

The Clean Water Act and the Porter-Cologne Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Generally, the Clean Water Act requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1164-1165 [noting that industrial storm water discharges must strictly comply with water quality standards].) As discussed in prior State Water Resources Control Board decisions, certain provisions of this Order do not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) Those provisions of this Order regulate the discharge of waste in municipal storm water under the Clean Water Act MEP standard, not the BAT/BCT standard that applies to other types of discharges. These provisions, therefore, regulate the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.

Fourth, the Permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)). To the extent that the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (*Accord County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, Section (6) of the California Constitution.

Finally, even if any of the permit provisions could be considered unfunded mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. The local agency Permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order subject to certain voting requirements contained in the California Constitution. (See California Constitution XIII D, section 6, subdivision (c); see also *Howard Jarvis Taxpayers Association v. City of Salinas* (2002) 98 Cal. App. 4th 1351, 1358-1359.). Additional fee authority has recently been established through amendments to the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915, as amended by Assembly Bill 2554 (2010)) to provide funding for municipalities, watershed authority groups, and the LACFCD to initiate, plan, design, construct, implement, operate, maintain, and sustain projects and services to improve surface water quality and reduce storm water and non-storm water pollution in the LACFCD, which may directly support Permittees' implementation of the requirements in this Order. The Fact Sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The authority and ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*Clovis Unified School Dist. v. Chiang* (2010) 188

Cal. App.4th 794, 812, quoting *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401; *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

X. PUBLIC PARTICIPATION

Regional Water Board staff held a kick-off meeting on May 25, 2011 to discuss the preliminary schedule for permit development; identify potential alternative permit structures; and outline some of the major technical and policy aspects of permit development. All LA County MS4 Permittees, as well as other known interested stakeholders, were invited to attend. Ninety-five individuals attended the meeting, representing most of the permittees as well as environmental organizations. After a presentation by Board staff, Permittees and interested persons had an initial opportunity to ask questions of staff, raise concerns, and provide feedback.

At the May 25, 2011 kick-off meeting, Board staff requested input from the attendees on various permit structures. In order to solicit more focused input from permittees on alternative permit structures, and per suggestions at the kick-off meeting, Board staff developed and distributed an on-line survey to permittees using the on-line survey tool, SurveyMonkey®. The survey was distributed to all Los Angeles County MS4 Permittees on June 14, 2011 and responses were requested within two weeks. Fifty-two permittees responded using the on-line survey tool. The on-line survey sought input on several options for permit structure, including an individual permit for each municipality, a single permit for all permittees (i.e., the existing permit structure), and a single or multiple watershed-based permits.

Regional Water Board staff also held three topical workshops on December 15, 2011, January 23, 2012, and March 1, 2012. At the December 2011 workshop, staff discussed and invited feedback on: tentative permit requirements for the "minimum control measures" that comprise Permittees core storm water management program, approaches to addressing non-storm water MS4 discharges, and options for flexibility in permit requirements to address watershed priorities. At the January 2012 workshop, staff discussed and invited feedback on: tentative permit requirements to implement TMDL waste load allocations assigned to MS4 discharges and monitoring and reporting requirements for this Order. At the March 2012 workshop, staff discussed the use of water quality-based effluent limitations in this Order, discussed a revised proposal for monitoring requirements based on comments from the January 2012 workshop, and provided additional detail on proposed minimum control measure requirements.

Three Regional Water Board workshops were held during regularly scheduled Board meetings on November 10, 2011, April 5, 2012, and May 3, 2012. At the November 2011 Board workshop, staff discussed the objectives for the new permit, the status and schedule for permit development, alternatives for permit structure, provisions to implement TMDL WLAs, and provisions for minimum control measures, and identified preliminary considerations related to provisions for non-storm water discharges, receiving water limitations, water quality-based effluent limitations, and requirements for monitoring and reporting.

Prior to the April 5, 2012 Board workshop, staff released complete working proposals of the permit provisions related to two key parts of this Order: the storm water management

program “minimum control measures” and the non-storm water MS4 discharge prohibitions on March 21, 2012 and March 28, 2012, respectively. Staff provided Permittees and interested persons the opportunity to submit written and oral comments over a period of three weeks for early consideration by staff prior to the release of the tentative Order. At the April 2012 Board workshop, staff presented the working proposals and the Board invited public comments. Detailed comments were made on both working proposals, and in particular, comments were made on how to address “essential” non-storm water discharges from drinking water supplier distribution systems and fire fighting activities in this Order.

Prior to the May 3, 2012 Board workshop, staff released complete working proposals of the permit provisions related to three other key parts of this Order: provisions for watershed management programs, TMDL-related requirements, and receiving water limitations language. Staff provided Permittees and interested persons the opportunity to submit written and oral comments over a period of three weeks for early consideration by staff prior to the release of the tentative Order. At the May 2012 Board workshop, staff presented the three working proposals and the Board invited public comments. Staff answered extensive questions from Board members following public comments.

In addition to staff and Board workshops, Regional Water Board staff met regularly with Permittees, including the LA Permit Group (a coalition of 62 of the 86 Permittees covered by this Order), the Los Angeles County Flood Control District and the County of Los Angeles, the City of Los Angeles, and interested environmental organizations including Heal the Bay, Santa Monica Baykeeper, and the Natural Resources Defense Council (NRDC). Staff also met on several occasions with other affected agencies including large public water suppliers (Los Angeles Department of Water and Power and Metropolitan Water District), small community water suppliers, and local fire departments.

Finally, staff hosted several “joint” meetings to bring together key leaders among the Permittees and environmental organizations to discuss significant issues and work towards consensus on these issues where possible. The first two of these were held on May 17, 2012 and May 31, 2012, during which the group discussed permit requirements for USEPA established TMDLs. Staff prepared a working proposal based on the areas of agreement from the May 17th joint meeting, and distributed the proposal for review prior to the second meeting on May 31st. The proposal was discussed and refined at the second meeting. A third meeting was held on June 14, 2012.

Prior to the Board’s consideration of this Order, the Regional Water Board notified the Permittees and all interested agencies and persons of its intent to hold a hearing to issue an NPDES permit for discharges from the Los Angeles County MS4 and provided them with an opportunity to submit written comments over a 45-day period. The procedures followed for submission of written comments are described in the Notice of Hearing and Opportunity to Comment published for this Order. Notification was provided through the Regional Water Board’s website, the Regional Water Board’s e-mail subscription service, and the LA Times. After releasing the tentative permit for public review, the Regional Water Board held a staff level workshop on July 9, 2012 to answer questions regarding the tentative permit. A Board member field tour of portions of the MS4 in the San Gabriel Valley was held on July 31, 2012.

The Regional Water Board held a public hearing on the tentative Order during its regular Board meeting on October 4-5, 2012. The Regional Water Board continued the public hearing at its next regular Board meeting on November 8, 2012. Permittees and interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony and comments pertinent to the discharge and this Order. The hearing procedures followed by the Regional Water Board are described in the Notice of Hearing and Opportunity to Comment published for this Order.

ATTACHMENT G. NON-STORM WATER ACTION LEVELS AND MUNICIPAL ACTION LEVELS

I. SANTA CLARA RIVER WATERSHED AREA

Table G-1. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
<i>E. coli</i> Bacteria	#/100 ml	126 ¹	235 ²
Chloride	mg/L	3	--
Sulfate	mg/L	3	--
Total Dissolved Solids	mg/L	3	--
Methylene Blue Active Substances	mg/L	0.5 ⁴	--
Aluminum, Total Recoverable	mg/L	1.0 ⁴	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	5	5
Mercury, Total Recoverable	µg/L	0.051	0.1
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ *E. coli* density shall not exceed a geometric mean of 126/100 ml.

² *E. coli* density in a single sample shall not exceed 235/100 ml.

³ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

⁴ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

⁵ Action levels are hardness dependent. See Section VII of this Attachment for a listing of the applicable action levels.

Table G-2. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
<i>E. coli</i> Bacteria	#/100 ml	126 ¹	235 ²
Total Coliform Bacteria	#/100 ml	1,000 ³	10,000 ⁴
Fecal Coliform Bacteria	#/100 ml	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ³	104 ⁴
Chloride	mg/L	5	--
Sulfate	mg/L	5	--
Total Dissolved Solids	mg/L	5	--
Methylene Blue Active Substances	mg/L	0.5 ⁶	--
Aluminum, Total Recoverable	mg/L	1.0 ⁶	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	7	7
Mercury, Total Recoverable	µg/L	0.051	0.1
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ *E. coli* density shall not exceed a geometric mean of 126/100 ml.

² *E. coli* density in a single sample shall not exceed 235/100 ml.

³ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

- ⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁵ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁶ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- ⁷ The applicable action level is the most stringent between corresponding Table G-1 and Table G-3 action levels.

Table G-3. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
Total Coliform Bacteria	#/100 ml	1,000 ^{1, 2}	10,000 ^{2, 3}
Fecal Coliform Bacteria	#/100 ml	200 ¹	400 ³
Enterococcus Bacteria	#/100 ml	35 ¹	104 ³
Chloride	mg/L	⁴	--
Sulfate	mg/L	⁴	--
Total Dissolved Solids	mg/L	⁴	--
Methylene Blue Active Substances	mg/L	0.5 ⁵	--
Aluminum, Total Recoverable	mg/L	1.0 ⁵	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Mercury, Total Recoverable	µg/L	0.05 ¹	0.1
Selenium, Total Recoverable	µg/L	58	117

- ¹ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ³ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁴ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁵ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

Table G-4. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Total Coliform Bacteria	#/100 ml	70 ¹	230 ¹	--
Fecal Coliform Bacteria	#/100 ml	--	200 ²	400 ³
Enterococcus Bacteria	#/100 ml	--	35 ²	104 ³
Cyanide, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.

- ² Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ³ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

II. LOS ANGELES RIVER WATERSHED MANAGEMENT AREA

Table G-5. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Chloride	mg/L	4	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁵	--
Sulfate	mg/L	4	--
Total Dissolved Solids	mg/L	4	--
Turbidity	NTU	5 ⁵	--
Aluminum, Total Recoverable	mg/L	1.0 ⁵	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.
- ⁴ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁵ Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- ⁶ Action levels are hardness dependent. See Section VII of this Attachment for a listing of the applicable action levels.

Table G-6. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Chloride	mg/L	6	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁷	--
Sulfate	mg/L	6	--
Total Dissolved Solids	mg/L	6	--
Turbidity	NTU	5 ⁷	--
Aluminum, Total Recoverable	mg/L	1.0 ⁷	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	8	8

Parameter	Units	Average Monthly	Daily Maximum
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- 1 Within the range of 6.5 to 8.5 at all times.
- 2 *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- 3 *E. coli* density in a single sample shall not exceed 235/100 ml.
- 4 Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 5 Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- 6 In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- 7 Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- 8 The applicable action level is the most stringent between corresponding Table G-5 and Table G-7 action levels.

Table G-7. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{3,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Chloride	mg/L	5	--
Nitrite Nitrogen, Total (as N)	mg/L	1.0 ⁶	--
Sulfate	mg/L	5	--
Total Dissolved Solids	mg/L	5	--
Turbidity	NTU	5 ⁶	--
Aluminum, Total Recoverable	mg/L	1.0 ⁶	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	58	117

- 1 Within the range of 6.5 to 8.5 at all times.
- 2 Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 3 In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- 4 Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- 5 In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- 6 Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

Table G-8. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	Standard units	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	--	35 ³	104 ⁴
Turbidity	NTU	75	100	225
Cyanide, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

- ¹ Within the range of 6.0 to 9.0 at all times.
- ² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

III. DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA

Table G-9. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	4	4
Lead, Total Recoverable	µg/L	4	4
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.
- ⁴ Action levels are hardness dependent. See Section VII of this Attachment for a listing of the applicable action levels.

Table G-10. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	s.u	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵

Parameter	Units	Average Monthly	Daily Maximum
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	6	6
Lead, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

- ¹ Within the range of 6.5 to 8.5 at all times.
² *E. coli* density shall not exceed a geometric mean of 126/100 ml.
³ *E. coli* density in a single sample shall not exceed 235/100 ml.
⁴ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
⁵ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
⁶ The applicable action level is the most stringent between corresponding Table G-9 and Table G-11 action levels.

Table G-11. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	s.u	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{3,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Lead, Total Recoverable	µg/L	7.0	14
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	58	117

- ¹ Within the range of 6.5 to 8.5 at all times.
² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

Table G-12. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	s.u	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	--	35 ³	104 ⁴
Cyanide, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Lead, Total Recoverable	µg/L	2	8	20
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

¹ Within the range of 6.0 to 9.0 at all times.

² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.

³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

IV. BALLONA CREEK WATERSHED MANAGEMENT AREA

Table G-13. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Cyanide, Total Recoverable	µg/L	4.3	8.5
Copper, Total Recoverable	µg/L	4	4
Lead, Total Recoverable	µg/L	4	4
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ Within the range of 6.5 to 8.5 at all times.

² *E. coli* density shall not exceed a geometric mean of 126/100 ml.

³ *E. coli* density in a single sample shall not exceed 235/100 ml.

⁴ Action levels are hardness dependent. See Section VII of this Attachment for a listing of the applicable action levels.

Table G-14. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Cyanide	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	6	6
Lead, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.1
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ Within the range of 6.5 to 8.5 at all times.

² *E. coli* density shall not exceed a geometric mean of 126/100 ml.

- ³ *E. coli* density in a single sample shall not exceed 235/100 ml.
⁴ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
⁵ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
⁶ The applicable action level is the most stringent between corresponding Table G-13 and Table G-15 action levels.

Table G-15. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.5-8.5 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{3,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Cyanide, Total Recoverable	µg/L	0.50	1.0
Copper, Total Recoverable	µg/L	2.9	5.8
Lead, Total Recoverable	µg/L	7.0	14
Mercury, Total Recoverable	µg/L	0.051	0.1
Selenium, Total Recoverable	µg/L	58	117

- ¹ Within the range of 6.5 to 8.5 at all times.
² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

Table G-16. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	Standard units	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	--	35 ³	104 ⁴
Cyanide, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30
Lead, Total Recoverable	µg/L	2	8	20
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

- ¹ Within the range of 6.0 to 9.0 at all times.
² In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
³ Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

⁴ Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

V. MALIBU CREEK WATERSHED MANAGEMENT AREA NON-STORM WATER ACTION LEVELS

Table G-17. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
<i>E. coli</i> Bacteria	#/100 ml	126 ¹	235 ²
Sulfate	mg/L	3	--
Total Dissolved Solids	mg/L	3	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ *E. coli* density shall not exceed a geometric mean of 126/100 ml.

² *E. coli* density in a single sample shall not exceed 235/100 ml.

³ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

Table G-18. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
<i>E. coli</i> Bacteria	#/100 ml	126 ¹	235 ²
Total Coliform Bacteria	#/100 ml	1,000 ³	10,000 ⁴
Fecal Coliform Bacteria	#/100 ml	200 ³	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ³	104 ⁴
Sulfate	mg/L	3	--
Total Dissolved Solids	mg/L	3	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	4.1	8.2

¹ *E. coli* density shall not exceed a geometric mean of 126/100 ml.

² *E. coli* density in a single sample shall not exceed 235/100 ml.

³ Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.

⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

⁵ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

Table G-19. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
Total Coliform Bacteria	#/100 ml	1,000 ^{1,2}	10,000 ^{2,3}
Fecal Coliform Bacteria	#/100 ml	200 ¹	400 ³
Enterococcus Bacteria	#/100 ml	35 ¹	104 ³
Sulfate	mg/L	3	--
Total Dissolved Solids	mg/L	3	--

Parameter	Units	Average Monthly	Daily Maximum
Cyanide, Total Recoverable	µg/L	0.50	1.0
Mercury, Total Recoverable	µg/L	0.051	0.10
Selenium, Total Recoverable	µg/L	58	117

- 1 Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 2 In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- 3 Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- 4 In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.

Table G-20. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Total Coliform Bacteria	#/100 ml	70 ¹	230 ¹	--
Fecal Coliform Bacteria	#/100 ml	--	200 ²	400 ³
Enterococcus Bacteria	#/100 ml	--	35 ²	104 ³
Cyanide, Total Recoverable	µg/L	1	4	10
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Selenium, Total Recoverable	µg/L	15	60	150

- 1 In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- 2 Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 3 Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

VI. SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA

Table G-21. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or less than 1 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.0-9.0 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Chloride	mg/L	4	--
Nitrate Nitrogen, Total (as N)	mg/L	4	--
Sulfate	mg/L	4	--
Total Dissolved Solids	mg/L	4	--
Aluminum, Total Recoverable	mg/L	1.0 ⁵	--
Cyanide, Total Recoverable	µg/L	4.3	8.5
Cadmium, Total Recoverable	µg/L	6	6

Parameter	Units	Average Monthly	Daily Maximum
Copper, Total Recoverable	µg/L	6	6
Lead, Total Recoverable	µg/L	6	6
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	6	6
Selenium, Total Recoverable	µg/L	4.1	8.2
Silver, Total Recoverable	µg/L	6	6
Zinc, Total Recoverable	µg/L	6	6

- 1 Within the range of 6.5 to 8.5 at all times.
- 2 *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- 3 *E. coli* density in a single sample shall not exceed 235/100 ml.
- 4 In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- 5 Applicable only to discharges to receiving waters or receiving waters with underlying groundwater designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- 6 Action levels are hardness dependent. See Section VII of this Attachment for a listing of the applicable action levels.

Table G-22. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity between 1 ppt and 10 ppt)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.0-9.0 ¹	
<i>E. coli</i> Bacteria	#/100 ml	126 ²	235 ³
Total Coliform Bacteria	#/100 ml	1,000 ⁴	10,000 ⁵
Fecal Coliform Bacteria	#/100 ml	200 ⁴	400 ⁵
Enterococcus Bacteria	#/100 ml	35 ⁴	104 ⁵
Chloride	mg/L	6	--
Nitrate Nitrogen, Total (as N)	mg/L	6	--
Sulfate	mg/L	6	--
Total Dissolved Solids	mg/L	6	--
Aluminum, Total Recoverable	mg/L	1.0 ⁷	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Cadmium, Total Recoverable	µg/L	8	8
Copper, Total Recoverable	µg/L	8	8
Lead, Total Recoverable	µg/L	8	8
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	8	8
Selenium, Total Recoverable	µg/L	4.1	8.2
Silver, Total Recoverable	µg/L	8	8
Zinc, Total Recoverable	µg/L	8	8

- 1 Within the range of 6.5 to 8.5 at all times.
- 2 *E. coli* density shall not exceed a geometric mean of 126/100 ml.
- 3 *E. coli* density in a single sample shall not exceed 235/100 ml.
- 4 Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 5 Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- 6 In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- 7 Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.
- 8 The applicable action level is the most stringent between corresponding Table G-21 and Table G-23 action levels.

Table G-23. Action Levels for Discharges to Inland Surface Waters, Enclosed Bays, and Estuaries (with receiving water salinity equal to or greater than 10 ppt 95% or more of the time)

Parameter	Units	Average Monthly	Daily Maximum
pH	Standard units	6.0-9.0 ¹	
Total Coliform Bacteria	#/100 ml	1,000 ^{2,3}	10,000 ^{2,4}
Fecal Coliform Bacteria	#/100 ml	200 ²	400 ⁴
Enterococcus Bacteria	#/100 ml	35 ²	104 ⁴
Chloride	mg/L	5	--
Nitrate Nitrogen, Total (as N)	mg/L	5	--
Sulfate	mg/L	5	--
Total Dissolved Solids	mg/L	5	--
Aluminum, Total Recoverable	mg/L	1.0 ⁶	--
Cyanide, Total Recoverable	µg/L	0.50	1.0
Cadmium, Total Recoverable	µg/L	7.7	15
Copper, Total Recoverable	µg/L	2.9	5.8
Lead, Total Recoverable	µg/L	7.0	14
Mercury, Total Recoverable	µg/L	0.051	0.10
Nickel, Total Recoverable	µg/L	6.8	14
Silver, Total Recoverable	µg/L	1.1	2.2
Selenium, Total Recoverable	µg/L	58	117
Zinc, Total Recoverable	µg/L	47	95

- ¹ Within the range of 6.5 to 8.5 at all times.
- ² Total coliform density shall not exceed a geometric mean of 1,000/100 ml. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- ³ In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- ⁴ Total coliform density in a single sample shall not exceed 10,000/100 ml. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.
- ⁵ In accordance with applicable water quality objectives contained in Chapter 3 of the Basin Plan.
- ⁶ Applicable only to discharges to receiving waters designated for Municipal and Domestic Supply (MUN) use as specified in Tables 2-1 and 2-2 of the Basin Plan.

Table G-24. Action Levels for Discharges to Ocean Waters (Surf Zone)

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
pH	Standard units	6.0-9.0 ¹		
Total Coliform Bacteria	#/100 ml	70 ²	230 ²	--
Fecal Coliform Bacteria	#/100 ml	--	200 ³	400 ⁴
Enterococcus	#/100 ml	--	35 ³	104 ⁴
Cyanide, Total Recoverable	µg/L	1	4	10
Cadmium, Total Recoverable	µg/L	1	4	10
Copper, Total Recoverable	µg/L	3	12	30

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Lead, Total Recoverable	µg/L	2	8	20
Mercury, Total Recoverable	µg/L	0.04	0.16	0.4
Nickel, Total Recoverable	µg/L	5	20	50
Silver, Total Recoverable	µg/L	0.7	2.8	7.0
Selenium, Total Recoverable	µg/L	15	60	150
Zinc, Total Recoverable	µg/L	20	80	200

- 1. Within the range of 6.0 to 9.0 at all times.
- 2. In areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70/100 ml and not more than 10 percent of the samples shall exceed 230/100 ml.
- 3. Fecal coliform density shall not exceed a geometric mean of 200/100 ml. Enterococcus density shall not exceed a geometric mean of 35/100 ml.
- 4. Fecal coliform density in a single sample shall not exceed 400/100 ml. Enterococcus density shall not exceed a geometric mean of 104/100 ml.

