material discharged:_____
4. Approximate quantity discharged (specify units): _____
5. Approximate concentration of material:_____
6. Discharge to surface water? ☐Yes ☐No
   a. Name of implicated waterbody: _____
   b. Apparent effects (if any) on waterbody: _____
   c. Estimated extent of impacts to waterbody:_____
7. California Office of Emergency Services Notification
   a. Date and time of notification: _____
   b. Name of person making the notification: _____
   c. Phone number of persons making the notification: _____
8. Verbal Regional Water Board Notification
   a. Name of Regional Water Board contact: _____
   b. Regional Water Board contact's phone/e-mail: _____
   c. Name of person making the notification: _____
   d. Date of telephone notification to Regional Water Board person notified
   e. Date of Email follow up documentation
9. Notification of downgradient communities/appropriate person(s)
   a. Date and time of notification: _____
   b. Name of person making the notification: _____
   c. Phone number of persons making the notification: _____
   d. Name of downgradient community/persons: _____

10. Field Non-Compliance (check all that apply)
    a. Lack of, ineffective implementation of, or failure of best management practices that resulted in a discharge of pollutants to surface water. ☐Yes ☐No
    b. Monitoring data indicates an exceedance of a defined standard. Defined standards include Total Maximum Daily Load waste load allocation, water quality standards in the Water Quality Control Plans, and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions. ☐Yes ☐No
    c. Discharge of prohibited non-storm water. ☐Yes ☐No
    d. Failure to comply with Facility Pollution Prevention Plan requirements. ☐Yes ☐No
    e. Failure to comply with inspection, monitoring, and reporting requirements and protocols. ☐Yes ☐No
    f. Other (If your response to any question above is no, please explain - use Comments Section on page 4 if needed):

SECTION 3: Administrative Non-Compliance (check all that apply)

1. Failure to timely submit reports, documents, or information required by this Order and/or Storm Water Management Plan: ☐Yes ☐No
2. Failure to develop and/or maintain a site-specific Facility Pollution Prevention Plan or to implement any other procedural requirement of this Order: ☐Yes ☐No
3. Other (If your response to either question above is no, please explain - use Comments Section on page 4 if needed): _____

SECTION 4: Description of Incident

Activities in the area prior to the incident (If any): _____
_____

Initial assessment of any impact caused by the discharge (If any): _____
_____

Samples collection and analysis requested (If any): _____
_____

Steps taken to mitigate damage and prevent reoccurrence (If any): _____
_____

Current Status: _____
_____

Schedule for proposed mitigation/abatement (If any): _____

INCIDENT NOTIFICATION REPORT FORM, CONTINUED

Other Comments:

Certification – *I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to 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.*

_____	_____	_____	_____
Signature of Contractor (if applicable)	Title	Telephone	Date

_____	_____	_____	_____
Signature of Department Representative	Title	Telephone	Date

INCIDENT REPORT FORM, CONTINUED

NON-COMPLIANCE NOTIFICATION SCHEDULE

Type of Incident	Within 24 hours of Becoming Aware (Verbal/Telephone)	Within 5 Working Days (Written)	Within 30 Calendar Days (Written)	Report In Annual Report
Emergency Incidents (Note 1)	Notify Regional Water Board Executive Officer	To State and Regional Water Board Executive Director and Executive Officer	Upload to SMARTS	Chronological summary and status of all incidents
Field (Note 2)	Notify Regional Water Board Executive Officer	To State and Regional Water Board Executive Director and Executive Officer	Upload to SMARTS	Chronological summary and status of all incidents
Administrative (Note 3)	Notify RWB Executive Officer (Note 3)	n/a	To State and Regional Water Board Executive Director and Executive Officer	Chronological summary and status of all incidents

Note 1: Incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge to surface waters shall be reported to the California Office of Emergency Services upon discovery of the incident.

Note 2: Failure to meet any non-administrative requirement of the Stormwater Management Plan, this Order, or applicable water quality standard. This includes failure to install required best management practices or failure to conduct required monitoring or maintenance. It also includes discharges of prohibited non-storm water that do not meet the definition of emergency incidents. It does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable water quality standard.

Note 3: Failure to meet any administrative or procedural requirement of the Stormwater Management Plan or this Order including submission of required reports, notifications, and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.