VII. HARDNESS-BASED ACTION LEVELS FOR METALS

Cadmium, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.1	0.2	125.0	2.4	4.8	245.0	4.1	8.2
10.0	0.2	0.3	130.0	2.5	5.0	250.0	4.1	8.3
15.0	0.3	0.5	135.0	2.5	5.1	255.0	4.2	8.4
20.0	0.4	0.7	140.0	2.6	5.3	260.0	4.3	8.5
25.0	0.5	0.9	145.0	2.7	5.4	265.0	4.3	8.7
30.0	0.6	1.2	150.0	2.8	5.5	270.0	4.4	8.8
35.0	0.7	1.4	155.0	2.8	5.7	275.0	4.5	8.9
40.0	0.8	1.6	160.0	2.9	5.8	280.0	4.5	9.1
45.0	0.9	1.8	165.0	3.0	6.0	285.0	4.6	9.2
50.0	1.0	2.1	170.0	3.1	6.1	290.0	4.6	9.3
55.0	1.1	2.3	175.0	3.1	6.3	295.0	4.7	9.4
60.0	1.3	2.5	180.0	3.2	6.4	300.0	4.8	9.6
65.0	1.4	2.8	185.0	3.3	6.5	310.0	4.9	9.8
70.0	1.5	3.0	190.0	3.3	6.7	320.0	5.0	10.1
75.0	1.6	3.2	195.0	3.4	6.8	330.0	5.1	10.3
80.0	1.7	3.4	200.0	3.5	7.0	340.0	5.3	10.5
85.0	1.8	3.6	205.0	3.5	7.1	350.0	5.4	10.8
90.0	1.9	3.7	210.0	3.6	7.2	360.0	5.5	11.0
95.0	1.9	3.9	215.0	3.7	7.4	370.0	5.6	11.3
100.0	2.0	4.0	220.0	3.7	7.5	380.0	5.7	11.5
105.0	2.1	4.2	225.0	3.8	7.6	390.0	5.9	11.7
110.0	2.2	4.3	230.0	3.9	7.8	400.0	6.0	12.0
115.0	2.2	4.5	235.0	3.9	7.9	>400	6.0	12.0

Cadmium, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
120.0	2.3	4.7	240.0	4.0	8.0			

Copper, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.4	0.8	125.0	8.6	17.2	245.0	16.2	32.5
10.0	0.8	1.6	130.0	8.9	17.9	250.0	16.5	33.1
15.0	1.2	2.3	135.0	9.2	18.5	255.0	16.8	33.8
20.0	1.5	3.1	140.0	9.6	19.2	260.0	17.1	34.4
25.0	1.9	3.8	145.0	9.9	19.8	265.0	17.4	35.0
30.0	2.2	4.5	150.0	10.2	20.5	270.0	17.8	35.6
35.0	2.6	5.2	155.0	10.5	21.1	275.0	18.1	36.2
40.0	2.9	5.9	160.0	10.8	21.8	280.0	18.4	36.9
45.0	3.3	6.6	165.0	11.2	22.4	285.0	18.6	37.4
50.0	3.6	7.3	170.0	11.5	23.0	290.0	18.9	38.0
55.0	4.0	8.0	175.0	11.8	23.7	295.0	19.2	38.5
60.0	4.3	8.6	180.0	12.1	24.3	300.0	19.5	39.1
65.0	4.6	9.3	185.0	12.4	25.0	310.0	20.0	40.2
70.0	5.0	10.0	190.0	12.8	25.6	320.0	20.6	41.3
75.0	5.3	10.7	195.0	13.1	26.2	330.0	21.1	42.4
80.0	5.6	11.3	200.0	13.4	26.9	340.0	21.7	43.5
85.0	6.0	12.0	205.0	13.7	27.5	350.0	22.2	44.6
90.0	6.3	12.7	210.0	14.0	28.1	360.0	22.8	45.7
95.0	6.6	13.3	215.0	14.3	28.7	370.0	23.3	46.8
100.0	7.0	14.0	220.0	14.6	29.4	380.0	23.8	47.8
105.0	7.3	14.6	225.0	15.0	30.0	390.0	24.4	48.9
110.0	7.6	15.3	230.0	15.3	30.6	400.0	24.9	50.0
115.0	7.9	15.9	235.0	15.6	31.3	>400	24.9	50.0
120.0	8.3	16.6	240.0	15.9	31.9			

Lead, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	0.1	0.1	125.0	3.5	6.9	245.0	8.1	16.3
10.0	0.1	0.3	130.0	3.6	7.3	250.0	8.3	16.7
15.0	0.2	0.5	135.0	3.8	7.6	255.0	8.6	17.2
20.0	0.3	0.7	140.0	4.0	8.0	260.0	8.8	17.6
25.0	0.4	0.9	145.0	4.2	8.4	265.0	9.0	18.0
30.0	0.6	1.1	150.0	4.4	8.7	270.0	9.2	18.5
35.0	0.7	1.4	155.0	4.5	9.1	275.0	9.4	18.9
40.0	0.8	1.6	160.0	4.7	9.5	280.0	9.6	19.3

Lead, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
45.0	0.9	1.9	165.0	4.9	9.9	285.0	9.9	19.8
50.0	1.1	2.2	170.0	5.1	10.2	290.0	10.1	20.2
55.0	1.2	2.4	175.0	5.3	10.6	295.0	10.3	20.7
60.0	1.4	2.7	180.0	5.5	11.0	300.0	10.5	21.1
65.0	1.5	3.0	185.0	5.7	11.4	310.0	11.0	22.0
70.0	1.7	3.3	190.0	5.9	11.8	320.0	11.4	22.9
75.0	1.8	3.6	195.0	6.1	12.2	330.0	11.9	23.8
80.0	2.0	3.9	200.0	6.3	12.6	340.0	12.3	24.8
85.0	2.1	4.2	205.0	6.5	13.0	350.0	12.8	25.7
90.0	2.3	4.6	210.0	6.7	13.4	360.0	13.3	26.6
95.0	2.4	4.9	215.0	6.9	13.8	370.0	13.7	27.6
100.0	2.6	5.2	220.0	7.1	14.2	380.0	14.2	28.5
105.0	2.8	5.5	225.0	7.3	14.6	390.0	14.7	29.5
110.0	2.9	5.9	230.0	7.5	15.1	400.0	15.2	30.5
115.0	3.1	6.2	235.0	7.7	15.5	>400	15.2	30.5
120.0	3.3	6.6	240.0	7.9	15.9			

Nickel, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	3.4	6.8	125.0	51.5	103.3	245.0	90.9	182.5
10.0	6.1	12.2	130.0	53.2	106.7	250.0	92.5	185.6
15.0	8.6	17.2	135.0	54.9	110.2	255.0	94.1	188.7
20.0	10.9	21.9	140.0	56.6	113.6	260.0	95.6	191.9
25.0	13.2	26.5	145.0	58.3	117.1	265.0	97.2	195.0
30.0	15.4	30.9	150.0	60.0	120.5	270.0	98.7	198.1
35.0	17.5	35.2	155.0	61.7	123.9	275.0	100.3	201.2
40.0	19.6	39.4	160.0	63.4	127.2	280.0	101.8	204.3
45.0	21.7	43.5	165.0	65.1	130.6	285.0	103.3	207.4
50.0	23.7	47.6	170.0	66.8	133.9	290.0	104.9	210.4
55.0	25.7	51.6	175.0	68.4	137.3	295.0	106.4	213.5
60.0	27.7	55.5	180.0	70.1	140.6	300.0	107.9	216.6
65.0	29.6	59.4	185.0	71.7	143.9	310.0	111.0	222.7
70.0	31.5	63.2	190.0	73.3	147.1	320.0	114.0	228.7
75.0	33.4	67.0	195.0	75.0	150.4	330.0	117.0	234.7
80.0	35.3	70.8	200.0	76.6	153.7	340.0	120.0	240.7
85.0	37.1	74.5	205.0	78.2	156.9	350.0	123.0	246.7
90.0	39.0	78.2	210.0	79.8	160.2	360.0	125.9	252.7
95.0	40.8	81.9	215.0	81.4	163.4	370.0	128.9	258.6
100.0	42.6	85.5	220.0	83.0	166.6	380.0	131.8	264.5
105.0	44.4	89.1	225.0	84.6	169.8	390.0	134.8	270.4
110.0	46.2	92.7	230.0	86.2	173.0	400.0	137.7	276.2
115.0	48.0	96.2	235.0	87.8	176.1	>400	137.7	276.2

Nickel, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
120.0	49.7	99.8	240.0	89.4	179.3			

Zinc, Total Recoverable								
Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)	Hardness (mg/L as CaCO ₃)	AMAL (µg/L)	MDAL (µg/L)
5.0	4.7	9.4	125.0	72.0	144.5	245.0	127.4	255.6
10.0	8.5	17.0	130.0	74.5	149.4	250.0	129.6	260.0
15.0	11.9	24.0	135.0	76.9	154.2	255.0	131.8	264.4
20.0	15.2	30.6	140.0	79.3	159.1	260.0	134.0	268.8
25.0	18.4	37.0	145.0	81.7	163.9	265.0	136.1	273.1
30.0	21.5	43.1	150.0	84.1	168.6	270.0	138.3	277.5
35.0	24.5	49.1	155.0	86.4	173.4	275.0	140.5	281.9
40.0	27.4	55.0	160.0	88.8	178.1	280.0	142.6	286.2
45.0	30.3	60.8	165.0	91.1	182.8	285.0	144.8	290.5
50.0	33.1	66.5	170.0	93.5	187.5	290.0	146.9	294.8
55.0	35.9	72.1	175.0	95.8	192.2	295.0	149.1	299.1
60.0	38.7	77.6	180.0	98.1	196.8	300.0	151.2	303.4
65.0	41.4	83.0	185.0	100.4	201.4	310.0	155.5	312.0
70.0	44.1	88.4	190.0	102.7	206.0	320.0	159.7	320.5
75.0	46.7	93.7	195.0	105.0	210.6	330.0	163.9	328.9
80.0	49.3	99.0	200.0	107.3	215.2	340.0	168.1	337.4
85.0	51.9	104.2	205.0	109.5	219.8	350.0	172.3	345.8
90.0	54.5	109.4	210.0	111.8	224.3	360.0	176.5	354.1
95.0	57.1	114.5	215.0	114.0	228.8	370.0	180.6	362.4
100.0	59.6	119.6	220.0	116.3	233.3	380.0	184.8	370.7
105.0	62.1	124.7	225.0	118.5	237.8	390.0	188.9	379.0
110.0	64.6	129.7	230.0	120.7	242.3	400.0	193.0	387.2
115.0	67.1	134.7	235.0	123.0	246.7	>400	193.0	387.2
120.0	69.6	139.6	240.0	125.2	251.2			

VIII. MUNICIPAL ACTION LEVELS

Conventional Pollutants

Pollutants	pH	TSS mg/L	COD mg/L	Kjedahl Nitrogen (TKN) mg/L	Nitrate & Nitrite- total mg/L	P- total mg/L
Municipal Action Level	6.0- 9.0	264.1	247.5	4.59	1.85	0.80

Metals

Pollutants	Cd- total µg/L	Cr-total µg/L	Cu- total µg/L	Pb- total µg/L	Ni- total µg/L	Zn- total µg/L	Hg- total µg/L
Municipal Action Level	2.52	20.20	71.12	102.00	27.43	641.3	0.32

This Order establishes Municipal Action Levels (MALs) to identify subwatersheds requiring additional Best Management Practices (BMPs) to reduce pollutant loads and prioritize implementation of additional BMPs. MALs for selected pollutants are based on nationwide Phase I MS4 monitoring data for pollutants in storm water (<http://unix.eng.ua.edu/~rpitt/Research/Research.shtml>, last visited on May 9, 2012). The MALs were obtained by computing the upper 25th percentile for selected pollutants using the statistical program Minitab. Non-detects were removed from the data set and all data from the database were used.

Under this Order, the Municipal Action Levels (MALs) shall be utilized by Permittees to identify subwatersheds discharging pollutants at levels in excess of the MALs. Within those subwatersheds where pollutant levels in the discharge are in excess of the MALs, Permittees shall implement controls and measures necessary to reduce the discharge of pollutants.

In order to determine if MS4 discharges are in excess of the MALs, Permittees shall conduct outfall monitoring as required in the Monitoring and Reporting Program (MRP) (Attachment E). A MAL Assessment Report shall be submitted to the Regional Water Board Executive Officer as part of the Annual Report. The MAL Assessment Report shall present the monitoring data in comparison to the applicable MALs, and identify those subwatersheds with a running average of twenty percent or greater of exceedances of the MALs listed in this attachment in discharges of storm water from the MS4.

Beginning in Year 3 after the effective date of this Order, each Permittee shall submit a MAL Action Plan with the Annual Report (first MAL Action Plan due with December 15, 2015 Annual Report) to the Regional Water Board Executive Officer, for those subwatersheds with a running average of twenty percent or greater of exceedances of the MALs in any discharge of

storm water from the MS4. The plan shall include an assessment of the sources responsible for the MAL exceedances, the existing storm water programs and BMPs that address those sources, an assessment of potential program enhancements, alternative BMPs and actions the Permittee shall implement to reduce discharges to a level that is equivalent to or below the MALs, and an implementation schedule for such actions for Executive Officer approval. The MAL Action Plan shall provide the technical rationale to demonstrate the proposed measures and controls will attain the MALs. If the MAL Action Plan is not approved within 90 days of the due date, the Executive Officer may establish an appropriate plan with at least 90 day notification and consultation to the Permittees.

Within 90 days of the plan approval by the Regional Water Board Executive Officer, the Permittee shall initiate the BMPs and actions proposed in the MAL Action Plan, together with any other practicable BMPs or actions that the Executive Officer determines to be necessary to meet the MALs. The Permittee shall complete the proposed actions in accordance with the approved implementation schedule.

Upon completion of the actions specified in the approved MAL Action Plan, the Permittee shall re-monitor the subject subwatershed in accordance with the MRP, and submit a Post-Project MAL Assessment Report to the Regional Water Board Executive Officer.

Implementation of an approved Watershed Management Program per Part VI.C of the Order fulfills all requirements related to the development and implementation of the MAL Action Plan.

As additional data become available through the MRP or from the Regional Subset of the National Dataset, MALs may be revised annually by the Regional Water Board Executive Officer in accordance with an equivalent statistical method as that used to establish the MALs in this attachment with at least 90 day notification and consultation to the Permittees.

ATTACHMENT H. BIORETENTION / BIOFILTRATION DESIGN CRITERIA

Note: A significant portion of the information in this appendix has been copied verbatim from the *Ventura County Technical Guidance Manual*, Updated 2011, and modified to reflect recent changes to the bioretention/biofiltration soil media specifications as adopted by the California Regional Water Quality Control Board, San Francisco Region, on November 28, 2011, Order No. R2-2011-083, Attachment L. Permittees can submit alternate Bioretention/Biofiltration Design Criteria subject to Executive Officer approval.

1. Geometry

- a. Bioretention/biofiltration areas shall be sized to capture and treat the design with an 18-inch maximum ponding depth. *The intention is that the ponding depth be limited to a depth that will allow for a healthy vegetation layer.*
- b. Minimum planting soil depth should be 2 feet, although 3 feet is preferred. *The intention is that the minimum planting soil depth should provide a beneficial root zone for the chosen plant palette and adequate water storage for the SWQDv.*
- c. A gravel storage layer below the bioretention/biofiltration soil media is required as necessary to provide adequate temporary storage to retain the SWQDv and to promote infiltration.

2. Drainage

- a. Bioretention and biofiltration BMPs should be designed to drain below the planting soil in less than 48 hours and completely drain in less than 96 hours. *The intention is that soils must be allowed to dry out periodically in order to restore hydraulic capacity needed to receive flows from subsequent storms, maintain infiltration rates, maintain adequate soil oxygen levels for healthy soil biota and vegetation, and to provide proper soil conditions for biodegradation and retention of pollutants.*
- b. *Biofiltration BMPs are designed and constructed with an underdrain. The underdrain is preferably placed near the top of the gravel storage area to promote incidental infiltration and enhanced nitrogen removal. However, if in-situ, underlying soils do not provide sufficient drainage, the underdrain may need to be placed lower in the gravel storage area (within 6 inches of the bottom) to prevent the unit from holding stagnant water for extended periods of time. At many sites, clay soils will drain sufficiently fast, particularly if they are not compacted. Observing soil moisture and surface conditions in the days following a wet period may provide sufficient information for making this decision and may be more directly applicable than in situ or laboratory testing of soil characteristics¹.*

3. Overflow

An overflow device is required at the 18-inch ponding depth. The following, or equivalent, should be provided:

- a. A vertical PVC pipe (SDR 35) to act as an overflow riser.

¹ Dan Cloak, Dan Cloak Environmental Consulting to Tom Dalziel, Contra Costa County, February 22, 2011.

- b. The overflow riser(s) should be 6 inches or greater in diameter, so it can be cleaned without damage to the pipe.

The inlet to the riser should be at the ponding depth (18 inches for fenced bioretention areas and 6 inches for areas that are not fenced), and be capped with a spider cap to exclude floating mulch and debris. Spider caps should be screwed in or glued, i.e., not removable.

4. Integrated Water Quality/ Flow Reduction/Resources Management Criteria

- a. When calculating the capacity of an infiltration system, each Permittee shall account for the 24-hour infiltration assuming that the soil is saturated. Infiltration BMPs shall be limited to project sites where the in-situ soil or the amended on-site soils have a demonstrated infiltration rate under saturated conditions of no less than 0.3 inch per hour.
- b. Bioretention BMPs shall be designed to accommodate the minimum design flow at a surface loading rate of 5 inches per hour and no greater than 12 inches per hour, and shall have a total volume, including pore spaces and pre-filter detention volume of no less than the SWQDv.
- c. If rainwater harvested for use in irrigation is to be credited toward the total volume of storm water runoff retained on-site, each Permittee shall require the project proponent to conduct a conservative (assuming reasonable worst-case scenarios) assessment of water demand during the wet-weather season. This volume will be referred to as the "reliable" estimate of irrigation demand. The portion of water to be credited as retained on-site for use in irrigation shall not exceed the reliable estimate of irrigation demand.
- d. Harvested rainwater must be stored in a manner that precludes the breeding of mosquitoes or other vectors or with a draw down not to exceed 96 hours.
- e. When evaluating the potential for on-site retention, each Permittee shall consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and use.
- f. Project requirements shall address at a minimum the potential use of harvested rainwater for non-potable uses including toilet flushing, laundry, and cooling water makeup water. If the municipal, building or county health code(s) does not allow such use of harvested rainwater, each Permittee shall develop a model ordinance and submit it to the city council or County Supervisors for consideration within 24 months after the Order effective date. The model ordinances shall be based on the International Association of Plumbing and Mechanical Officials' (IAPMO's) Green Plumbing and Mechanical Code Supplement to the 2012 National Standard Plumbing Code, or similar guidance to ensure the safe and effective use of harvested rainwater, separate from the existing provisions, if any, for reclaimed wastewater. California is in the process of adopting its 2012 update to the Uniform Plumbing Code that incorporates the IAPMO Green Plumbing and Mechanical Code Supplement. If the State of California update incorporates the IAPMO Green Plumbing and Mechanical Code Supplement, Permittees are not required to adopt a model ordinance addressing the potential use of harvested rainwater for non-potable uses including toilet flushing, laundry, and cooling water makeup water.

5. Hydraulic Restriction Layers

Infiltration pathways may need to be restricted due to the close proximity of roads, foundations, or other infrastructure. A geomembrane liner, or other equivalent water proofing, may be placed along the vertical walls to reduce lateral flows. This liner should have a minimum thickness of 30 mils. Generally, waterproof barriers should not be placed on the bottom of the biofiltration unit, as this would prevent incidental infiltration which is important to meeting the required pollutant load reduction.

6. Planting/Storage Media Specifications

- a. The planting media placed in the cell should achieve a long-term, in-place infiltration rate of at least 5 inches per hour. Higher infiltration rates of up to 12 inches per hour are permissible. Bioretention/biofiltration soil shall retain sufficient moisture to support vigorous plant growth.
- b. Planting media should consist of 60 to 80% fine sand and 20 to 40% compost.
- c. Sand should be free of wood, waste, coating such as clay, stone dust, carbonate, etc. or any other deleterious material. All aggregate passing the No. 200 sieve size should be non-plastic. Sand for bioretention should be analyzed by an accredited lab using #200, #100, #40, #30, #16, #8, #4, and 3/8 sieves (ASTM D 422 or as approved by the local permitting authority) and meet the following gradation (Note: all sands complying with ASTM C33 for fine aggregate comply with the gradation requirements provided in Table H-1):

Table H-1. Sand Texture Specifications

Sieve Size ASTM D422	Percent Passing by Weight	
	Minimum	Maximum
3 /8 inch	100	100
No. 4	90	100
No. 8	70	100
No. 16	40	95
No. 30	15	70
No. 40	5	55
No. 110	0	15
No. 200	0	5

Note: The gradation of the sand component of the media is believed to be a major factor in the hydraulic conductivity of the media mix. If the desired hydraulic conductivity of the media cannot be achieved within the specified proportions of sand and compost (#2), then it may be necessary to utilize sand at the coarser end of the range specified in above (“minimum” column).

- d. Compost should be a well decomposed, stable, weed free organic matter source derived from waste materials including yard debris, wood wastes, or other organic materials not including manure or biosolids meeting standards developed by the US Composting Council (USCC). The product shall be certified through the USCC Seal of Testing Assurance (STA) Program (a compost testing and information disclosure program). Compost quality should be verified via a lab analysis to be:

- Feedstock materials shall be specified and include one or more of the following: landscape/yard trimmings, grass clippings, food scraps, and agricultural crop residues.
- Organic matter: 35-75% dry weight basis.
- Carbon and Nitrogen Ratio: 15:1 < C:N < 25:1
- Maturity/Stability: shall have dark brown color and a soil-like odor. Compost exhibiting a sour or putrid smell, containing recognizable grass or leaves, or is hot (120 F) upon delivery or rewetting is not acceptable.
- Toxicity: any one of the following measures is sufficient to indicate non-toxicity:
 - NH4:NH3 < 3
 - Ammonium < 500 ppm, dry weight basis
 - Seed Germination > 80% of control
 - Plant trials > 80% of control
 - Solvita® > 5 index value
- Nutrient content:
 - Total Nitrogen content 0.9% or above preferred
 - Total Boron should be <80 ppm, soluble boron < 2.5 ppm
- Salinity: < 6.0 mmhos/cm
- pH between 6.5 and 8 (may vary with plant palette)
- Compost for bioretention should be analyzed by an accredited lab using #200, ¼ inch, ½ inch, and 1 inch sieves (ASTM D 422) and meet the gradation described in Table H-2:

Table H-2. Compost Texture Specifications

Sieve Size ASTM D422	Percent Passing by Weight	
	Minimum	Maximum
1 inch	99	100
½ inch	90	100
¼ inch	40	90
#200	2	10

Tests should be sufficiently recent to represent the actual material that is anticipated to be delivered to the site. If processes or sources used by the supplier have changed significantly since the most recent testing, new tests should be requested.

Note: the gradation of compost used in bioretention/biofiltration media is believed to play an important role in the saturated hydraulic conductivity of the media. To achieve a higher saturated hydraulic conductivity, it may be necessary to utilize compost at the coarser end of this range ("minimum" column). The percent passing the #200 sieve (fines) is believed to be the most important factor in hydraulic conductivity.

In addition, a coarser compost mix provides more heterogeneity of the bioretention media, which is believed to be advantageous for more rapid development of soil structure needed to support health biological processes. This may be an advantage for plant establishment with lower nutrient and water input.

- e. Bioretention/Biofiltration soils not meeting the above criteria shall be evaluated on a case by case basis. Alternative bioretention soil shall meet the following specification:

“Soils for bioretention facilities shall be sufficiently permeable to infiltrate runoff at a minimum rate of 5 inches per hour during the life of the facility, and provide sufficient retention of moisture and nutrients to support healthy vegetation.” The following steps shall be followed by the Permittees to verify that alternative soil mixes meet the specification:

- Submittals – The applicant must submit to the Permittee for approval:
 - A sample of mixed bioretention/biofiltration soil.
 - Certification from the soil supplier or an accredited laboratory that the bioretention/biofiltration soil meets the requirements of this specification.
 - Certification from an accredited geotechnical testing laboratory that the bioretention/biofiltration soil has an infiltration rate of between 5 and 12 inches per hour.
 - Organic content test results of mixed bioretention/biofiltration soil. Organic content test shall be performed in accordance with by Testing Methods for the Examination of Compost and Composting (TMECC) 05.07A, “Loss-On-Ignition Organic Matter Method”.
 - Organic Grain size analysis results of mixed bioretention/biofiltration soil performed in accordance with ASTM D 422, Standard Test Method for Particle Size Analysis of Soils.
 - A description of the equipment and methods used to mix the sand and compost to produce the bioretention/biofiltration soil.
- The name of the testing laboratory(s) and the following information:
 - Contact person(s)
 - Address(s)
 - Phone contact(s)
 - email address(s)
 - Qualifications of laboratory(s), and personnel including date of current
 - Certification by STA, ASTM, or approved equal.
- Bioretention/biofiltration soils shall be analyzed by an accredited lab using #200, and 1/2” inch sieves (ASTM D 422 or as approved by municipality), and meet the gradation described in Table H-3).

Table H-3. Alternative Bioretention/Biofiltration Soil Texture Specifications

Sieve Size ASTM D422	Percent Passing by Weight	
	Minimum	Maximum
1/2 inch	97	100
200	2	5

- Bioretention/biofiltration soils shall be analyzed by an accredited geotechnical lab for the following tests:
 - Moisture – density relationships (compaction tests) shall be conducted on bioretention soil. Bioretention/biofiltration soil for the permeability test shall be compacted to 85 to 90 percent of the maximum dry density (ASTM D1557).
 - Constant head permeability testing in accordance with ASTM D2434 shall be conducted on a minimum of two samples with a 6-inch mold and vacuum saturation.

7. Mulch for Bioretention/Biofiltration Facilities

Mulch is recommended for the purpose of retaining moisture, preventing erosion and minimizing weed growth. Projects subject to the State's Model Water Efficiency Landscaping Ordinance (or comparable local ordinance) will be required to provide at least two inches of mulch. Aged mulch, also called compost mulch, reduces the ability of weeds to establish, keeps soil moist, and replenishes soil nutrients. Aged mulch can be obtained through soil suppliers or directly from commercial recycling yards. It is recommended to apply 1" to 2" of composted mulch, once a year, preferably in June following weeding

8. Plants

- a. Plant materials should be tolerant of summer drought, ponding fluctuations, and saturated soil conditions for 48 to 96 hours.
- b. It is recommended that a minimum of three types of tree, shrubs, and/or herbaceous groundcover species be incorporated to protect against facility failure due to disease and insect infestations of a single species.
- c. Native plant species and/or hardy cultivars that are not invasive and do not require chemical inputs should be used to the maximum extent practicable.

References

California Regional Water Quality Control Board, San Francisco Bay Region. 2011. Municipal Regional Stormwater Permit (Order No. R2-2011-0083, Attachment L). Adopted November 28, 2011.

Dan Cloak, Dan Cloak Environmental Consulting to Tom Dalziel, Contra Costa County, February 22, 2011. <<http://www.cccleanwater.org/c3-guidebook.html>>. Accessed on January 31, 2012.

Geosyntec Consultants and Larry Walker Associates. 2011. *Ventura County Technical Guidance Manual for Stormwater Quality Control Measures, Manual Update 2011. Appendix D*. Prepared for the Ventura Countywide Stormwater Quality Management Program. July 13, 2011.

ATTACHMENT I. DEVELOPER TECHNICAL INFORMATION AND GUIDELINES

1. Each Permittee shall make available to the Development Community reference information and recommended guidelines. Such information may include the following:
 - a. Hydromodification Control criteria described in this Order, including numerical criteria
 - b. Links to the State Water Board's Water Balance Calculator
 - c. Expected BMP pollutant removal performance including effluent quality (ASCE/ U.S. EPA International BMP Database, CASQA New Development BMP Handbook, technical reports, local data on BMP performance, and the scientific literature appropriate for southern California geography and climate)
 - d. Selection of appropriate BMPs for stormwater pollutants of concern
 - e. Data on observed local effectiveness and performance of implemented BMPs
 - f. BMP maintenance and cost considerations.
 - g. Guiding principles to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and existing retrofits
 - h. LID principles and specifications, including the objectives and specifications for integration of LID strategies in the areas of:
 - i. Site Assessment
 - ii. Site Planning and Design
 - iii. Vegetative Protection, Revegetation, and Maintenance
 - iv. Techniques to Minimize Land Disturbance
 - v. Techniques to Implement LID Measures at Various Scales
 - vi. Integrated Water Resources Management Practices
 - vii. LID Design and Flow Modeling Guidance
 - viii. Hydrologic Analysis
 - ix. LID Credits for trees or other features that intercept storm water runoff.
 - i. Recommended Guidelines to include:
 - i. Locate structures on less pervious soils where possible so as to preserve areas with permeable soils (Hydrologic Soil Group Classes A and B, as defined by the National Cooperative Soil Survey), for use in stormwater infiltration and groundwater recharge. Minimize the need to grade the site by concentrating development in areas with minimal non-engineered slopes and existing infrastructure, and mitigate any construction disturbance.
 - ii. The total disturbed area shall be no greater than 110 percent of the final project footprint plus the area of the construction stormwater detention basins, if any, and as required to meet applicable Fire Department regulations for brush clearance.

- iii. Construction vehicles shall be confined at all times to the area specifically permitted to be disturbed by construction as depicted in the approved construction documents. Physical barriers shall be used to designate and protect the boundary between disturbed and undisturbed areas.
 - iv. Materials staging shall be confined to the area permitted to be disturbed by construction or may be temporarily stored off-site at an approved location at the Contractor's option.
 - v. Construction vehicles shall not traverse areas within the drip lines of those trees and other landscaping to be preserved. Approved visible physical barriers, such as continuous fencing, shall be provided to completely surround all trees and other landscaping to be preserved. Barriers shall be placed not less than 5 feet outside the drip lines of trees.
 - vi. Preserve or restore continuous riparian buffers widths along all natural drainages to a minimum width of 100 feet from each bank top, for a total of 200 feet plus the width of the stream, unless the Watershed Plan demonstrates that a smaller riparian buffer width is protective of water quality, hydrology, and aquatic life beneficial uses within a specific drainage.
 - vii. Identify and avoid development of areas containing habitat with threatened or endangered plant and animal species¹.
- j. Each Permittee shall facilitate implementation of LID by providing key industry, regulatory, and other stakeholders with information regarding LID objectives and specifications through a training program. The LID training program will include the following:
- i. LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders
 - ii. A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects
 - iii. Materials and data from LID pilot projects and demonstration projects including case studies
 - iv. Guidance on how to integrate LID requirements at various project scales
 - v. Guidance on the relationship among LID strategies, Source Control BMPs, Treatment Control BMPs, and Hydromodification Control requirements

¹ Federal Endangered Species Act, 16 U.S.C. §§ 1531–1544 (<http://water.epa.gov/lawsregs/guidance/wetlands/eo11990.cfm>); California Endangered Species Act, California Fish and Game Code, §§ 2050 to 2115.5.

ATTACHMENT J. DETERMINATION OF EROSION POTENTIAL

E_p is determined as follows - The *total effective work* done on the channel boundary is derived and used as a metric to predict the likelihood of channel adjustment given watershed and stream hydrologic and geomorphic variables. The index under urbanized conditions is compared to the index under pre-urban conditions expressed as a ratio (E_p). The effective work index (W) can be computed in a number of different ways including simplistic work equations, material specific sediment transport equations, or more complex functions based on site calibrated sediment rating curves. One such work equation, which represents the total work done on the channel boundary, includes the following:

$$W = \sum_{i=1}^n (\tau_i - \tau_c)^{1.5} \cdot V \cdot \Delta t_i \quad (1)$$

Where: W = effective work, τ_c = critical shear stress that initiates bed mobility or erodes the weakest bank layer, τ_i = applied hydraulic shear stress, Δt = duration of flows (in hours), V = mid-channel flow velocity, and n = length of flow record. The effective work index for presumed stable stream channels under pre-urban conditions is compared to stable and unstable channels under current urbanized conditions. The comparison, expressed as a ratio, is defined as the Erosion Potential (E_p)¹ (McRae (1992, 1996)).

$$E_p = \frac{W_{post}}{W_{pre}} \quad (2)$$

where:

W_{post} = work index estimated for the post-urban condition

W_{pre} = work index estimated for the pre-urban condition

Alternatively, a sediment transport function such as the Brownlie equation or the Meyer-Peter and Muller equation (*US Department of Agriculture, Natural Resources Conservation Service, 2007. Part 654 Stream Restoration Design, National Engineering Handbook, August 2007*) can be used to demonstrate appropriate Hydromodification control.

¹ MacRae, C.R. 1992. The Role of Moderate Flow Events and Bank Structure in the Determination of Channel Response to Urbanization. Resolving conflicts and uncertainty in water management: Proceedings of the 45th Annual Conference of the Canadian Water Resources Association. Shrubsole, D, ed. 1992, pg. 12.1-12.21; MacRae, C.R. 1996. Experience from Morphological Research on Canadian Streams: Is Control of the Two-Year Frequency Runoff Event the Best Basis for Stream Channel Protection. Effects of Watershed Development and Management on Aquatic Ecosystems, ASCE Engineering Foundation Conference, Snowbird, Utah, pg. 144-162.

ATTACHMENT K. PERMITTEES AND TMDLS MATRIX

Note: For all tables in this Attachment, Permittees listed in *italics>* are Multi-Jurisdictional Permittees.

Table K-1: Santa Clara River Watershed Management Area TMDLs

SANTA CLARA RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS				
	Santa Clara River Nitrogen Compounds TMDL	Upper Santa Clara River Chloride TMDL	Lake Elizabeth, Munz Lake, and Lake Hughes Trash TMDL	Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL	
<i>Los Angeles (County of)</i>	X	X	X	X	
<i>Los Angeles County Flood Control</i>	X	X		X	
<i>Santa Clarita</i>	X	X		X	

Table K-2: Santa Monica Bay Watershed Management Area TMDLs

SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS						
	Santa Monica Bay Beaches Bacteria TMDL (Wet and Dry Weather)	Santa Monica Bay Nearshore and Offshore Debris TMDL	Santa Monica Bay TMDL for DDTs and PCBs	Malibu Creek and Lagoon Bacteria TMDL	Malibu Creek Subwatershed Trash TMDL	Malibu Creek Nutrient TMDL	
<i>Agoura Hills</i>	X	X	X	X	X	X	
<i>Beverly Hills</i>	X	X	X				
<i>Calabasas</i>	X	X	X	X	X	X	
<i>Culver City</i>	X	X	X				
<i>El Segundo</i>	X	X	X				
<i>Hermosa Beach</i>	X	X	X				
<i>Hidden Hills</i>	X	X	X	X			X
<i>Inglewood</i>	X	X	X				
<i>Los Angeles (City of)</i>	X	X	X				

SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES		ACTIVE TMDLS						
		Santa Monica Bay Beaches Bacteria TMDL (Wet and Dry Weather)	Santa Monica Bay Nearshore and Offshore Debris TMDL	Santa Monica Bay TMDL for DDTs and PCBs	Malibu Creek and Lagoon Bacteria TMDL	Malibu Creek Watershed Trash TMDL	Malibu Creek Nutrient TMDL	
Los Angeles (County of)	X	X	X	X	X	X	X	
Los Angeles County Flood Control	X	X	X	X	X	X	X	
Malibu	X	X	X	X	X	X	X	
Manhattan Beach	X	X	X	X	X	X	X	
Palos Verdes Estates	X	X	X	X	X	X	X	
Rancho Palos Verdes	X	X	X	X	X	X	X	
Redondo Beach	X	X	X	X	X	X	X	
Rolling Hills	X	X	X	X	X	X	X	
Rolling Hills Estates	X	X	X	X	X	X	X	
Santa Monica	X	X	X	X	X	X	X	
Torrance	X	X	X	X	X	X	X	
West Hollywood	X	X	X	X	X	X	X	
Westlake Village	X	X	X	X	X	X	X	

Table K-3: Santa Monica Bay Watershed Management Area TMDLs

SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS						
	Ballona Creek Subwatershed						
	Ballona Creek Trash TMDL	Ballona Creek Estuary Toxic Pollutants TMDL	Ballona Creek, Ballona estuary and Sepulveda Channel Bacteria TMDL	Ballona Creek Metals TMDL	Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation	Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL	Marina del Rey Harbor Toxic Pollutants TMDL
Agoura Hills							
Beverly Hills	X	X	X	X	X		
Calabasas							
Culver City	X	X	X	X	X	X	X
El Segundo							
Hermosa Beach							
Hidden Hills							
Inglewood	X	X	X	X	X		
Los Angeles (City of)	X	X	X	X	X	X	X
Los Angeles (County of)	X	X	X	X	X	X	X
Los Angeles County Flood Control		X	X	X	X	X	X
Malibu							
Manhattan Beach							
Palos Verdes Estates							
Rancho Palos Verdes							
Redondo Beach							
Rolling Hills							
Rolling Hills Estates							
Santa Monica	X	X	X	X	X		

SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS					
	Ballona Creek Subwatershed					
	Ballona Creek Trash TMDL	Ballona Creek Estuary Toxic Pollutants TMDL	Ballona Creek, Ballona estuary and Sepulveda Channel Bacteria TMDL	Ballona Creek Metals TMDL	Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation	Marina del Rey Subwatershed
<i>Torrance</i>						Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL
West Hollywood	X	X	X	X	X	Marina del Rey Harbor Toxic Pollutants TMDL
Westlake Village						

Table K-4: Dominguez Channel Watershed Management Area TMDLS

DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS					
	Los Angeles Harbor Bacteria TMDL	Machado Lake Trash TMDL	Machado Lake Nutrient TMDL	Machado Lake Pesticides and PCBs TMDL	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹	
<i>Carson</i>		X	X	X	X	
<i>Compton</i>					X	
<i>El Segundo</i>					X	
<i>Gardena</i>					X	
<i>Hawthorne</i>					X	
<i>Inglewood</i>					X	
<i>Lawndale</i>					X	
<i>Lomita</i>		X	X	X	X	
<i>Los Angeles (City of)</i>	X	X	X	X	X	
<i>Los Angeles (County of)</i>	X	X	X	X	X	
<i>Los Angeles County Flood Control</i>		X	X	X	X	
<i>Manhattan Beach</i>					X	
<i>Palos Verdes Estates</i>		X	X	X	X	

Attachment K – Permittees and TMDLs Matrix

DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS					
	Los Angeles Harbor Bacteria TMDL	Machado Lake Trash TMDL	Machado Lake Nutrient TMDL	Machado Lake Pesticides and PCBs TMDL	Machado Lake and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹	
<i>Rancho Palos Verdes</i>		X	X	X	X	
<i>Redondo Beach</i>		X	X	X	X	
<i>Rolling Hills</i>		X	X	X	X	
<i>Rolling Hills Estates</i>		X	X	X	X	
<i>Torrance</i>		X	X	X	X	

The requirements of this Order to implement the obligations of this TMDL do not apply to a Permittee to the extent that it is determined that the Permittee has been released from that obligation pursuant to the Amended Consent Decree entered in *United States v. Montrose Chemical Corp.*, Case No. 90-3122 AAH (JRx).

Table K-5: Los Angeles River Watershed Management Area TMDLs

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS									
	Los Angeles River Watershed Trash TMDL	Los Angeles River Nitrogen Compounds and Related Effects TMDL	Los Angeles River and Tributaries Metals TMDL	Los Angeles River Watershed Bacteria TMDL	Legg Lake Trash TMDL	Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL	Los Angeles Area Lake TMDLs for Lake Calabasas, Echo Park Lake, Legg Lake and Peck Road Park Lake	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹		
<i>Alhambra</i>	X	X	X	X						
<i>Arcadia</i>	X	X	X	X			X			
<i>Bell</i>	X	X	X	X						
<i>Bell Gardens</i>	X	X	X	X						
<i>Bradbury</i>	X	X	X	X			X			
<i>Burbank</i>	X	X	X	X						
<i>Calabasas</i>	X	X	X	X			X			
<i>Carson</i>	X	X	X	X				X		
<i>Commerce</i>	X	X	X	X						
<i>Compton</i>	X	X	X	X				X		

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS									
	Los Angeles River Watershed Trash TMDL	Los Angeles River Nitrogen Compounds and Related Effects TMDL	Los Angeles River and Tributaries Metals TMDL	Los Angeles River Watershed Bacteria TMDL	Legg Lake Trash TMDL	Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL	Los Angeles Area Lake TMDLs for Lake Calabasas, Echo Park Lake, Legg Lake and Peck Road Park Lake	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹		
Cudahy	X	X	X	X						
Downey	X	X	X	X						
Duarte	X	X	X	X			X			
El Monte	X	X	X	X	X		X			
Glendale	X	X	X	X						
Hidden Hills	X	X	X	X						
Huntington Park	X	X	X	X						
Irwindale	X	X	X	X			X			
La Canada Flintridge	X	X	X	X						
Lakewood	X	X	X	X						
Los Angeles (City of)	X	X	X	X			X	X		
Los Angeles (County of)	X	X	X	X	X		X	X		
Los Angeles County Flood Control		X	X	X	X		X	X		
Lynwood	X	X	X	X						
Maywood	X	X	X	X						
Monrovia	X	X	X	X			X			
Montebello	X	X	X	X						
Monterey Park	X	X	X	X						
Paramount	X	X	X	X						
Pasadena	X	X	X	X				X		
Pico Rivera	X	X	X	X						

LOS ANGELES RIVER WATER MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS									
	Los Angeles River Watershed Trash TMDL	Los Angeles River Nitrogen Compounds and Related Effects TMDL	Los Angeles River and Tributaries Metals TMDL	Los Angeles River Watershed Bacteria TMDL	Legg Lake Trash TMDL	Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL	Los Angeles Area Lake TMDLs for Lake Calabasas, Echo Park Lake, Legg Lake and Peck Road Park Lake	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹		
Rosemead	X	X	X	X						
San Fernando	X	X	X	X						
San Gabriel	X	X	X	X						
San Marino	X	X	X	X						
Santa Clarita	X	X	X	X						
Sierra Madre	X	X	X	X			X			
Signal Hill	X	X	X	X		X		X		
South El Monte	X	X	X	X	X		X			
South Gate	X	X	X	X						
South Pasadena	X	X	X	X						
Temple City	X	X	X	X						
Vernon	X	X	X	X						

The requirements of this Order to implement the obligations of this TMDL do not apply to a Permittee to the extent that it is determined that the Permittee has been released from that obligation pursuant to the Amended Consent Decree entered in *United States v. Montrose Chemical Corp.*, Case No. 90-3122 AAH (JRx).

Table K-6: San Gabriel River Watershed Management Area TMDLs

SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS		
	San Gabriel River and Impaired Tributaries Metals and Selenium TMDL	Los Angeles Area Lakes TMDLs for Puddingstone Reservoir, and Santa Fe Dam Park Lake	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹
Arcadia	X		
Artesia	X		
Azusa	X	X	
Baldwin Park	X		
Bellflower	X		X
Bradbury	X		
Cerritos	X		
Claremont	X	X	
Covina	X		
Diamond Bar	X		
Downey	X		
Duarte	X		
El Monte	X		
Glendora	X		
Hawaiian Gardens	X		
Industry	X		
Irwindale	X	X	
La Habra Heights	X		
La Mirada	X		
La Puente	X		
La Verne	X	X	
Lakewood	X		X
Los Angeles (County of)	X	X	X
Los Angeles County Flood Control	X	X	X

Attachment K – Permittees and TMDLs Matrix

MS4 Discharges within the Coastal Watersheds of Los Angeles County

ORDER NO. R4-2012-0175
NPDES NO. CAS004001

SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS		
	San Gabriel River and Impaired Tributaries Metals and Selenium TMDL	Los Angeles Area Lakes TMDLs for Puddingstone Reservoir, and Santa Fe Dam Park Lake	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹
<i>Monrovia</i>	X		
<i>Norwalk</i>	X		
<i>Pico Rivera</i>	X		
<i>Pomona</i>	X	X	
<i>San Dimas</i>	X	X	
<i>Santa Fe Springs</i>	X		
<i>South El Monte</i>	X		
<i>Walnut</i>	X		
<i>West Covina</i>	X		
<i>Whittier</i>	X		

The requirements of this Order to implement the obligations of this TMDL do not apply to a Permittee to the extent that it is determined that the Permittee has been released from that obligation pursuant to the Amended Consent Decree entered in *United States v. Montrose Chemical Corp.*, Case No. 90-3122 AAH (JRx).

Table K-7: Los Cerritos Channel and Alamitos Bay Watershed Management Area TMDLs

LOS CERRITOS CHANNEL AND ALAMITOS BAY WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDLS		
	Los Cerritos Channel Metals TMDL	Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals TMDL	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹
<i>Bellflower</i>	X		X
<i>Cerritos</i>	X		
<i>Downey</i>	X		
<i>Lakewood</i>	X		X
<i>Los Angeles (County of)</i>	X		X
<i>Los Angeles County Flood Control</i>	X	X	X
<i>Paramount</i>	X		X
<i>Signal Hill</i>	X		X

¹ The requirements of this Order to implement the obligations of this TMDL do not apply to a Permittee to the extent that it is determined that the Permittee has been released from that obligation pursuant to the Amended Consent Decree entered in *United States v. Montrose Chemical Corp.*, Case No. 90-3122 AAH (JRx).

Table K-8: Middle Santa Ana River Watershed Management Area TMDLs

MIDDLE SANTA ANA RIVER WATERSHED MANAGEMENT AREA PERMITTEES	ACTIVE TMDL
	Middle Santa Ana River Watershed Bacterial Indicator TMDL
<i>Claremont</i>	X
<i>Pomona</i>	X

Table K-9: Los Angeles River Watershed Management Area Metals TMDLs by Reach

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	Los Angeles River and Tributaries Metals TMDL				
	Reach 1 and Compton Creek	Reach 2, Rio Hondo, Arroyo Seco, and all contributing subwatersheds	Reach 3, Verdugo Wash, and Burbank Western Channel	Reach 4, Reach 5, Tujunga Wash, and all contributing subwatersheds	Reach 6, Bell Creek, and all contributing subwatersheds
Alhambra		X			
Arcadia		X			
Bell		X			
Bell Gardens		X			
Bradbury		X			
Burbank			X	X	
Calabasas					X
Carson	X				
Commerce		X			
Compton	X	X			
Cudahy		X			
Downey		X			
Duarte		X			
El Monte		X			
Glendale		X	X	X	
Hidden Hills					X
Huntington Park	X	X			
Irwindale		X			
La Canada Flintridge		X	X		
Lakewood					
Los Angeles (City of)	X	X	X	X	X
Los Angeles (County of)	X	X	X	X	X
Los Angeles County Flood Control	X	X	X	X	X
Lynwood	X	X			
Maywood		X			

MS4 Discharges within the Coastal Watersheds of Los Angeles County

ORDER NO. R4-2012-0175
NPDES NO. CAS004001

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	Los Angeles River and Tributaries Metals TMDL				
	Reach 1 and Compton Creek	Reach 2, Rio Hondo, Arroyo Seco, and all contributing subwatersheds	Reach 3, Verdugo Wash, and Burbank Western Channel	Reach 4, Reach 5, Tujunga Wash, and all contributing subwatersheds	Reach 6, Bell Creek, and all contributing subwatersheds
<i>Monrovia</i>		X			
<i>Montebello</i>		X			
<i>Monterey Park</i>		X			
<i>Paramount</i>		X			
<i>Pasadena</i>		X	X		
<i>Pico Rivera</i>		X			
<i>Rosemead</i>		X			
<i>San Fernando</i>				X	
<i>San Gabriel</i>		X			
<i>San Marino</i>		X			
<i>Santa Clarita</i>					
<i>Sierra Madre</i>		X			
<i>Signal Hill</i>	X				
<i>South El Monte</i>		X			
<i>South Gate</i>	X				
<i>South Pasadena</i>		X			
<i>Temple City</i>		X			
<i>Vernon</i>		X			

Table K-10: Los Angeles River Watershed Management Area Bacteria TMDL by Reach

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	Los Angeles River Watershed Bacteria TMDL															
	Los Angeles River Segment					Los Angeles River Tributary										
	A	B	C	D	E	Aliso Canyon Wash	Arroyo Seco	Bell Creek	Bull Creek	Burbank Western Channel	Compton Creek	Dry Canyon Creek	McCoy Canyon Creek	Rio Hondo	Tujunga Wash	Verdugo Wash
Alhambra	X													X		
Arcadia														X		
Bell	X															
Bell Gardens	X													X		
Bradbury														X		
Burbank				X						X						
Calabasas												X				
Carson											X					
Commerce	X															
Compton	X										X					
Cudahy																
Downey														X		
Duarte														X		
El Monte														X		
Glendale	X	X														
Hidden Hills										X					X	
Huntington Park											X					
Irwindale																
La Canada Flintridge																
Lakewood	X															
Los Angeles (City of)	X	X								X						
Los Angeles (County of)	X	X									X					

LOS ANGELES RIVER WATERSHED MANAGEMENT AREA PERMITTEES	Los Angeles River Watershed Bacteria TMDL																
	Los Angeles River Segment					Los Angeles River Tributary											
	A	B	C	D	E	Aliso Canyon Wash	Arroyo Seco	Bell Creek	Bull Creek	Burbank Western Channel	Compton Creek	Dry Canyon Creek	McCoy Canyon Creek	Rio Hondo	Tujunga Wash	Verdugo Wash	
Los Angeles County Flood Control	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Lynwood	X										X						
Maywood		X									X						
Monrovia														X			
Montebello			X											X			
Monterey Park			X											X			
Paramount	X		X														
Pasadena			X	X			X							X			X
Pico Rivera														X			
Rosemead														X			
San Fernando																	
San Gabriel														X			
San Marino														X			
Santa Clarita									X								
Sierra Madre														X			
Signal Hill	X																
South El Monte														X			
South Gate				X							X			X			
South Pasadena				X										X			
Temple City														X			
Vernon				X										X			

Table K-11: Santa Monica Bay Watershed Management Area Bacteria TMDL by Reach

SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES	Santa Monica Bay Beaches Bacteria TMDL (Wet and Dry Weather)								
	Jurisdiction Group 1	Jurisdiction Group 2	Jurisdiction Group 3	Jurisdiction Group 4	Jurisdiction Group 5	Jurisdiction Group 6	Jurisdiction Group 7	Jurisdiction Group 8	Jurisdiction Group 9
Agoura Hills									X
Beverly Hills								X	
Calabasas	X								X
Culver City								X	
El Segundo		X			X				
Hermosa Beach					X				
Hidden Hills									X
Inglewood								X	
Los Angeles (City of)	X	X	X				X	X	
Los Angeles (County of)	X	X		X	X	X	X	X	X
Los Angeles County Flood Control	X	X	X	X	X	X	X	X	X
Malibu	X			X					X
Manhattan Beach					X				
Palos Verdes Estates						X			
Rancho Palos Verdes							X		
Redondo Beach						X			
Rolling Hills							X		
Rolling Hills Estates							X		
Santa Monica		X	X						X
Torrance						X			
West Hollywood								X	

Santa Monica Bay Beaches Bacteria TMDL (Wet and Dry Weather)									
SANTA MONICA BAY WATERSHED MANAGEMENT AREA PERMITTEES	Jurisdiction Group 1	Jurisdiction Group 2	Jurisdiction Group 3	Jurisdiction Group 4	Jurisdiction Group 5	Jurisdiction Group 6	Jurisdiction Group 7	Jurisdiction Group 8	Jurisdiction Group 9
Westlake Village									X

Table K-12: San Gabriel River Watershed Management Area Metals TMDLs by Reach

SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA PERMITTEES	San Gabriel River and Impaired Tributaries Metals and Selenium TMDL									
	Walnut Creek	San Jose Creek	Coyote Creek	San Gabriel River Reach 1	San Gabriel River Reach 2	San Gabriel River Reach 3	San Gabriel River Reach 4	San Gabriel River Reach 5		
Arcadia							X			
Artesia			X	X						
Azusa	X								X	
Baldwin Park	X					X	X			
Bellflower				X						
Bradbury										
Cerritos			X	X						
Claremont	X	X								
Covina	X									
Diamond Bar		X	X							
Downey				X	X					
Duarte									X	
El Monte						X	X			
Glendora	X								X	
Hawaiian Gardens			X							
Industry	X	X			X			X		
Irwindale	X					X	X		X	
La Habra Heights		X	X							

SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA PERMITTEES	San Gabriel River and Impaired Tributaries Metals and Selenium TMDL									
	Walnut Creek	Santa Joaquin Creek	Coyote Creek	San Gabriel River Reach 1	San Gabriel River Reach 2	San Gabriel River Reach 3	San Gabriel River Reach 4	San Gabriel River Reach 5		
La Mirada			X							
La Puente	X	X				X				
La Verne	X	X								
Lakewood			X	X						
Los Angeles (County of)	X	X	X	X	X	X		X		
Los Angeles County Flood Control	X	X	X	X	X	X	X	X	X	
Monrovia									X	
Norwalk			X	X						
Pico Rivera								X		
Pomona	X	X								
San Dimas	X	X								
Santa Fe Springs										
South El Monte			X	X	X			X		
Walnut	X	X								
West Covina	X	X								
Whittier		X	X		X			X		

Table K-13: Dominguez Channel Watershed Management Area Toxics TMDL by Reach

DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA PERMITTEES	Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL ¹					
	Dominguez Channel	Dominguez Channel Estuary	Greater Los Angeles and Long Beach Harbors	Los Angeles River Estuary	Consolidated Slip	Los Angeles River and San Gabriel River
<i>Bellflower</i>			X			
<i>Carson</i>	X	X				
<i>Compton</i>	X	X				
<i>El Segundo</i>	X					
<i>Gardena</i>	X	X				
<i>Hawthorne</i>	X					
<i>Inglewood</i>	X					
<i>Lakewood</i>			X			
<i>Lawndale</i>	X					
<i>Los Angeles (City of)</i>	X	X	X	X	X	
<i>Los Angeles (County of)</i>	X	X	X	X	X	
<i>Los Angeles County Flood Control District</i>	X	X	X	X	X	
<i>Manhattan Beach</i>	X					
<i>Paramount</i>			X			
<i>Rancho Palos Verdes</i>			X			
<i>Redondo Beach</i>	X					
<i>Rolling Hills</i>			X			
<i>Rolling Hills Estates</i>			X			
<i>Signal Hill</i>			X	X		
<i>Torrance</i>	X	X				
Los Angeles River and San Gabriel River Metals TMDLs Responsible Parties²						see note 2 below

¹ The requirements of this Order to implement the obligations of this TMDL do not apply to a Permittee to the extent that it is determined that the Permittee has been released from that obligation pursuant to the Amended Consent Decree entered in *United States v. Montrose Chemical Corp.*, Case No. 90-3122 AAH (JRx).

² Permittees subject to the Los Angeles River Metals TMDL and the San Gabriel River Metals TMDL are required to submit a monitoring plan and a report of implementation.

ATTACHMENT L. TMDLs IN THE SANTA CLARA RIVER WATERSHED MANAGEMENT AREA (WMA)

A. Santa Clara River Nitrogen Compounds TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-1.
2. Permittees shall comply with the following water quality-based effluent limitations for discharges to the Santa Clara River Reach 5¹ as of the effective date of this Order:

Constituent	Effluent Limitations (mg/L)	
	1-hour Average	30-day Average
Total Ammonia as Nitrogen	5.2	1.75
Nitrate as Nitrogen plus Nitrite as Nitrogen	--	6.8

B. Upper Santa Clara River Chloride TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-1.
2. Permittees shall comply with the following water quality-based effluent limitation for discharges to the Santa Clara River Reaches 5 and 6 as of the effective date of this Order:

Constituent	Effluent Limitation Instantaneous Maximum (mg/L)
Chloride	100

C. Lake Elizabeth Trash TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-1.
2. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Lake Elizabeth no later than March 6, 2016 and every year thereafter.
3. Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged to Lake Elizabeth, per the schedule below:

Deadline	Effluent Limitation	
	Drainage Area covered by Full Capture Systems (%)	Annual Trash Discharge (gal/yr)
Baseline	0	529
March 6, 2012	20	423
March 6, 2013	40	317
March 6, 2014	60	212
March 6, 2015	80	106
March 6, 2016	100	0

4. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in C.2 and C.3 above per the provisions in Part VI.E.5.

¹ The Basin Plan Chapter 7-9 Santa Clara River Nitrogen Compounds TMDL uses the USEPA Santa Clara River reach designations. The USEPA's Santa Clara River Reach 7 corresponds to Santa Clara River Reach 5 in the Los Angeles Region's Basin Plan Chapter 2.

D. Santa Clara River Indicator Bacteria TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-1.
2. Permittees shall comply with the following final water quality-based effluent limitations for discharges to the Santa Clara River Reaches 5, 6 and 7 during dry weather no later than March 21, 2023 and during wet weather² no later than March 21, 2029:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
E. coli	235/100 mL	126/100 mL

3. Receiving Water Limitations

- a. Permittees shall comply with the following interim bacteria receiving water limitations³ for the Santa Clara River Reaches 5, 6, and 7:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)		Deadline
	Daily Sampling	Weekly Sampling	
Dry Weather	17	3	March 21, 2016
Wet Weather	6 ¹	9	March 21, 2016

- b. Permittees shall comply with the following final bacteria receiving water limitations⁴ for the Santa Clara River Reaches 5, 6, and 7:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)		Deadline
	Daily Sampling	Weekly Sampling	
Dry Weather	5	1	March 21, 2023
Wet Weather	16	3	March 21, 2029

² Wet weather is defined as days with 0.1 inch of rain or more and the three days following the rain event.

³ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the sub-drainage area to each reach.

⁴ Ibid.

- c. Permittees shall comply with the following geometric mean receiving water limitation for the Santa Clara River Reaches 5, 6, and 7 during dry weather no later than March 21, 2023 and during wet weather no later than March 21, 2029:

Constituent	Geometric Mean (MPN or cfu)
E. coli	126/100 mL

- d. Permittees may propose wet-weather load-based compliance at MS4 outfalls. The plan shall include an estimate of existing load and the allowable load from MS4 outfalls to attain the allowable number of exceedance days instream. The plan shall include a technically defensible quantitative linkage to the allowable number of exceedance days. The plan shall include quantitative estimates of the water quality benefits provided by the proposed implementation approach.

ATTACHMENT M. TMDLs IN THE SANTA MONICA BAY WATERSHED MANAGEMENT AREA

A. Santa Monica Bay Beaches Bacteria TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-2.
2. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Santa Monica Bay during dry weather as of the effective date of this Order and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

3. Section A.2 above shall not be applicable upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL (Attachment A of Resolution No. R12-007). Upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Santa Monica Bay during dry weather as of the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each individual monitoring location, calculated as defined in the revised Santa Monica Bay Beaches Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

4. Receiving Water Limitations

- a.** Permittees in each defined jurisdictional group shall comply with the interim single sample bacteria receiving water limitations for shoreline monitoring stations within their jurisdictional area during wet weather, per the schedule below:

Deadline	Cumulative percentage reduction from the total exceedance day reductions required for each jurisdictional group as identified in Table M-1
July 15, 2013	25%
July 15, 2018	50%

- b.** Section A.4.a above shall not be applicable upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL (Attachment A of Resolution No. R12-007). Upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL, Permittees in each defined jurisdictional group shall comply with the interim single sample bacteria receiving water limitations for shoreline monitoring stations within their jurisdictional area during wet weather, per the schedule below:

Deadline	Cumulative percentage reduction from the total wet weather exceedance day reductions required for each jurisdictional group as identified in Table M-2.
July 15, 2013	25%
July 15, 2018	50%

Table M-1: Interim Single Sample Bacteria Receiving Water Limitations by Jurisdictional Group

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Allowable Exceedance Days during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
					221	212	197
1	County of Los Angeles	Malibu City of Los Angeles (Topanga only) Calabasas (Topanga only)	Arroyo Sequit	SMB 1-1	221	212	197
			Carbon Canyon	SMB 1-13			
			Corral Canyon	SMB 1-11, SMB 1-12			
			Encinal Canyon	SMB 1-3			
			Escondido Canyon	SMB 1-8			
			Las Flores Canyon	SMB 1-14			
			Latigo Canyon	SMB 1-9			
			Los Alisos Canyon	SMB 1-2			
			Pena Canyon	SMB 1-16			
			Piedra Gorda Canyon	SMB 1-15			
			Ramirez Canyon	SMB 1-6, SMB 1-7			
			Solstice Canyon	SMB 1-10			
			Topanga Canyon	SMB 1-18			
			Trancas Canyon	SMB 1-4			
			Tuna Canyon	SMB 1-17			
			Zuma Canyon	SMB 1-5			

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Allowable Exceedance Days during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
2	City of Los Angeles	County of Los Angeles El Segundo (Dockweiler only) Santa Monica	Castlerock	SMB 2-1	342	324	294
			Dockweiler	SMB 2-10, SMB 2-11, SMB 2-12, SMB 2-13, SMB 2-14, SMB 2-15			
			Venice Beach	SMB 2-8, SMB 2-9			
			Pulga Canyon	SMB 2-4, SMB 2-5			
			Santa Monica Canyon	SMB 2-7			
3	Santa Monica	City of Los Angeles County of Los Angeles	Santa Ynez Canyon	SMB 2-2, SMB 2-3, SMB 2-6	257	237	203
			Santa Monica	SMB 3-1, SMB 3-2, SMB 3-3, SMB 3-4, SMB 3-5, SMB 3-6 SMB 3-7, SMB 3-8 [#] SMB 3-9			
4	Malibu	County of Los Angeles	Nicholas Canyon	SMB 4-1 [#]	14	14	14
5	Manhattan Beach	El Segundo Hermosa Beach Redondo Beach County of Los Angeles	Hermosa	SMB 5-1 [#] , SMB 5-2, SMB 5-3 [#] , SMB 5-4 [#] , SMB 5-5 [#]	29	29	29

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Allowable Exceedance Days during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
6	Redondo Beach	Hermosa Beach Manhattan Beach Torrance County of Los Angeles	Redondo	SMB 6-1, SMB 6-2, SMB 6-3, SMB 6-4, SMB 6-5, SMB 6-6#	58	57	56
7	Rancho Palos Verdes	City of Los Angeles Palos Verdes Estates Rolling Hills Rolling Hills Estates County of Los Angeles	Palos Verdes Peninsula	SMB 7-1# SMB 7-2# SMB 7-3# SMB 7-4# SMB 7-5# SMB 7-6# SMB 7-7, SMB 7-8# SMB 7-9#	36	36	36

For those beach monitoring locations subject to the anti-degradation implementation provision in the TMDL, there shall be no increase in exceedance days during the implementation period above that estimated for the beach monitoring location in the critical year as identified in Table M-3.

* The California Department of Transportation (Caltrans) is a responsible agency in each Jurisdiction Group, except for Jurisdiction 7, and is jointly responsible for complying with the allowable number of exceedance days. Caltrans is separately regulated under the Statewide Storm Water Permit for State of California Department of Transportation (NPDES No. CAS000003).

Table M-2: Interim Wet Weather Single Sample Bacteria Receiving Water Limitations by Jurisdictional Group

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Exceedance Days Beyond those Allowed during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
1	County of Los Angeles	Malibu City of Los Angeles (Topanga only) Catalabas (Topanga only)	Arroyo Sequit Carbon Canyon Corral Canyon Encinal Canyon Escondido Canyon Las Flores Canyon Latigo Canyon Los Alisos Canyon Pena Canyon Piedra Gorda Canyon Ramirez Canyon Solstice Canyon Topanga Canyon Trancas Canyon Tuna Canyon Zuma Canyon	SMB 1-1 SMB 1-13 SMB 1-11, SMB 1-12, SMB O-2# SMB 1-3# SMB 1-8 SMB 1-14 SMB 1-9 SMB 1-2# SMB 1-16# SMB 1-15 SMB 1-6, SMB 1-7, SMB O-1# SMB 1-10 SMB 1-18 SMB 1-4 SMB 1-17# SMB 1-5	393	327	218

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Exceedance Days Beyond those Allowed during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
2	City of Los Angeles	County of Los Angeles El Segundo (Dockweiler only) Santa Monica	Castlerock	SMB 2-1	382	318	212
			Dockweiler	SMB 2-10, SMB 2-11, SMB 2-12, SMB 2-13, SMB 2-14, SMB 2-15			
			Venice Beach	SMB 2-8, SMB 2-9			
			Pulga Canyon	SMB 2-4, SMB 2-5			
			Santa Monica Canyon	SMB 2-7			
			Santa Ynez Canyon	SMB 2-2, SMB 2-3, SMB 2-6			
			Santa Monica	SMB 3-1, SMB 3-2, SMB 3-3, SMB 3-4, SMB 3-5, SMB 3-6, SMB 3-7, SMB 3-8, SMB 3-9			
3	Santa Monica	City of Los Angeles County of Los Angeles	Santa Monica	SMB 4-1*	219	183	122
			Nicholas Canyon	SMB 4-1*			
4	Malibu	County of Los Angeles	Nicholas Canyon	SMB 4-1*	15	12	8

Jurisdiction Group	Primary Jurisdiction	Additional Responsible Jurisdictions & Agencies	Subwatershed(s)	Monitoring Site(s)	Interim Single Sample Bacteria Receiving Water Limitations as Maximum Exceedance Days Beyond those Allowed during Wet Weather		
					10% Reduction Milestone	25% Reduction Milestone	50% Reduction Milestone
5	Manhattan Beach	El Segundo Hermosa Beach Redondo Beach County of Los Angeles	Hermosa	SMB 5-1* SMB 5-2 SMB 5-3* SMB 5-4* SMB 5-5*	63	52	35
6	Redondo Beach	Hermosa Beach Manhattan Beach Torrance County of Los Angeles	Redondo	SMB 6-1, SMB 6-2* SMB 6-3, SMB 6-4, SMB 6-5* SMB 6-6*	62	51	34
7	Rancho Palos Verdes	City of Los Angeles Palos Verdes Estates Rolling Hills Rolling Hills Estates County of Los Angeles	Palos Verdes Peninsula	SMB 7-1* SMB 7-2* SMB 7-3* SMB 7-4* SMB 7-5* SMB 7-6* SMB 7-7, SMB 7-8* SMB 7-9*	88	73	49

For those beach monitoring locations subject to the anti-degradation implementation provision in the TMDL, there shall be no increase in exceedance days during the implementation period above that estimated for the beach monitoring location in the critical year as identified in Table M-4.

* The California Department of Transportation (Caltrans) is a responsible agency in each Jurisdiction Group, except for Jurisdiction 7, and is jointly responsible for complying with the allowable number of exceedance days. Caltrans is separately regulated under the Statewide Storm Water Permit for State of California Department of Transportation (NPDES No. CAS0000003).

- c. Permittees shall comply with the following grouped¹ final single sample bacteria receiving water limitations for all shoreline monitoring stations along Santa Monica Bay beaches, except for those monitoring stations subject to the antidegradation implementation provision as established in the TMDL and identified in subpart e. below, during dry weather as of the effective date of this Order and during wet weather no later than July 15, 2021:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	3	1
Wet Weather ² (Year-round)	17	3

- d. Section A.4.c above shall not be applicable upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL (Attachment A of Resolution No. R12-007). Upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL, Permittees shall comply with the following grouped³ final single sample bacteria receiving water limitations for all shoreline monitoring stations along Santa Monica Bay beaches, except for those monitoring stations subject to the antidegradation implementation provision as established in the TMDL and identified in subpart f. below, during dry weather as of the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL and during wet weather no later than July 15, 2021:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	9	2
Wet Weather ⁴ (Year-round)	17	3

¹ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the sub-drainage area to each beach monitoring location.

² Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

³ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the sub-drainage area to each beach monitoring location.

⁴ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

e. Permittees shall comply with the following grouped⁵ final single sample bacteria receiving water limitations for shoreline monitoring stations along Santa Monica Bay beaches subject to the antidegradation implementation provision in the TMDL as of the effective date of this Order:

Table M-3: Allowable Number of Days that may Exceed any Single Sample Bacteria Receiving Water Limitations

Station ID	Beach Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)					
		Summer Dry Weather (April 1 – October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)	
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
SMB 1-4	Trancas Creek at Broad Beach	0	0	0	0	17	3
SMB 1-5	Zuma Creek at Zuma Beach	0	0	0	0	17	3
SMB 2-13	Imperial Highway storm drain	0	0	2	1	17	3
SMB 3-8	Windward Ave. storm drain at Venice Pavilion	0	0	2	1	13	2
SMB 4-1	San Nicholas Canyon Creek at Nicholas Beach	0	0	0	0	14	2
SMB 5-1	Manhattan Beach at 40th Street	0	0	1	1	4	1
SMB 5-3	Manhattan Beach Pier, southern drain	0	0	1	1	5	1
SMB 5-4	Hermosa City Beach at 26th St.	0	0	3	1	12	2
SMB 5-5	Hermosa Beach Pier	0	0	2	1	8	2
SMB 6-2	Redondo Municipal Pier- 100 yards south	0	0	3	1	14	2
SMB 6-5	Avenue I storm drain at Redondo Beach	0	0	3	1	6	1
SMB 6-6	Malaga Cove, Palos Verdes Estates	0	0	1	1	3	1

⁵ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the sub-drainage area to each beach monitoring location.

Station ID	Beach Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)							
		Summer Dry Weather (April 1 – October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)			
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
SMB 7-1	Malaga Cove, Palos Verdes Estates	0	0	1	1	14	2		
SMB 7-2	Bluff Cove, Palos Verdes Estates	0	0	1	1	0	0		
SMB 7-3	Long Point, Rancho Palos Verdes	0	0	1	1	5	1		
SMB 7-4	Abalone Cove, Rancho Palos Verdes	0	0	0	0	1	1		
SMB 7-5	Portuguese Bend Cove, Rancho Palos Verdes	0	0	1	1	2	1		
SMB 7-6	White's Point, Royal Palms County Beach	0	0	1	1	6	1		
SMB 7-8	Point Fermin/Wilder Annex, San Pedro	0	0	1	1	2	1		
SMB 7-9	Outer Cabrillo Beach	0	0	1	1	3	1		

f. Section A.4.e above shall not be applicable upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL (Attachment A of Resolution No. R12-007). Upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL, Permittees shall comply with the following grouped⁶ final single sample bacteria receiving water limitations for shoreline monitoring stations along Santa Monica Bay beaches subject to the antidegradation implementation provision in the TMDL as of the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL:

Table M-4: Allowable Number of Days that may Exceed any Single Sample Bacteria Receiving Water Limitations

Station ID	Beach Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)					
		Summer Dry Weather (April 1 – October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)	
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
SMB 1-2	El Pescador State Beach	0	0	1	1	5	1
SMB 1-3	El Matador State Beach	0	0	1	1	3	1
SMB O-1	Paradise Cove	0	0	9	2	15	3
SMB 1-10	Solstice Creek	0	0	5	1	17	3
SMB O-2	Puerto Canyon Storm Drain	0	0	0	0	6	1
SMB 1-14	Las Flores Creek	0	0	6	1	17	3
SMB 1-16	Pena Creek	0	0	3	1	14	2
SMB 1-17	Tuna Canyon Creek	0	0	7	1	12	2
SMB 2-11	North Westchester Storm Drain	0	0	0	0	17	3
SMB 2-13	Imperial Highway Storm Drain	0	0	4	1	17	3
SMB 3-6	Rose Avenue Storm Drain at Venice Beach	0	0	6	1	17	3
SMB 4-1	San Nicholas Canyon Creek	0	0	4	1	14	2
SMB 5-1	Manhattan State Beach at 40th Street	0	0	1	1	4	1

⁶ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the sub-drainage area to each beach monitoring location.

Station ID	Beach Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)							
		Summer Dry Weather (April 1 – October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)			
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
SMB 5-3	Manhattan Beach Pier, southern drain	0	0	3	1	6	1	1	1
SMB 5-4	Hermosa Beach at 26th Street	0	0	3	1	12	2	2	2
SMB 5-5	Hermosa Beach Pier	0	0	2	1	8	2	2	2
SMB 6-2	Redondo Municipal Pier- 100 yards south at Redondo Beach	0	0	3	1	14	2	2	2
SMB 6-3	Sapphire Street Storm Drain at Redondo Beach	0	0	5	1	17	3	3	3
SMB 6-5	Avenue I Storm Drain at Redondo Beach	0	0	4	1	11	2	2	2
SMB 6-6	Malaga Cove, Palos Verdes Estates	0	0	1	1	3	1	1	1
SMB 7-1	Malaga Cove	0	0	1	1	14	2	2	2
SMB 7-2	Bluff Cove	0	0	1	1	0	0	0	0
SMB 7-3	Long Point	0	0	1	1	5	1	1	1
SMB 7-4	Abalone Cove	0	0	0	0	1	1	1	1
SMB 7-5	Portuguese Bend Cove	0	0	1	1	2	1	1	1
SMB 7-6	Royal Palms County Beach	0	0	1	1	6	1	1	1
SMB 7-8	Wilder Annex	0	0	1	1	2	1	1	1
SMB 7-9	Outer Cabrillo Beach	0	0	1	1	3	1	1	1

- g. Permittees shall comply with the following geometric mean receiving water limitations for all shoreline monitoring stations along Santa Monica Bay beaches during dry weather as of the effective date of this Order and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

- h. Section A.4.g above shall not be applicable upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL (Attachment A of Resolution No. R12-007). Upon the effective date of the revised Santa Monica Bay Beaches Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitations for all shoreline monitoring stations along Santa Monica Bay beaches, calculated as defined in the revised Santa Monica Bay Beaches Bacteria TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

B. Santa Monica Bay Nearshore and Offshore Debris TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-2.
2. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged into water bodies within the Santa Monica Bay WMA and then into Santa Monica Bay or on the shoreline of Santa Monica Bay no later than March 20, 2020⁷, and every year thereafter.
3. Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged into Santa Monica Bay or on the shoreline of Santa Monica Bay, per the schedule below:

⁷ If a Permittee by November 4, 2013, adopts local ordinances to ban plastic bags, smoking in public places and single use expanded polystyrene food packaging then the final compliance date will be extended until March 20, 2023.

Permittees	Baseline ⁸	Mar 20, 2016	Mar 20, 2017	Mar 20, 2018	Mar 20, 2019	Mar 20, 2020 ⁹
		(80%)	(60%)	(40%)	(20%)	(0%)
Annual Trash Discharge (gals/yr)						
Agoura Hills ¹⁰	1,044	835	626	418	209	0
Calabasas ¹⁰	1,656	1,325	994	663	331	0
Culver City	52	42	31	21	10	0
El Segundo	2,732	2,186	1,639	1,093	546	0
Hermosa Beach	1,117	894	670	447	223	0
Los Angeles, City of	25,112	20,090	15,067	10,045	5,022	0
Los Angeles, County of	5,138	4,110	3,083	2,055	1,028	0
Malibu	5,809	4,648	3,486	2,324	1,162	0
Manhattan Beach	2,501	2,001	1,501	1,001	500	0
Palos Verdes Estates	3,346	2,677	2,007	1,338	669	0
Rancho Palos Verdes	7,254	5,803	4,353	2,902	1,451	0
Redondo Beach	3,197	2,558	1,918	1,279	639	0
Rolling Hills	515	412	309	206	103	0
Rolling Hills Estates	365	292	219	146	73	0
Santa Monica	5,672	4,537	3,403	2,269	1,134	0
Torrance	2,484	1,987	1,490	993	497	0
Westlake Village ¹⁰	3,131	2,505	1,879	1,252	626	0

- Permittees shall comply with the interim and final water quality-based effluent limitations for trash in B.2 and B.3 above per the provisions in Part VI.E.5.

C. Santa Monica Bay TMDL for DDTs and PCBs (USEPA established)

- Permittees subject to the provisions below are identified in Attachment K, Table K-2.
- Permittees shall comply with the following WLAs, expressed as an annual loading of pollutants from the sediment discharged to Santa Monica Bay, per the provisions in Part VI.E.3:

Constituent	Annual Mass-Based WLA (g/yr)
DDT	27.08
PCBs	140.25

⁸ If a Permittee elects not to use the default baseline, then the Permittee shall include a plan to establish a site specific trash baseline in their Trash Monitoring and Reporting Plan.

⁹ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2019-2020 storm year and every year thereafter.

¹⁰ Permittees shall be deemed in compliance with the water quality-based effluent limitation for trash established to implement the Santa Monica Bay Nearshore and Offshore Debris TMDL, if the Permittee is in compliance with the water quality-based effluent limitations established to implement the Malibu Creek Watershed Trash TMDL.

3. Compliance shall be determined based on a three-year averaging period.

D. TMDLs in the Malibu Creek Subwatershed

1. Malibu Creek and Lagoon Bacteria TMDL

a. Permittees subject to the provisions below are identified in Attachment K, Table K-2.

b. Water Quality-Based Effluent Limitations

i. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Malibu Lagoon during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
<i>Enterococcus</i>	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

ii. Section D.1.b.i above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Malibu Lagoon during dry weather as of the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Malibu Creek and Lagoon Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
<i>Enterococcus</i>	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

iii. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Malibu Creek and its tributaries during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	235/100 mL	126/100 mL

- iv. Section D.1.b.iii above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Malibu Creek and its tributaries during dry weather as of the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Malibu Creek and Lagoon Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	235/100 mL	126/100 mL

c. Receiving Water¹¹ Limitations

- i. Permittees shall comply with the following grouped¹¹ final single sample bacteria receiving water limitations for Malibu Creek, its tributaries, and Malibu Lagoon during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	3	1
Wet Weather ¹² (Year-round)	17	3

- ii. Section D.1.c.i above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following grouped¹³ final single sample bacteria receiving water limitations for each monitoring location within Malibu Creek and its tributaries during

¹¹ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area to the receiving water.

¹² Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

¹³ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area to the receiving water.

dry weather as of the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL and during wet weather no later than July 15, 2021:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Dry-Weather (Year-round)	5	1
Wet Weather ¹⁴ (Year-round)	15	2

- iii. Section D.1.c.i above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following grouped¹⁵ final single sample bacteria receiving water limitations for each monitoring location within Malibu Lagoon during dry weather as of the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL and during wet weather no later than July 15, 2021:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	9	2
Wet Weather ¹⁶ (Year-round)	17	3

- iv. Permittees shall comply with the following geometric mean receiving water limitations for discharges to Malibu Lagoon during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

- v. Section D.1.c.iv above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of

¹⁴ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

¹⁵ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area to the receiving water.

¹⁶ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitations for discharges to Malibu Lagoon, calculated as defined in the revised Malibu Creek and Lagoon Bacteria TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

- vi. Permittees shall comply with the following geometric mean receiving water limitation for discharges to Malibu Creek and its tributaries during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
<i>E. coli</i>	126/100 mL

- vii. Section D.1.c.vi above shall not be applicable upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL (Attachment A of Resolution No. R12-009). Upon the effective date of the revised Malibu Creek and Lagoon Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitations for discharges to Malibu Creek and its tributaries, calculated as defined in the revised Malibu Creek and Lagoon Bacteria TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
<i>E. coli</i>	126/100 mL

2. Malibu Creek Watershed Trash TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-2.
- b. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Malibu Creek from Malibu Lagoon to Malibu Lake, Malibu Lagoon, Malibu Lake, Medea Creek, Lindero Creek, Lake Lindero, and Las Virgenes Creek in the Malibu Creek Watershed no later than July 7, 2017 and every year thereafter.
- c. Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged to the Malibu Creek, per the schedule below:

Permittees	Baseline	July 7, 2013 (80%)	July 7, 2014 (60%)	July 7, 2015 (40%)	July 7, 2016 (20%)	July 7, 2017 (0%)
	Annual Trash Discharge (gals/yr)					
Agoura Hills	1810	1448	1086	724	362	0
Calabasas	673	539	404	269	135	0
Hidden Hills	71	57	43	28	14	0
Los Angeles County	1117	894	670	447	223	0
Malibu	226	181	136	91	45	0
Westlake Village	143	114	86	57	29	0

- d. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in D.2.b and D.2.c above per the provisions in Part VI.E.5.
- 3. Malibu Creek Watershed Nutrients TMDL (*USEPA established*)
 - a. Permittees subject to the provisions below are identified in Attachment K, Table K-2.
 - b. Permittees shall comply with the following grouped¹⁷ WLAs per the provisions in Part VI.E.3 for discharges to Westlake Lake, Lake Lindero, Lindero Creek, Las Virgenes Creek, Medea Creek, Malibou Lake, Malibu Creek and Malibu Lagoon and its tributaries. Tributaries to Malibu Creek and Lagoon, include the following upstream water bodies; Triunfo Creek, Palo Comado Creek, Cheesebro Creek, Strokes Creek and Cold Creek.

Time Period	WLA	
	Nitrate as Nitrogen plus Nitrite as Nitrogen	Total Phosphorus
	Daily Maximum	Daily Maximum
Summer (April 15 to November 15) ¹⁸	8 lbs/day	0.8 lbs/day
Winter (November 16 to April 14)	8 mg/L	n/a

E. TMDLs in the Ballona Creek Subwatershed

- 1. Ballona Creek Trash TMDL
 - a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.

¹⁷ USEPA was unable to specifically distinguish the amounts of pollutant loads from allocation categories associated with areas regulated by the storm water permits. Therefore, allocations for storm water permits are grouped.

¹⁸ The mass-based summer WLAs are calculated as the sum of the allocations for "runoff from developed areas" and "dry weather urban runoff."

- b. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Ballona Creek no later than September 30, 2015 and every year thereafter.
- c. Permittees shall comply with the interim and final water quality-based effluent limitations for trash discharged to Ballona Creek, per the schedule below:

**Ballona Creek Subwatershed Trash Effluent Limitations per Storm Year¹⁹
(pounds of drip-dry trash)**

Permittees	Baseline	Sept 30, 2012 (20%)	Sept 30, 2013 (10%)	Sept 30, 2014 (3.3%)	Sept 30, 2015 ²⁰ (0%)
		Annual Trash Discharge (pounds of trash)			
Beverly Hills	70,712	14,142	7,071	2,333	0
Culver City	37,271	7,454	3,727	1,230	0
Inglewood	22,324	4,465	2,232	737	0
Los Angeles, City of	942,720	188,544	94,272	31,110	0
Los Angeles, County of	52,693	10,539	5,269	1,739	0
Santa Monica	2,579	516	258	85	0
West Hollywood	13,411	2,682	1,341	443	0

**Ballona Creek Subwatershed Trash Effluent Limitations per Storm Year¹⁹
(gallons of uncompressed trash)**

Permittees	Baseline	Sept 30, 2012 (20%)	Sept 30, 2013 (10%)	Sept 30, 2014 (3.3%)	Sept 30, 2015 ²⁰ (0%)
		Annual Trash Discharge (gallons of uncompressed trash)			
Beverly Hills	45,336	9,067	4,534	1,496	0
Culver City	25,081	5,016	2,508	828	0
Inglewood	14,717	2,943	1,472	486	0
Los Angeles, City of	602,068	120,414	60,207	19,868	0
Los Angeles, County of	32,679	6,536	3,268	1,078	0
Santa Monica	1,749	350	175	58	0
West Hollywood	9,360	1,872	936	309	0

- d. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in E.1.b and E.1.c above per the provisions in Part VI.E.5.

¹⁹ For purposes of the provisions in this subpart, a storm year is defined as October 1 to September 30.

²⁰ Permittees shall achieve their final water quality-based effluent limitation of zero trash discharged for the 2014-2015 storm year and every year thereafter.

2. Ballona Creek Estuary Toxic Pollutants TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.
- b. Permittees shall comply with the following final water quality-based effluent limitations no later than January 11, 2021, expressed as an annual loading of sediment-bound pollutants deposited to Ballona Creek Estuary:

Constituent	Effluent Limitations	
	Annual	Units
Cadmium	8.0	kg/yr
Copper	227.3	kg/yr
Lead	312.3	kg/yr
Silver	6.69	kg/yr
Zinc	1003	kg/yr
Chlordane	3.34	g/yr
DDTs	10.56	g/yr
Total PCBs	152	g/yr
Total PAHs	26,900	g/yr

- c. Permittees shall comply with interim and final water quality-based effluent limitations for sediment-bound pollutant loads deposited to Ballona Creek Estuary, per the schedule below:

Deadline	Total Drainage Area Served by the MS4 required to meet the water quality-based effluent limitations (%)
January 11, 2013	25
January 11, 2015	50
January 11, 2017	75
January 11, 2021	100

- d. Permittees shall be deemed in compliance with the water quality-based effluent limitations in Part E.2.b by demonstrating any one of the following:
 - i. Final water quality-based effluent limitations for sediment-bound pollutants deposited to Ballona Creek Estuary are met; or
 - ii. The sediment numeric targets as defined in the TMDL are met in bed sediments; or
 - iii. Concentrations of sediments discharged meet the numeric targets for sediment as defined in the TMDL.

3. Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL

a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.

b. Water Quality-Based Effluent Limitations

i. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Ballona Creek Estuary during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
<i>Enterococcus</i>	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

ii. Section E.3.b.i above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Ballona Creek Estuary during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
<i>Enterococcus</i>	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

iii. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Sepulveda Channel during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	235/100 mL	126/100 mL

iv. Section E.3.b.iii above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria

TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Sepulveda Channel during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	235/100 mL	126/100 mL

- v. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Ballona Creek Reach 2 during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	576/100 mL	126/100 mL

- vi. Section E.3.b.v above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Ballona Creek Reach 2 during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	576/100 mL	126/100 mL

- vii. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Ballona Creek Reach 1 during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
Fecal coliform	4000/100 mL	2000/100 mL

viii. Section E.3.b.vii above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Ballona Creek Reach 1 during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
Fecal coliform	4000/100 mL	2000/100 mL

c. Receiving Water Limitations

i. Permittees shall comply with the following grouped²¹ single sample bacteria receiving water limitations for Ballona Creek Estuary; Ballona Creek Reach 2 at the confluence with Ballona Creek Estuary; Centinela Creek at the confluence with Ballona Creek Estuary; Ballona Creek Reach 2; Ballona Creek Reach 1 at the confluence with Reach 2; Benedict Canyon Channel at the confluence with Ballona Creek Reach 2; and Sepulveda Channel:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective*		Deadline
	Daily Sampling	Weekly Sampling	
Summer Dry-Weather (April 1 to October 31)	0	0	April 27, 2013
Winter Dry-Weather (November 1 to March 31)	3	1	April 27, 2013
Wet Weather ²² (Year-round)	17**	3	July 15, 2021

* Exceedance days for Ballona Creek Estuary and at the confluence with Ballona Creek Estuary based on REC-1 marine water single sample bacteria water quality objectives (WQO). Exceedance days for Ballona Creek Reach 2 and at the confluence with Ballona Creek Reach 2 based on LREC-1 freshwater single sample bacteria WQO. Exceedance days for Sepulveda Channel based on REC-1 freshwater single sample bacteria WQO.

** In Ballona Creek Reach 2 and at the confluence with Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

ii. Section E.3.c.i above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria

²¹ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

²² Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

TMDL, Permittees shall comply with the following grouped²³ single sample bacteria receiving water limitations for Ballona Creek Estuary; Ballona Creek Reach 2 at the confluence with Ballona Creek Estuary; and Centinela Creek at the confluence with Ballona Creek Estuary:

Time Period	Annual Allowable Exceedance Days of the REC-1 Marine Water Single Sample Bacteria Water Quality Objectives		Deadline
	Daily Sampling	Weekly Sampling	
Summer Dry-Weather (April 1 to October 31)	0	0	April 27, 2013
Winter Dry-Weather (November 1 to March 31)	9	2	April 27, 2013
Wet Weather ²⁴ (Year-round)	17	3	July 15, 2021

iii. Section E.3.c.i above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following grouped²⁵ single sample bacteria receiving water limitations for Sepulveda Channel:

Time Period	Annual Allowable Exceedance Days of the REC-1 Fresh Water Single Sample Bacteria Water Quality Objectives		Deadline
	Daily Sampling	Weekly Sampling	
Dry-Weather	5	1	April 27, 2013
Wet Weather ²⁶	15	2	July 15, 2021

iv. Section E.3.c.i above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following grouped²⁷ single sample bacteria receiving water limitations for Ballona Creek Reach 2; Ballona Creek Reach 1 at the confluence with Reach 2; and Benedict Canyon Channel at the confluence with Ballona Creek Reach 2:

²³ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

²⁴ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

²⁵ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

²⁶ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

²⁷ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

Time Period	Annual Allowable Exceedance Days of the LREC-1 Fresh Water Single Sample Bacteria Water Quality Objectives		Deadline
	Daily Sampling	Weekly Sampling	
Dry-Weather	5	1	April 27, 2013
Wet Weather ²⁸	15*	2	July 15, 2021

* In Ballona Creek Reach 2 and at the confluence with Reach 2, the greater of the allowable exceedance days under the reference system approach or high flow suspension shall apply.

- v. Permittees shall not exceed the single sample bacteria objective of 4000/100 ml in more than 10% of the samples collected from Ballona Creek Reach 1 during any 30-day period. Permittees shall achieve compliance with this receiving water limitation during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021.
- vi. Permittees shall comply with the following geometric mean receiving water limitations for discharges to Ballona Creek Estuary; Ballona Creek Reach 2 at the confluence with Ballona Creek Estuary; and Centinela Creek at the confluence with Ballona Creek Estuary during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
<i>Enterococcus</i>	35/100 mL

- vii. Section E.3.c.vi above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitations for discharges to Ballona Creek Estuary; Ballona Creek Reach 2 at the confluence with Ballona Creek Estuary; and Centinela Creek at the confluence with Ballona Creek Estuary, calculated as defined in the revised TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
<i>Enterococcus</i>	35/100 mL

- viii. Permittees shall comply with the following geometric mean receiving water limitation for discharges to Ballona Creek Reach 2; Ballona Creek Reach 1 at

²⁸ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

the confluence with Ballona Creek Reach 2; Benedict Canyon Channel at the confluence with Ballona Creek Reach 2; and Sepulveda Channel during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
<i>E. coli</i>	126/100 mL

- ix. Section E.3.c.viii above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitation for discharges to Ballona Creek Reach 2; Ballona Creek Reach 1 at the confluence with Ballona Creek Reach 2; Benedict Canyon Channel at the confluence with Ballona Creek Reach 2; and Sepulveda Channel, calculated as defined in the revised TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
<i>E. coli</i>	126/100 mL

- x. Permittees shall comply with the following geometric mean receiving water limitation for discharges to Ballona Creek Reach 1 during dry weather no later than April 27, 2013, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Fecal coliform	2000/100 mL

- xi. Section E.3.c.x above shall not be applicable upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL (Attachment A of Resolution No. R12-008). Upon the effective date of the revised Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitation for discharges to Ballona Creek Reach 1, calculated as defined in the revised TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Fecal coliform	2000/100 mL

4. Ballona Creek Metals TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.
- b. Final Water Quality-Based Effluent Limitations

- i. Permittees shall comply with the following dry weather²⁹ water quality-based effluent limitations no later than January 11, 2016, expressed as total recoverable metals discharged to Ballona Creek and Sepulveda Channel:

Constituent	Effluent Limitation Daily Maximum (g/day)	
	Ballona Creek	Sepulveda Channel
Copper	807.7	365.6
Lead	432.6	196.1
Selenium	169	76
Zinc	10,273.1	4,646.4

- ii. In lieu of calculating loads, Permittees may demonstrate compliance with the following concentration-based water quality-based effluent limitations during dry weather³⁰ no later than January 11, 2016, expressed as total recoverable metals discharged to Ballona Creek and Sepulveda Channel:

Constituent	Effluent Limitation Daily Maximum (µg/L)
Copper	24
Lead	13
Selenium	5
Zinc	304

- iii. Permittees shall comply with the following wet weather³¹ water quality-based effluent limitations no later than January 11, 2021, expressed as total recoverable metals discharged to Ballona Creek and its tributaries:

Constituent	Effluent Limitation Daily Maximum (g/day)
Copper	$1.70 \times 10^{-5} \times \text{daily storm volume (L)}$
Lead	$5.58 \times 10^{-5} \times \text{daily storm volume (L)}$
Selenium	$4.73 \times 10^{-6} \times \text{daily storm volume (L)}$
Zinc	$1.13 \times 10^{-4} \times \text{daily storm volume (L)}$

²⁹ Dry weather is defined as any day when the maximum daily flow in Ballona Creek is less than 40 cubic feet per second (cfs) measured at Sawtelle Avenue.

³⁰ Ibid.

³¹ Wet weather is defined as any day when the maximum daily flow in Ballona Creek is equal to or greater than 40 cfs measured at Sawtelle Avenue.

- c. Permittees shall comply with interim and final water quality-based effluent limitations for metals discharged to Ballona Creek and its tributaries, per the schedule below:

Deadline	Total Drainage Area Served by the MS4 required to meet the water quality-based effluent limitations (%)	
	Dry weather	Wet weather
January 11, 2012	50	25
January 11, 2014	75	--
January 11, 2016	100	50
January 11, 2021	100	100

5. Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation (*USEPA established*)
- a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.
- b. Permittees shall comply with the following grouped³² WLA per the provisions in Part VI.E.3 for discharges of sediment into Ballona Creek Wetlands:

Constituent	Annual WLA ³³ (m ³ /yr)
Total Sediment (suspended sediment plus sediment bed load)	44,615

F. TMDLs in Marina del Rey Subwatershed

1. Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL
- a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.
- b. Permittees shall comply with the following final water quality-based effluent limitations for discharges to Marina del Rey Harbor Beach and Back Basins D, E, and F during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

³² The WLA is group-based and shared among all MS4 Permittees located within the drainage area.

³³ The WLA is applied as a 3-year average.

- c. Section F.1.b above shall not be applicable upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (Attachment B of Resolution No. R12-007). Upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, Permittees shall comply with the following daily maximum final water quality-based effluent limitations for discharges to Marina del Rey Harbor Beach and Back Basins D, E, and F during dry weather as of the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL and during wet weather no later than July 15, 2021. Permittees shall comply with the following geometric mean final water quality-based effluent limitations for each monitoring location, calculated as defined in the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, no later than July 15, 2021.

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

d. Receiving Water Limitations

- i. Permittees shall comply with the following grouped³⁴ final single sample bacteria receiving water limitations for all monitoring stations at Marina Beach and Basins D, E, and F, except for those monitoring stations subject to the antidegradation implementation provision in the TMDL and identified in subpart iii. below, during dry weather as of the effective date of this Order and during wet weather no later than July 15, 2021.

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	3	1
Wet Weather ³⁵ (Year-round)	17	3

- ii. Section F.1.d.i above shall not be applicable upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (Attachment B of Resolution No. R12-007). Upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria

³⁴ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

³⁵ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

TMDL, Permittees shall comply with the following grouped³⁶ final single sample bacteria receiving water limitations for all monitoring stations at Marina Beach and Basins D, E, and F, except for those monitoring stations subject to the antidegradation implementation provision in the TMDL and identified in subpart iv. below, during dry weather as of the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL and during wet weather no later than July 15, 2021.

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	9	2
Wet Weather ³⁷ (Year-round)	17	3

iii. Permittees shall comply with the following grouped³⁸ final single sample bacteria receiving water limitations for monitoring stations in Marina del Rey subject to the antidegradation implementation provision in the TMDL as of the effective date of this Order:

		Annual Allowable Exceedance Days of the Single Sample Objective (days)					
Station ID	Monitoring Location	Summer Dry-Weather (April 1 to October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)	
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
MdRH-9	Basin F, center of basin	0	0	3	1	8	1

iv. Section F.1.d.iii above shall not be applicable upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (Attachment B of Resolution No. R12-007). Upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, Permittees shall comply with the following grouped³⁹ final single sample bacteria receiving water limitations for monitoring stations in Marina del Rey subject to the antidegradation implementation provision in the TMDL as of the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL:

³⁶ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

³⁷ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

³⁸ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

³⁹ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

		Annual Allowable Exceedance Days of the Single Sample Objective (days)					
Station ID	Monitoring Location	Summer Dry-Weather (April 1 to October 31)		Winter Dry Weather (November 1 – March 31)		Wet Weather (Year-round)	
		Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling	Daily Sampling	Weekly Sampling
MdRH-9	Basin F, center of basin	0	0	9	2	8	1

- v. Permittees shall comply with the following geometric mean receiving water limitations for monitoring stations at Marina Beach and Basins D, E, and F during dry weather as of the effective date of this Order, and during wet weather no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

- vi. Section F.1.d.v above shall not be applicable upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (Attachment B of Resolution No. R12-007). Upon the effective date of the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, Permittees shall comply with the following geometric mean receiving water limitations for monitoring stations at Marina Beach and Basins D, E, and F, calculated as defined in the revised Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL, no later than July 15, 2021:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

2. Marina del Rey Harbor Toxic Pollutants TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-3.
- b. Permittees shall comply with the following final water quality-based effluent limitations no later than March 22, 2016⁴⁰, expressed as an annual loading of pollutants associated with total suspended solids (TSS) discharged to Marina del Rey Harbor Back Basins D, E, and F:

⁴⁰ If an Integrated Water Resources Approach is approved by the Regional Water Board and implemented then the Permittees shall comply with the final water quality-based effluent limitations no later than March 22, 2021.

Constituent	Effluent Limitations	
	Annual	Units
Copper	2.01	kg/yr
Lead	2.75	kg/yr
Zinc	8.85	kg/yr
Chlordane	0.0295	g/yr
Total PCBs	1.34	g/yr

- c. Permittees shall comply with interim and final water quality-based effluent limitations for pollutant loads associated with TSS discharged to Marina del Rey Harbor Back Basins D, E, and F, per the schedule below:

Deadline	Total Drainage Area Served by the MS4 required to meet the effluent limitations (%)
March 22, 2014	50
March 22, 2016	100

- d. If an approved Integrated Water Resources Approach is implemented, Permittees shall comply with interim and final water quality-based effluent limitations for pollutant loads associated with TSS discharged to Marina del Rey Harbor Back Basins D, E, and F, per the schedule below:

Deadline	Total Drainage Area Served by the MS4 required to meet the effluent limitations (%)
March 22, 2013	25
March 22, 2015	50
March 22, 2017	75
March 22, 2021	100

- e. Permittees shall be deemed in compliance with the water quality-based effluent limitations in Part F.2.b by demonstrating any one of the following:
- i. Final water quality-based effluent limitations for pollutants associated with TSS discharged to Marina del Rey Harbor Back Basins D, E, and F are met; or
 - ii. The sediment numeric targets as defined in the TMDL are met in bed sediments; or
 - iii. Pollutant concentrations associated with TSS discharged meet the numeric targets for sediment as defined in the TMDL.

ATTACHMENT N. TMDLs IN DOMINGUEZ CHANNEL AND GREATER HARBOR WATERS WATERSHED MANAGEMENT AREA

A. Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel)

1. Permittees subject to the provisions below are identified in Attachment K, Table K-4.
2. Permittees shall comply with the following final water quality-based effluent limitations for discharges to the Los Angeles Harbor Main Ship Channel, Los Angeles and Long Beach Inner Harbor, and Inner Cabrillo Beach as of the effective date of this Order:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
<i>Enterococcus</i>	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

3. Receiving Water Limitations

- a. Permittees shall comply with the following final single sample bacteria receiving water limitations for the Los Angeles Harbor Main Ship Channel and Inner Cabrillo Beach as of the effective date of this Order:

Time Period	Receiving Water	Compliance Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
			Daily sampling	Weekly sampling
Summer Dry-Weather (April 1 to October 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	0	0
Winter Dry-Weather (November 1 to March 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	3	1
Wet Weather ¹ (Year-round)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	15	3

- b. Section A.3.a above shall not be applicable upon the effective date of the revised Los Angeles Harbor Bacteria TMDL (Attachment C of Resolution No. R12-007). Upon the effective date of the revised Los Angeles Harbor Bacteria TMDL, Permittees shall comply with the following final single sample bacteria receiving water limitations for the Los Angeles Harbor Main Ship Channel and Inner Cabrillo Beach as of the effective date of the revised Los Angeles Harbor Bacteria TMDL:

¹ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

Time Period	Receiving Water	Compliance Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
			Daily sampling	Weekly sampling
Summer Dry-Weather (April 1 to October 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	0	0
Winter Dry-Weather (November 1 to March 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	8	1
Wet Weather ² (Year-round)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	15	3

- c. Permittees shall comply with the following geometric mean receiving water limitations for the Los Angeles Harbor Main Ship Channel, Los Angeles and Long Beach Inner Harbor, and Inner Cabrillo Beach as of the effective date of this Order:

Constituent	Geometric Mean
Total coliform	1,000 MPN/100 mL
Fecal coliform	200 MPN/100 mL
<i>Enterococcus</i>	35 MPN/100 mL

B. Machado Lake Trash TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-4.
2. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Machado Lake no later than March 6, 2016, and every year thereafter.
3. Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged to Machado Lake, per the schedule below:

**Machado Lake Trash Water Quality-Based Effluent Limitations
(gallons of uncompressed trash per year)**

Permittees	Baseline ³	3/6/2012	3/6/2013	3/6/2014	3/6/2015	3/6/2016 ⁴
		(80%)	(60%)	(40%)	(20%)	(0%)
Annual Trash Discharge (gallons/yr)						
Carson	8141	6513	4885	3257	1628	0
Lomita	9393	7514	5636	3757	1879	0
City of Los Angeles	12331	9865	7399	4932	2466	0
Los Angeles County	8304	6643	4982	3322	1661	0

² Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

³ The Regional Water Board calculated the baseline water quality-based effluent limitations for the Permittees based on the estimated trash generation rate of 5334 gallons of uncompressed trash per square mile per year.

⁴ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

Los Angeles County Flood Control District	16	13	10	7	3	0
Palos Verdes Estates	1976	1581	1186	791	395	0
Rancho Palos Verdes	5227	4181	3136	2091	1045	0
Redondo Beach	18	15	11	7	4	0
Rolling Hills	7004	5603	4202	2801	1401	0
Rolling Hills Estates	14722	11777	8833	5889	2944	0
Torrance	34809	27847	20885	13924	6962	0

4. If a Permittee opts to derive a site specific trash generation rate through its Trash Monitoring and Reporting Plan (TMRP), the baseline limitation will be calculated by multiplying the point source area(s) by the derived trash generation rate(s).
5. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in B.2 and B.3 above per the provisions in Part VI.E.5.

C. Machado Lake Nutrient TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-4.
2. Permittees shall comply with the following interim and final water quality-based effluent limitations for discharges to Machado Lake:

Deadline	Interim and Final Effluent Limitations	
	Monthly Average Total Phosphorus (mg/L)	Monthly Average Total Nitrogen (TKN+NO ₃ -N+NO ₂ -N) (mg/L)
As of the effective date of this Order	1.25	3.5
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.0

3. Compliance Determination

- a. Permittees may be deemed in compliance with the water quality-based effluent limitations by actively participating in a Lake Water Quality Management Plan (LWQMP) and attaining the receiving water limitations for Machado Lake. The City of Los Angeles has entered into a Memorandum of Agreement with the Regional Water Board to implement the LWQMP and reduce external nutrient loading to attain the following receiving water limitations:

Deadline	Interim and Final Receiving Water Limitations	
	Monthly Average Total Phosphorus (mg/L)	Monthly Average Total Nitrogen (TKN+NO ₃ -N+NO ₂ -N) (mg/L)
As of the effective date of this Order	1.25	3.5
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.0

- b. Permittees may be deemed in compliance with water quality-based effluent limitations by demonstrating reduction of total nitrogen and total phosphorous on an annual mass basis measured at the storm drain outfall of the Permittee's drainage area where approved by the Regional Water Board Executive Officer based on the results of a special study by the Permittee.⁵
- i. The County of Los Angeles submitted a special study work plan, which was approved by the Regional Water Board Executive Officer, and established the following annual mass-based water quality based effluent limitations:

Deadline	Interim and Final Effluent Limitations	
	Annual Load Total Phosphorus (kg)	Annual Load Total Nitrogen (TKN+NO ₃ -N+NO ₂ -N) (kg)
March 11, 2014	887	1739
September 11, 2018	71	710

- ii. The City of Torrance submitted a special study work plan, which was approved by the Regional Water Board Executive Officer, and established the following annual mass-based water quality based effluent limitations:

Deadline	Interim and Final Effluent Limitations	
	Annual Load Total Phosphorus (kg)	Annual Load Total Nitrogen (TKN+NO ₃ -N+NO ₂ -N) (kg)
March 11, 2014	3,760	7,370
September 11, 2018	301	3008

D. Machado Lake Pesticides and PCBs TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-4.
2. Permittees shall comply with the following water quality-based effluent limitations for discharges of suspended sediments to Machado Lake, applied as a 3-year average no later than September 30, 2019:

Pollutant	Effluent Limitations for Suspended Sediment-Associated Contaminants (µg/kg 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
Chlordane	3.24
Dieldrin	1.9

⁵ The annual mass-based allocation shall be equivalent to a monthly average concentration of 0.1 mg/L total phosphorus and 1.0 mg/L total nitrogen based on approved flow conditions.

**E. Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters
Toxic Pollutants TMDL**

1. Permittees subject to the provisions below are identified in Attachment K, Tables K-4 and K-13.
2. Permittees shall comply with the interim water quality-based effluent limitations listed below, as of the effective date of this Order:
 - a. Permittees shall comply with the following interim water quality-based effluent limitations for discharges to Dominguez Channel freshwater during wet weather:
 - i. The freshwater toxicity interim water quality-based effluent limitation is 2 TUc. The freshwater interim effluent limitation shall be implemented as a trigger requiring initiation and implementation of the TRE/TIE process as outlined in US EPA's "Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program" (2000).
 - ii. Permittees shall comply with the following interim metals water quality-based effluent limitations for discharges to the Dominguez Channel freshwater and Torrance Lateral during wet weather:

Metals	Interim Effluent Limitation Daily Maximum (µg/L)
Total Copper	207.51
Total Lead	122.88
Total Zinc	898.87

- b. Permittees shall comply with the following interim concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment discharged to the Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters:

Water Body	Interim Effluent Limitations Daily Maximum (mg/kg sediment)					
	Copper	Lead	Zinc	DDT	PAHs	PCBs
Dominguez Channel Estuary (below Vermont Avenue)	220.0	510.0	789.0	1.727	31.60	1.490
Long Beach Inner Harbor	142.3	50.4	240.6	0.070	4.58	0.060
Los Angeles Inner Harbor	154.1	145.5	362.0	0.341	90.30	2.107
Long Beach Outer Harbor (inside breakwater)	67.3	46.7	150	0.075	4.022	0.248
Los Angeles Outer Harbor (inside breakwater)	104.1	46.7	150	0.097	4.022	0.310
Los Angeles River Estuary	53.0	46.7	183.5	0.254	4.36	0.683
San Pedro Bay Near/Off Shore Zones	76.9	66.6	263.1	0.057	4.022	0.193
Los Angeles Harbor - Cabrillo Marina	367.6	72.6	281.8	0.186	36.12	0.199
Los Angeles Harbor - Consolidated Slip	1470.0	1100.0	1705.0	1.724	386.00	1.920
Los Angeles Harbor - Inner Cabrillo Beach Area	129.7	46.7	163.1	0.145	4.022	0.033
Fish Harbor	558.6	116.5	430.5	40.5	2102.7	36.6

3. Permittees shall comply with the final water quality-based effluent limitations as listed below no later than March 23, 2032, and every year thereafter:

a. Dominguez Channel Freshwater – Wet Weather

- i. Freshwater Toxicity Effluent Limitation shall not exceed the monthly median of 1 TUc.
- ii. Permittees shall comply with the following final metals water quality-based effluent limitations for discharges to Dominguez Channel and all upstream reaches and tributaries of Dominguez Channel above Vermont Avenue:

Metals	Water Column Mass-Based Final Effluent Limitation Daily Maximum ⁶ (g/day)
Total Copper	1,300.3
Total Lead	5,733.7
Total Zinc	9,355.5

b. Torrance Lateral Freshwater and Sediment – Wet Weather

- i. Permittees shall comply with the following final metals water quality-based effluent limitations for discharges to the Torrance Lateral:

Metals	Water Column Effluent Limitation Daily Maximum ⁷ (unfiltered, µg/L)
Total Copper	9.7
Total Lead	42.7
Total Zinc	69.7

- ii. Permittees shall comply with the following final concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment discharged to the Torrance Lateral:

Metals	Concentration-Based Effluent Limitation Daily Maximum (mg/kg dry)
Total Copper	31.6
Total Lead	35.8
Total Zinc	121

⁶ Effluent limitations are based on a hardness of 50 mg/L, and 90th percentile of annual flow rates (62.7 cfs) in Dominguez Channel. Recalculated mass-based effluent limitations using ambient hardness and flow rate at the time of sampling are consistent with the assumptions and requirements of the TMDL. In addition to the effluent limitations above, samples collected during flow conditions less than the 90th percentile of annual flow rates must demonstrate that the acute and chronic hardness dependent water quality criteria provided in the California Toxics Rule (CTR) are achieved.

⁷ Effluent limitations are based on a hardness of 50 mg/L. Recalculated concentration-based effluent limitations using ambient hardness at the time of sampling are consistent with the assumptions and requirements of the TMDL. In addition to the effluent limitations above, samples collected during flow conditions less than the 90th percentile of annual flow rates must demonstrate that the acute and chronic hardness dependent water quality criteria provided in the CTR are achieved.

c. Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters

- i. Permittees shall comply with the following final mass-based water quality-based effluent limitations, expressed as an annual loading of pollutants in the sediment deposited to Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters:

Water Body	Final Effluent Limitations Annual (kg/yr)			
	Total Cu	Total Pb	Total Zn	Total PAHs
Dominguez Channel Estuary	22.4	54.2	271.8	0.134
Consolidated Slip	2.73	3.63	28.7	0.0058
Inner Harbor	1.7	34.0	115.9	0.088
Outer Harbor	0.91	26.1	81.5	0.105
Fish Harbor (POLA)	0.00017	0.54	1.62	0.007
Cabrillo Marina (POLA)	0.0196	0.289	0.74	0.00016
San Pedro Bay	20.3	54.7	213.1	1.76
LA River Estuary	35.3	65.7	242.0	2.31

- ii. Permittees shall comply with the following final concentration-based water quality-based effluent limitations for pollutant concentrations in the sediments discharged to the Dominguez Channel Estuary, Consolidated Slip, and Fish Harbor:

Water Body	Effluent Limitations Daily Maximum (mg/kg dry sediment)		
	Cadmium	Chromium	Mercury
Dominguez Channel Estuary	1.2	--	--
Consolidated Slip	1.2	81	0.15
Fish Harbor	--	--	0.15

- d. Permittees shall comply with the following final mass-based water quality-based effluent limitations, expressed as an annual loading of total DDT and total PCBs in the sediment deposited to Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters:

Water Body	Final Effluent Limitations Annual (g/yr)	
	Total DDTs	Total PCBs
Dominguez Channel Estuary	0.250	0.207
Consolidated Slip	0.009	0.004
Inner Harbor	0.051	0.059
Outer Harbor	0.005	0.020
Fish Harbor	0.0003	0.0019
Cabrillo Marina	0.000028	0.000025
Inner Cabrillo Beach	0.0001	0.0003
San Pedro Bay	0.049	0.44
LA River Estuary	0.100	0.324

4. Compliance Determination

- a. Permittees shall be deemed in compliance with the interim concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment as listed above in part E.2.b by meeting any one of the following methods:
 - i. Demonstrate that the sediment quality condition of *Unimpacted* or *Likely Unimpacted* via the interpretation and integration of multiple lines of evidence as defined in the Sediment Quality Objectives (SQO) Part 1, is met; or
 - ii. Meet the interim water quality-based effluent limitations in bed sediment over a three-year averaging period; or
 - iii. Meet the interim water quality-based effluent limitations in the discharge over a three-year averaging period.
- b. Permittees shall be deemed in compliance with the final fresh water metals water quality-based effluent limitations for discharges to Dominguez Channel and Torrance Lateral as listed above in parts E.3.a.ii and E.3.b.i by meeting any one of the following methods:
 - i. Final metals water quality-based effluent limitations are met; or
 - ii. CTR total metals criteria are met instream; or
 - iii. CTR total metals criteria are met in the discharge.
- c. Permittees shall be deemed in compliance with the final water quality-based effluent limitations for pollutants in the sediment as listed above in parts E.3.c.i and E.3.c.ii by meeting any one of the following methods:
 - j. Final water quality-based effluent limitations for pollutants in the sediment are met; or
 - ii. The qualitative sediment condition of *Unimpacted* or *Likely Unimpacted* via the interpretation and integration of multiple lines of evidence as defined in the SQO Part 1, is met, with the exception of chromium, which is not included in the SQO Part 1; or
 - iii. Sediment numeric targets are met in bed sediments over a three-year averaging period.
- d. Permittees shall be deemed in compliance with the final water quality-based effluent limitations for total DDT and total PCBs in the sediment as listed above in part E.3.d by meeting any one of the following methods:
 - i. Fish tissue targets are met in species resident to the specified water bodies⁸; or
 - ii. Final water quality-based effluent limitations for pollutants in the sediment are met; or

⁸ A site-specific study to determine resident species shall be submitted to the Regional Water Board Executive Officer for approval.

- iii. Sediment numeric targets to protect fish tissue are met in bed sediments over a three-year averaging period; or
- iv. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the State Water Board's Statewide Enclosed Bays and Estuaries Plan.

ATTACHMENT O. TMDLs IN LOS ANGELES RIVER WATERSHED MANAGEMENT AREA

A. Los Angeles River Watershed Trash TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
2. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to the Los Angeles River no later than September 30, 2016 and every year thereafter.
3. Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged to the Los Angeles River, per the schedule below:

Los Angeles River Watershed Trash Effluent Limitations¹ per Storm Year²
(gallons of uncompressed trash)

Permittees	Baseline	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016 ³ (0%)
Alhambra	39903	11971	7981	3990	1317	0
Arcadia	50108	15032	10022	5011	1654	0
Bell	16026	4808	3205	1603	529	0
Bell Gardens	13500	4050	2700	1350	446	0
Bradbury	4277	1283	855	428	141	0
Burbank	92590	27777	18518	9259	3055	0
Calabasas	22505	6752	4501	2251	743	0
Carson	6832	2050	1366	683	225	0
Commerce	58733	17620	11747	5873	1938	0
Compton	53191	15957	10638	5319	1755	0
Cudahy	5935	1781	1187	594	196	0
Downey	39063	11719	7813	3906	1289	0
Duarte	12210	3663	2442	1221	403	0
El Monte	42208	12662	8442	4221	1393	0
Glendale	140314	42094	28063	14031	4630	0
Hidden Hills	3663	1099	733	366	121	0
Huntington Park	19159	5748	3832	1916	632	0
Irwindale	12352	3706	2470	1235	408	0
La Cañada Flintridge	33496	10049	6699	3350	1105	0
Los Angeles	1374845	412454	274969	137485	45370	0
Los Angeles County	310223	93067	62045	31022	10237	0
Lynwood	28201	8460	5640	2820	931	0
Maywood	6129	1839	1226	613	202	0
Monrovia	46687	14006	9337	4669	1541	0
Montebello	50369	15111	10074	5037	1662	0
Monterey Park	38899	11670	7780	3890	1284	0
Paramount	27452	8236	5490	2745	906	0
Pasadena	111998	33599	22400	11200	3696	0
Pico Rivera	13953	4186	2791	1395	460	0
Rosemead	27305	8192	5461	2731	901	0
San Fernando	13947	4184	2789	1395	460	0
San Gabriel	20343	6103	4069	2034	671	0

¹ Effluent limitations are expressed as allowable trash discharge relative to baseline Waste Load Allocations specified in Table 7-2.2 of the Basin Plan.

² Storm year is defined as October 1 to September 30 herein.

³ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

Permittees	Baseline	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016 ³ (0%)
San Marino	14391	4317	2878	1439	475	0
Santa Clarita	901	270	180	90	30	0
Sierra Madre	11611	3483	2322	1161	383	0
Signal Hill	9434	2830	1887	943	311	0
Simi Valley	137	41	27	14	5	0
South El Monte	15999	4800	3200	1600	528	0
South Gate	43904	13171	8781	4390	1449	0
South Pasadena	14907	4472	2981	1491	492	0
Temple City	17572	5272	3514	1757	580	0
Vernon	47203	14161	9441	4720	1558	0

**Los Angeles River Watershed Trash Effluent Limitations⁴ per Storm Year⁵
(pounds of drip-dry trash)**

Permittees	Baseline	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016 ⁶ (0%)
Alhambra	68761	20628	13752	6876	2269	0
Arcadia	93036	27911	18607	9304	3070	0
Bell	25337	7601	5067	2534	836	0
Bell Gardens	23371	7011	4674	2337	771	0
Bradbury	12160	3648	2432	1216	401	0
Burbank	170389	51117	34078	17039	5623	0
Calabasas	52230	15669	10446	5223	1724	0
Carson	10208	3062	2042	1021	337	0
Commerce	85481	25644	17096	8548	2821	0
Compton	86356	25907	17271	8636	2850	0
Cudahy	10061	3018	2012	1006	332	0
Downey	68507	20552	13701	6851	2261	0
Duarte	23687	7106	4737	2369	782	0
El Monte	68267	20480	13653	6827	2253	0
Glendale	293498	88049	58700	29350	9685	0
Hidden Hills	10821	3246	2164	1082	357	0
Huntington Park	30929	9279	6186	3093	1021	0
Irwindale	17911	5373	3582	1791	591	0
La Cañada Flintridge	73747	22124	14749	7375	2434	0
Los Angeles	2572500	771750	514500	257250	84893	0
Los Angeles County	651806	195542	130361	65181	21510	0
Lynwood	46467	13940	9293	4647	1533	0
Maywood	10549	3165	2110	1055	348	0
Monrovia	100988	30296	20198	10099	3333	0
Montebello	83707	25112	16741	8371	2762	0
Monterey Park	70456	21137	14091	7046	2325	0
Paramount	44490	13347	8898	4449	1468	0
Pasadena	207514	62254	41503	20751	6848	0
Pico Rivera	22549	6765	4510	2255	744	0
Rosemead	47378	14213	9476	4738	1563	0
San Fernando	23077	6923	4615	2308	762	0
San Gabriel	36437	10931	7287	3644	1202	0

⁴ Effluent limitations are expressed as allowable trash discharge relative to baseline Waste Load Allocations specified in Table 7-2.2 of the Basin Plan.

⁵ Storm year is defined as October 1 to September 30 herein.

⁶ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

Permittees	Baseline	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016 ⁶ (0%)
San Marino	29147	8744	5829	2915	962	0
Santa Clarita	2326	698	465	233	77	0
Sierra Madre	25192	7558	5038	2519	831	0
Signal Hill	14220	4266	2844	1422	469	0
Simi Valley	344	103	69	34	11	0
South El Monte	24319	7296	4864	2432	803	0
South Gate	72333	21700	14467	7233	2387	0
South Pasadena	28357	8507	5671	2836	936	0
Temple City	31819	9546	6364	3182	1050	0
Vernon	66814	20044	13363	6681	2205	0

- Permittees shall comply with the interim and final water quality-based effluent limitations for trash in A.2 and A.3 above per the provisions in Part VI.E.5.

B. Los Angeles River Nitrogen Compounds and Related Effects TMDL

- Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- Permittees shall comply with the following water quality-based effluent limitations as of the effective date of this Order:

Water Body	NH ₃ -N (mg/L)		NO ₃ -N (mg/L)	NO ₂ -N (mg/L)	NO ₃ -N+NO ₂ -N (mg/L)
	One-hour Average	Thirty-day Average	Thirty-day Average	Thirty-day Average	Thirty-day Average
Los Angeles River above Los Angeles-Glendale WRP (LAG)	4.7	1.6	8.0	1.0	8.0
Los Angeles River below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries	10.1	2.3	8.0	1.0	8.0

C. Los Angeles River and Tributaries Metals TMDL

- Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- Final Water Quality-Based Effluent Limitations
 - The watershed is divided into five jurisdictional groups based on the subwatersheds of the tributaries that drain to each reach of the river. Each jurisdictional group shall achieve compliance in prescribed percentages of its subwatershed(s). Jurisdictional groups can be reorganized or subdivided upon approval by the Regional Water Board Executive Officer.
 - Permittees shall comply with the following grouped⁷ dry weather⁸ water quality-based effluent limitations no later than January 11, 2024, expressed as total recoverable metals.⁹

⁷ The dry weather water quality-based effluent limitations are grouped-based and shared by the MS4 Permittees that are located within the drainage area.

⁸ Dry weather is defined as any day when the maximum daily flow in the Los Angeles River is less than 500 cfs measured at the Wardlow gage station.

⁹ Dry weather effluent limitations are equal to storm drain flows (critical flows minus median POTW flows minus median open space flows) multiplied by reach specific numeric targets, minus the contribution from direct air deposition.

Waterbody	Effluent Limitations Daily Maximum (kg/day)		
	Copper	Lead	Zinc
LA River Reach 6	WER ¹ x 0.53	WER ¹ x 0.33	---
LA River Reach 5	WER ¹ x 0.05	WER ¹ x 0.03	---
LA River Reach 4	WER ¹ x 0.32	WER ¹ x 0.12	---
LA River Reach 3	WER ¹ x 0.06	WER ¹ x 0.03	---
LA River Reach 2	WER ¹ x 0.13	WER ¹ x 0.07	---
LA River Reach 1	WER ¹ x 0.14	WER ¹ x 0.07	---
Bell Creek	WER ¹ x 0.06	WER ¹ x 0.04	---
Tujunga Wash	WER ¹ x 0.001	WER ¹ x 0.0002	---
Burbank Channel	WER ¹ x 0.15	WER ¹ x 0.07	---
Verdugo Wash	WER ¹ x 0.18	WER ¹ x 0.10	---
Arroyo Seco	WER ¹ x 0.01	WER ¹ x 0.01	---
Rio Hondo Reach 1	WER ¹ x 0.01	WER ¹ x 0.006	WER ¹ x 0.16
Compton Creek	WER ¹ x 0.04	WER ¹ x 0.02	---

¹WER(s) have a default value of 1.0 unless site-specific WER(s) are approved via the Basin Plan Amendment process.

- c. In lieu of calculating loads, Permittees may demonstrate compliance with the following concentration-based water quality-based effluent limitations during dry weather no later than January 11, 2024, expressed as total recoverable metals:

Waterbody	Effluent Limitations Daily Maximum (µg total recoverable metals/L)		
	Copper	Lead	Zinc
LA River Reach 5, 6 and Bell Creek	WER ¹ x 30	WER ¹ x 19	---
LA River Reach 4	WER ¹ x 26	WER ¹ x 10	---
LA River Reach 3 above LA-Glendale WRP and Verdugo Wash	WER ¹ x 23	WER ¹ x 12	---
LA River Reach 3 below LA-Glendale WRP	WER ¹ x 26	WER ¹ x 12	---
Burbank Western Channel (above WRP)	WER ¹ x 26	WER ¹ x 14	---
Burbank Western Channel (below WRP)	WER ¹ x 19	WER ¹ x 9.1	---
LA River Reach 2 and Arroyo Seco	WER ¹ x 22	WER ¹ x 11	---
LA River Reach 1	WER ¹ x 23	WER ¹ x 12	---
Compton Creek	WER ¹ x 19	WER ¹ x 8.9	---
Rio Hondo Reach 1	WER ¹ x 13	WER ¹ x 5.0	WER ¹ x 131

¹ WER(s) have a default value of 1.0 unless site-specific WER(s) are approved via the Basin Plan Amendment process.

- d. Permittees shall comply with the following grouped¹⁰ wet weather¹¹ water quality-based effluent limitations no later than January 11, 2028, expressed as total recoverable metals discharged to all reaches of the Los Angeles River and its tributaries.

Constituent	Effluent Limitation Daily Maximum (kg/day)
Cadmium	WER ¹ x 2.8 x 10 ⁻⁹ x daily volume (L) – 1.8
Copper	WER ¹ x 1.5 x 10 ⁻⁸ x daily volume (L) – 9.5
Lead	WER ¹ x 5.6 x 10 ⁻⁸ x daily volume (L) – 3.85
Zinc	WER ¹ x 1.4 x 10 ⁻⁷ x daily volume (L) – 83

¹ WER(s) have a default value of 1.0 unless site-specific WER(s) are approved via the Basin Plan Amendment process.

3. Permittees shall comply with interim and final water quality-based effluent limitations for metals discharged to the Los Angeles River and its tributaries, per the schedule below:

Deadline	Total Drainage Area Served by the MS4 required to meet the water quality-based effluent limitations (%)	
	Dry weather	Wet weather
January 11, 2012	50	25
January 11, 2020	75	--
January 11, 2024	100	50
January 11, 2028	100	100

D. Los Angeles River Watershed Bacteria TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
2. Permittees shall comply with the following final water quality-based effluent limitations for discharges to the Los Angeles River and its tributaries during dry weather according to the schedule in Table O-1, and during wet weather no later than March 23, 2037:

Constituent	Effluent Limitation (MPN or cfu)	
	Daily Maximum	Geometric Mean
<i>E. coli</i>	235/100 mL	126/100 mL

¹⁰ The wet weather water quality-based effluent limitations are grouped-based and shared among all MS4 Permittees located within the drainage area.

¹¹ Wet weather is defined as any day when the maximum daily flow in the Los Angeles River is equal to or greater than 500 cfs measured at the Wardlow gage station.

3. Permittees shall comply with the following grouped¹² interim dry weather single sample bacteria water quality-based effluent limitations for specific river segments and tributaries as listed in the table, below, according to the schedule in Table O-1:

River Segment or Tributary	Daily Maximum <i>E. coli</i> Load (10 ⁹ MPN/Day)
Los Angeles River Segment A (Willow to Rosecrans)	301
Los Angeles River Segment B (Rosecrans to Figueroa)	518
Los Angeles River Segment C (Figueroa to Tujunga)	463
Los Angeles River Segment D (Tujunga to Balboa)	454
Los Angeles River Segment E (Balboa to headwaters)	32
Aliso Canyon Wash	23
Arroyo Seco	24
Bell Creek	14
Bull Creek	9
Burbank Western Channel	86
Compton Creek	7
Dry Canyon	7
McCoy Canyon	7
Rio Hondo	2
Tujunga Wash	10
Verdugo Wash	51

- a. Unexpectedly high-loading outfalls may be excluded from interim compliance calculations under the following circumstances: If an outfall which was 1) loading *E. coli* at a rate less than the 25th percentile of outfalls during the monitoring events used to develop the "MS4 Load Reduction Strategy" (LRS), but, at the time of compliance monitoring, is 2) loading *E. coli* at a rate greater than the 90th percentile of outfalls, and 3) actions are taken prior to the end of the first phase (i.e. 10 years after the beginning of the segment or tributary specific phase) such that the outfall is returned to a loading less than the 50th percentile of the outfalls at compliance monitoring, then the 90th percentile data from the outfall can be excluded from the compliance loading calculations.
- b. Likewise, if an outfall which was 1) the subject of a dry weather diversion is found, at the time of compliance monitoring, to be 2) contributing greater than the

¹² The interim dry weather water quality-based effluent limitations are group-based and shared among all MS4 Permittees located within the drainage area. However, the interim dry weather water quality-based effluent limitations may be distributed based on proportional drainage area, upon approval of the Regional Water Board Executive Officer.

90th percentile loading rate, and 3) actions are taken such that the outfall is returned to a loading less than the 50th percentile of the outfalls at compliance monitoring, and a maintenance schedule for the diversion is submitted with the compliance report, then the 90th percentile data from the outfall can be excluded from the compliance loading calculations.

4. Receiving Water Limitations

- a. Permittees shall comply with the following grouped¹³ final single sample bacteria receiving water limitations for discharges to the Los Angeles River and its tributaries during dry weather according to the schedule in Table O-1, and during wet weather no later than March 23, 2037:

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-HFS ¹⁴ Waterbodies Wet Weather	15	2
HFS Waterbodies Wet Weather	10 (not including HSF days)	2 (not including HSF days)

- b. Permittees shall comply with the following geometric mean receiving water limitation for discharges to the Los Angeles River and its tributaries during dry weather according to the schedule in Table O-1, and during wet weather no later than March 23, 2037:

Constituent	Geometric Mean (MPN or cfu)
E. coli	126/100 mL

Table O-1. Los Angeles River Bacteria Implementation Schedule for Dry Weather

Italics in this Table refer to Permittees using an alternative compliance plan instead of an LRS.

Implementation Action	Responsible Parties	Deadline
SEGMENT B (upper and middle Reach 2 – Figueroa Street to Rosecrans Avenue)		
First phase – Segment B		
Submit a Load Reduction Strategy (LRS) for Segment B <i>(or submit an alternative compliance plan)</i>	MS4 Permittees discharging to Segment B	September 23, 2014
Complete implementation of LRS	MS4 Permittees discharging to Segment B, if using LRS	March 23, 2019

¹³ The final receiving water limitations are group-based and shared among all MS4 Permittees, which includes LA MS4, Long Beach MS4, and Caltrans.

¹⁴ HFS stands for high flow suspension as defined in Chapter 2 of the Basin Plan.

Implementation Action	Responsible Parties	Deadline
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment B, if using LRS	March 23, 2022
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment B, if using alternative compliance plan</i>	<i>March 23, 2022</i>
Second phase, if necessary – Segment B for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment B	March 23, 2023
Complete implementation of LRS	MS4 Permittees discharging to Segment B, if using LRS	September 23, 2026
Achieve final water quality-based effluent limitations in Segment B or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment B, if using LRS	September 23, 2028
SEGMENT B TRIBUTARIES (Rio Hondo and Arroyo Seco)		
First phase – Segment B Tributaries (Rio Hondo and Arroyo Seco)		
Submit a Load Reduction Strategy (LRS) for Segment B tributaries (<i>or submit an alternative compliance plan</i>)	MS4 Permittees discharging to Segment B tributaries	March 23, 2016
Complete implementation of LRS	MS4 Permittees discharging to Segment B tributaries, if using LRS	September 23, 2020
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment B tributaries, if using LRS	September 23, 2023
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is only due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment B tributaries, if using alternative compliance plan</i>	<i>September 23, 2023</i>
Second phase, if necessary – Segment B Tributaries (Rio Hondo and Arroyo Seco) for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment B tributaries	September 23, 2024
Complete implementation of LRS	MS4 Permittees discharging to Segment B tributaries, if using LRS	March 23, 2028

Implementation Action	Responsible Parties	Deadline
Achieve final water quality-based effluent limitations Segment B tributaries or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment B tributaries, if using LRS	March 23, 2030
SEGMENT A (lower Reach 2 and Reach 1 – Rosecrans Avenue to Willow Street)		
First phase – Segment A		
Submit a Load Reduction Strategy (LRS) for Segment A (or submit an alternative compliance plan)	MS4 Permittees discharging to Segment A	September 23, 2016
Complete implementation of LRS	MS4 Permittees discharging to Segment A, if using LRS	March 23, 2021
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment A, if using LRS	March 23, 2024
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment A, if using alternative compliance plan</i>	<i>March 23, 2024</i>
Second phase, if necessary – Segment A for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment A	March 23, 2025
Complete implementation of LRS	MS4 Permittees discharging to Segment A, if using LRS	September 23, 2029
Achieve final water quality-based effluent limitations in Segment A or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment A, if using LRS	September 23, 2031
SEGMENT A TRIBUTARY (Compton Creek)		
First phase – Segment A Tributary		
Submit a Load Reduction Strategy (LRS) for Segment A tributary (or submit an alternative compliance plan)	MS4 Permittees discharging to Segment A tributary	March 23, 2018
Complete implementation of LRS	MS4 Permittees discharging to Segment A tributary if using LRS	September 23, 2022

Implementation Action	Responsible Parties	Deadline
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment A tributary if using LRS	September 23, 2025
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment A tributary, if using alternative compliance plan</i>	<i>September 23, 2025</i>
Second phase, if necessary – Segment A Tributary for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment A tributary	September 23, 2026
Complete implementation of LRS	MS4 Permittees discharging to Segment A tributary, if using LRS	March 23, 2030
Achieve final water quality-based effluent limitations in Segment A tributary or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment A tributary, if using LRS	March 23, 2032
SEGMENT E (Reach 6 – LA River headwaters [confluence with Bell Creek and Calabasas Creek] to Balboa Boulevard)		
First phase – Segment E		
Submit a Load Reduction Strategy (LRS) for Segment E <i>(or submit an alternative compliance plan)</i>	MS4 Permittees discharging to Segment E	September 23, 2017
Complete implementation of LRS	MS4 Permittees discharging to Segment E, if using LRS	March 23, 2022
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment E, if using LRS	March 23, 2025
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment E, if using alternative compliance plan</i>	<i>March 23, 2025</i>
Second phase, if necessary – Segment E for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment E	March 23, 2026
Complete implementation of LRS	MS4 Permittees discharging to Segment E, if using LRS	September 23, 2029

Implementation Action	Responsible Parties	Deadline
Achieve final Water quality-based effluent limitations in Segment E or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment E, if using LRS	September 23, 2031
SEGMENT E TRIBUTARIES (Dry Canyon Creek, McCoy Creek, Bell Creek, and Aliso Canyon Wash)		
First phase – Segment E Tributaries		
Submit a Load Reduction Strategy (LRS) for Segment E tributaries (or submit an alternative compliance plan)	MS4 Permittees discharging to Segment E tributaries	September 23, 2021
Complete implementation of LRS	MS4 Permittees discharging to Segment E tributaries if using LRS	March 23, 2026
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment E tributaries, if using LRS.	March 23, 2029
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment E tributaries, if using alternative compliance plan</i>	<i>March 23, 2029</i>
Second phase, if necessary – Segment E Tributaries for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment E tributaries	March 23, 2030
Complete implementation of LRS	MS4 Permittees discharging to Segment E tributaries, if using LRS	September 23, 2033
Achieve final water quality-based effluent limitations in Segment E tributaries or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment E tributaries, if using LRS	September 23, 2035
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) SEGMENT D TRIBUTARIES (Bull Creek)		
First phase – Segment C, Segment C Tributaries, Segment D, Segment D tributaries		
Submit a Load Reduction Strategies (LRS) for Segment C, Segment C tributaries, Segment D, Segment D tributaries (or submit an alternative compliance plan)	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries	March 23, 2023

Implementation Action	Responsible Parties	Deadline
Complete implementation of LRS	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries, if using LRS	September 23, 2027
Achieve interim (or final) water quality-based effluent limitations and submit report to Regional Water Board	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries, if using LRS	September 23, 2030
<i>Achieve final water quality-based effluent limitations or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board</i>	<i>MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries, if using alternative compliance plan</i>	<i>September 23, 2030</i>
Second phase, if necessary - Segment C, Segment C Tributaries, Segment D, Segment D Tributaries for LRS approach only		
Submit a new LRS	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries	September 23, 2031
Complete implementation of LRS	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries if using LRS	March 23, 2035
Achieve final water quality-based effluent limitations in Segment C, Segment C tributaries, Segment D, Segment D tributaries or demonstrate that non-compliance is due to upstream contributions and submit report to Regional Water Board	MS4 Permittees discharging to Segment C, Segment C tributaries, Segment D, Segment D tributaries if using LRS	March 23, 2037

5. Compliance

- a. Permittees may demonstrate compliance with the final dry weather limitations by demonstrating that final receiving water limitations are met in the receiving waters or by demonstrating one of the following conditions at outfalls to the receiving waters:
 - i. Flow-weighted concentration of *E. coli* in MS4 discharges during dry weather is less than or equal to 235 MPN/100mL, based on a weighted-average using flow rates from all measured outfalls; or
 - ii. Zero discharge during dry weather.
- b. In addition, individual Permittees or subgroups of Permittees may differentiate their dry weather discharges from other dischargers or upstream contributions by demonstrating one of the following conditions at outfalls to the receiving waters or at segment, tributary or jurisdictional boundaries:

- i. The flow-weighted concentration of E. coli in a Permittee's individual discharge or in a group of Permittees' collective discharge during dry weather is less than or equal to 235 MPN/100mL, based on a weighted-average using flow rates from all measured outfalls; or
 - ii. Zero discharge from a Permittee's individual outfall(s) or from a group of Permittees' outfall(s) during dry weather; or
 - iii. Demonstration that the MS4 loading of E. coli to the segment or tributary during dry weather is less than or equal to the calculated loading rate that would not cause or contribute to exceedances based on the loading capacity representative of conditions in the River at the time of compliance.
- c. The interim dry weather water quality-based effluent limitations are group-based, shared among all MS4 Permittees that drain to a segment or tributary. However, the interim dry weather water quality-based effluent limitations may be distributed based on proportional drainage area, upon approval of the Regional Water Board Executive Officer.

E. Legg Lake Trash TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
2. Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Legg Lake no later than March 6, 2016, and every year thereafter.
3. Permittees that choose to comply via a full capture compliance strategy must demonstrate a phased implementation of full capture devices attaining interim effluent limitations over the following 8-year period until the final effluent limitation of zero is attained:

Deadline	Effluent Limitation
	Drainage Area covered by Full Capture Systems (%)
March 6, 2008	0
March 6, 2012	20
March 6, 2013	40
March 6, 2014	60
March 6, 2015	80
March 6, 2016	100

Legg Lake Trash Effluent Limitations¹⁵ (gallons of uncompressed trash per year)

Permittees	Baseline ¹⁶ (100%)	3/6/2012 (80%)	3/6/2013 (60%)	3/6/2014 (40%)	3/6/2015 (20%)	3/6/2016 ¹⁷ (0%)
Los Angeles County	2400.03	1920.02	1440.02	960.01	480.01	0
Los Angeles County Flood Control District	24.05	19.24	14.43	9.62	4.81	0
City of El Monte	509.48	407.58	305.69	203.79	101.90	0
City of South El Monte	3896.76	3117.41	2338.06	1558.70	779.35	0

4. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in E.2 and E.3 above per the provisions in Part VI.E.5.
5. If a Permittee opts to derive site specific trash generation rates through its Trash Monitoring and Reporting Plan (TMRP), the baseline limitation shall be calculated by multiplying the point source area(s) by the derived trash generation rate(s).
6. Permittees shall comply with the interim and final water quality-based effluent limitations for trash in E.2 and E.3 above per the provisions in Part VI.E.5.

F. Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL (USEPA established)

1. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
2. Permittees shall comply with the following final WLAs for discharges to the Los Angeles River Estuary per the provisions in Part VI.E.3:

Constituent	WLA (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

3. Receiving Water Limitations

- a. Permittees shall comply with the following grouped¹⁸ final single sample bacteria WLAs for the Los Angeles River Estuary per the provisions in Part VI.E.3:

¹⁵ Water quality-based effluent limitations are expressed as allowable trash discharge relative to baseline Waste Load Allocations.

¹⁶ The Regional Water Board calculated the baseline water quality-based effluent limitations for the Permittees based on the estimated trash generation rate of 5334 gallons of uncompressed trash per square mile per year.

¹⁷ Permittees shall achieve their final effluent limitation of zero trash discharged for the year and every year thereafter.

¹⁸ The final receiving water limitations are group-based and shared among all MS4 Permittees located within the drainage area.

Time Period	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
	Daily sampling	Weekly sampling
Summer Dry-Weather (April 1 to October 31)	0	0
Winter Dry-Weather (November 1 to March 31)	9	2
Wet Weather ¹⁹	17	3

- b. Permittees shall comply with the following geometric mean receiving water limitations for all monitoring stations in the Los Angeles River Estuary per the provisions in Part VI.E.3:

Constituent	Geometric Mean (MPN or cfu)
Total coliform	1,000/100 mL
Fecal coliform	200/100 mL
Enterococcus	35/100 mL

4. Compliance Determination

- a. Permittees may demonstrate compliance with the final dry or weather WLAs by demonstrating that final WLAs expressed as allowable exceedance days are met in the receiving waters or by demonstrating one of the following conditions at outfalls to the receiving waters:
- i. Flow-weighted concentration of bacterial indicators in MS4 discharges during dry or wet weather is less than or equal to the WLAs in part E.2 above, based on a weighted-average using flow rates from all measured outfalls; or
 - ii. Zero discharge during dry weather.
- b. In addition, individual Permittees or subgroups of Permittees may differentiate their dry or wet weather discharges from other dischargers or upstream contributions by demonstrating one of the following conditions at outfalls to the receiving waters or at segment, tributary or jurisdictional boundaries:
- i. The flow-weighted concentration of bacterial indicators in a Permittee's individual discharge or in a group of Permittees' collective discharge during dry or wet weather is less than or equal to the WLAs in part E.2 above, based on a weighted-average using flow rates from all measured outfalls; or
 - ii. Zero discharge from a Permittee's individual outfall(s) or from a group of Permittees' outfall(s) during dry weather.

G. Los Angeles Area Lakes TMDLs²⁰ (USEPA established)

1. Lake Calabazas Nutrient TMDL

¹⁹ Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

²⁰ Los Angeles Area Lakes TMDL includes multiple watershed management areas.

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following annual mass-based allocations based on current flow conditions:

Permittee	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
City of Calabasas	48.5	220

Measured at the point of discharge. The mass-based allocations are equivalent to existing concentrations of 0.066 mg/L total phosphorus as a summer average (May-September) and annual average, and 0.66 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.

- d. The following concentration-based WLAs shall apply during both wet and dry weather if:
 - i. The Regional Water Board Executive Officer approves a request by the Permittee that the concentration-based WLAs apply, and the USEPA does not object to the Executive Officer's decision within 60 days of receiving notice.
 - ii. The Permittee shall submit a request to both the Regional Water Board and USEPA and shall include as part of the request a Lake Management Plan, describing actions that will be implemented to ensure that the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved and the chlorophyll *a* target of 20 µg/L measured as a summer average (May-September) and as an annual average is met.
 - iii. If the applicable water quality objectives for ammonia, dissolved oxygen, pH are achieved, and the chlorophyll *a* target is met, then the total phosphorus and total nitrogen concentration-based WLAs shall be considered attained.

Permittee	Total Phosphorus (mg-P/L)	Total Nitrogen (mg-N/L)
City of Calabasas	0.1	1.0

Measured as in-lake concentration and applied as a summer average (May-September) and an annual average.

2. Echo Park Lake Nutrient TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.

- c. Permittees shall comply with the following annual mass-based allocations based on current flow conditions:

Subwatershed	Permittee	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
Northern	City of Los Angeles	24.7	156
Southern	City of Los Angeles	7.129	49.69

Measured at the point of discharge using a three-year average. The mass-based allocations are equivalent to existing concentrations of 0.12 mg/L total phosphorus as a summer average (May-September) and annual average, and 1.2 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.

- d. In assessing compliance with WLAs, Permittees assigned both northern and southern subwatershed allocations may have their allocations combined.
- e. If the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved, and the chlorophyll *a* target of 20 µg/L as a summer average (May-September) and as an annual average is met, in the lake then the total phosphorus and total nitrogen concentration-based WLAs shall be considered attained.
3. Echo Park Lake PCBs TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)	Total PCBs in the Water Column (ng/L)
Northern	City of Los Angeles	1.77	0.17
Southern	City of Los Angeles	1.77	0.17

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 3.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight) ^{***}	Total PCBs in the Water Column (ng/L) ^{****}
Northern	City of Los Angeles	59.8	0.17
Southern	City of Los Angeles	59.8	0.17

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

4. Echo Park Lake Chlordane TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)	Total Chlordane in the Water Column (ng/L)
Northern	City of Los Angeles	2.10	0.59
Southern	City of Los Angeles	2.10	0.59

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 5.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight) ^{***}	Total Chlordane in the Water Column (ng/L) ^{****}
Northern	City of Los Angeles	3.24	0.59
Southern	City of Los Angeles	3.24	0.59

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

5. Echo Park Lake Dieldrin TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.

- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)	Dieldrin in the Water Column (ng/L)
Northern	City of Los Angeles	0.80	0.14
Southern	City of Los Angeles	0.80	0.14

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 0.46 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice:

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)**	Dieldrin in the Water Column (ng/L)***
Northern	City of Los Angeles	1.90	0.14
Southern	City of Los Angeles	1.90	0.14

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

6. Echo Park Lake Trash TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Parts VI.E.3 and VI.E.5.
- c. Permittees shall comply with the following WLA:

Permittee	Trash (Gal/year)
City of Los Angeles	0

7. Legg Lake System Nutrient TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.

- c. Permittees shall comply with the following annual mass-based allocations based on current flow conditions:

Subwatershed	Permittee	Flow (ac-ft/yr)	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
Northwestern	County of Los Angeles	33.5	53.6	148.7
Northwestern	South El Monte	308	526.3	1,500.6
Northeastern	El Monte	122	226.6	590.3
Northeastern	County of Los Angeles	8.18	12.8	39.2
Northeastern	South El Monte	287	498.7	1,394.8

Measured at the point of discharge. The mass-based allocations are equivalent to existing concentrations of 0.065 mg/L total phosphorus as a summer average (May-September) and annual average, and 0.65 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.

- d. The following concentration-based WLAs shall apply during both wet and dry weather if:
- i. The Regional Water Board Executive Officer approves a request by a Permittee that the concentration-based WLAs apply, and the USEPA does not object to the Executive Officer's decision within 60 days of receiving notice.
 - ii. Permittees shall submit a request to both the Regional Water Board and USEPA and shall include as part of the request a Lake Management Plan, describing actions that will be implemented to ensure that the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved, and the chlorophyll *a* target of 20 µg/L as a summer average (May-September) and an annual average is met, in the lake.
 - iii. If the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved, and the chlorophyll *a* target is met, in the lake then the total phosphorus and total nitrogen concentration-based WLAs shall be considered attained.

Subwatershed	Permittee	Total Phosphorus (mg-P/L)	Total Nitrogen (mg-N/L)
Northwestern	County of Los Angeles	0.1	1.0
Northwestern	South El Monte	0.1	1.0
Northeastern	El Monte	0.1	1.0
Northeastern	County of Los Angeles	0.1	1.0
Northeastern	South El Monte	0.1	1.0

Measured as an in-lake concentration. Applied as a summer average (May-September) and an annual average.

8. Peck Road Park Lake Nutrient TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.

- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following annual mass-based allocations based on current flow conditions:

Subwatershed	Permittee	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
Eastern	Arcadia	383	2,320
Eastern	Bradbury	497	3,223
Eastern	Duarte	1,540	9,616
Eastern	Irwindale	496	3,487
Eastern	County of Los Angeles	924	5,532
Eastern	Monrovia	6,243	38,736
Near Lake	Arcadia	158	1,115
Near Lake	El Monte	96.2	602
Near Lake	Irwindale	28.2	207
Near Lake	County of Los Angeles	129	773
Near Lake	Monrovia	60.4	415
Western	Arcadia	2,840	16,334
Western	County of Los Angeles	467	2,818
Western	Monrovia	425	2,678
Western	Sierra Madre	695	4,254

Measured at the point of discharge using a three-year average. The mass-based allocations are equivalent to existing concentrations of 0.076 mg/L total phosphorus as a summer average (May-September) and annual average, and 0.76 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.

- d. If the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved, and the chlorophyll *a* target of 20 µg/L as a summer average (May-September) and as an annual average is met, in the lake then the total phosphorus and total nitrogen concentration-based WLAs shall be considered attained.
9. Peck Road Park Lake PCBs TMDL
- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
 - b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
 - c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)	Total PCBs in the Water Column (ng/L)
Eastern	Arcadia	1.29	0.17
Eastern	Bradbury	1.29	0.17
Eastern	Duarte	1.29	0.17
Eastern	Irwindale	1.29	0.17
Eastern	County of	1.29	0.17

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)	Total PCBs in the Water Column (ng/L)
	Los Angeles		
Eastern	Monrovia	1.29	0.17
Near Lake	Arcadia	1.29	0.17
Near Lake	El Monte	1.29	0.17
Near Lake	Irwindale	1.29	0.17
Near Lake	County of Los Angeles	1.29	0.17
Near Lake	Monrovia	1.29	0.17
Western	Arcadia	1.29	0.17
Western	County of Los Angeles	1.29	0.17
Western	Monrovia	1.29	0.17
Western	Sierra Madre	1.29	0.17

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 3.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five largemouth bass each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)**	Total PCBs in the Water Column (ng/L)***
Eastern	Arcadia	59.8	0.17
Eastern	Bradbury	59.8	0.17
Eastern	Duarte	59.8	0.17
Eastern	Irwindale	59.8	0.17
Eastern	County of Los Angeles	59.8	0.17
Eastern	Monrovia	59.8	0.17
Near Lake	Arcadia	59.8	0.17
Near Lake	El Monte	59.8	0.17
Near Lake	Irwindale	59.8	0.17
Near Lake	County of Los Angeles	59.8	0.17
Near Lake	Monrovia	59.8	0.17
Western	Arcadia	59.8	0.17
Western	County of Los Angeles	59.8	0.17
Western	Monrovia	59.8	0.17
Western	Sierra Madre	59.8	0.17

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

10. Peck Road Park Lake Chlordane TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)	Total Chlordane in the Water Column (ng/L)
Eastern	Arcadia	1.73	0.59
Eastern	Bradbury	1.73	0.59
Eastern	Duarte	1.73	0.59
Eastern	Irwindale	1.73	0.59
Eastern	County of Los Angeles	1.73	0.59
Eastern	Monrovia	1.73	0.59
Near Lake	Arcadia	1.73	0.59
Near Lake	El Monte	1.73	0.59
Near Lake	Irwindale	1.73	0.59
Near Lake	County of Los Angeles	1.73	0.59
Near Lake	Monrovia	1.73	0.59
Western	Arcadia	1.73	0.59
Western	County of Los Angeles	1.73	0.59
Western	Monrovia	1.73	0.59
Western	Sierra Madre	1.73	0.59

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 5.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five largemouth bass each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice:

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)	Total Chlordane in the Water Column (ng/L)
Eastern	Arcadia	3.24	0.59
Eastern	Bradbury	3.24	0.59
Eastern	Duarte	3.24	0.59
Eastern	Irwindale	3.24	0.59
Eastern	County of Los Angeles	3.24	0.59
Eastern	Monrovia	3.24	0.59
Near Lake	Arcadia	3.24	0.59

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)**	Total Chlordane in the Water Column (ng/L)***
Near Lake	El Monte	3.24	0.59
Near Lake	Irwindale	3.24	0.59
Near Lake	County of Los Angeles	3.24	0.59
Near Lake	Monrovia	3.24	0.59
Western	Arcadia	3.24	0.59
Western	County of Los Angeles	3.24	0.59
Western	Monrovia	3.24	0.59
Western	Sierra Madre	3.24	0.59

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

11. Peck Road Park DDT TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total DDT associated with Suspended Sediment (µg/kg dry weight)	4-4' DDT in the Water Column (ng/L)
Eastern	Arcadia	5.28	0.59
Eastern	Bradbury	5.28	0.59
Eastern	Duarte	5.28	0.59
Eastern	Irwindale	5.28	0.59
Eastern	County of Los Angeles	5.28	0.59
Eastern	Monrovia	5.28	0.59
Near Lake	Arcadia	5.28	0.59
Near Lake	El Monte	5.28	0.59
Near Lake	Irwindale	5.28	0.59
Near Lake	County of Los Angeles	5.28	0.59
Near Lake	Monrovia	5.28	0.59
Western	Arcadia	5.28	0.59
Western	County of Los Angeles	5.28	0.59
Western	Monrovia	5.28	0.59
Western	Sierra Madre	5.28	0.59

Measured at the point of discharge. Applied as an annual average.

12. Peck Road Park Lake Dieldrin TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.

- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)	Dieldrin in the Water Column (ng/L)
Eastern	Arcadia	0.43	0.14
Eastern	Bradbury	0.43	0.14
Eastern	Duarte	0.43	0.14
Eastern	Irwindale	0.43	0.14
Eastern	County of Los Angeles	0.43	0.14
Eastern	Monrovia	0.43	0.14
Near Lake	Arcadia	0.43	0.14
Near Lake	El Monte	0.43	0.14
Near Lake	Irwindale	0.43	0.14
Near Lake	County of Los Angeles	0.43	0.14
Near Lake	Monrovia	0.43	0.14
Western	Arcadia	0.43	0.14
Western	County of Los Angeles	0.43	0.14
Western	Monrovia	0.43	0.14
Western	Sierra Madre	0.43	0.14

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 0.46 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five largemouth bass each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice:

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)**	Dieldrin in the Water Column (ng/L)**
Eastern	Arcadia	1.90	0.14
Eastern	Bradbury	1.90	0.14
Eastern	Duarte	1.90	0.14
Eastern	Irwindale	1.90	0.14
Eastern	County of Los Angeles	1.90	0.14
Eastern	Monrovia	1.90	0.14
Near Lake	Arcadia	1.90	0.14
Near Lake	El Monte	1.90	0.14
Near Lake	Irwindale	1.90	0.14
Near Lake	County of	1.90	0.14

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)**	Dieldrin in the Water Column (ng/L)***
	Los Angeles		
Near Lake	Monrovia	1.90	0.14
Western	Arcadia	1.90	0.14
Western	County of Los Angeles	1.90	0.14
Western	Monrovia	1.90	0.14
Western	Sierra Madre	1.90	0.14

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

13. Peck Road Park Lake Trash TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-5.
- b. Permittees shall comply with the following WLAs per the provisions in Parts VI.E.3 and VI.E.5.
- c. Permittees shall comply with the following WLA:

Permittee	Trash (gal/year)
Arcadia	0
Bradbury	0
Duarte	0
El Monte	0
Irwindale	0
County of Los Angeles	0
Monrovia	0
Sierra Madre	0

ATTACHMENT P. TMDLs IN SAN GABRIEL RIVER WATERSHED MANAGEMENT AREA

A. San Gabriel River Metals and Impaired Tributaries Metals and Selenium TMDL (USEPA established)

1. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
2. Permittees shall comply with the following grouped¹ wet weather² WLAs, expressed as total recoverable metals discharged to all upstream reaches and tributaries of the San Gabriel River Reach 2 and Coyote Creek per the provisions in Part VI.E.3:

Water Body	WLA Daily Maximum (kg/day)		
	Copper	Lead	Zinc
San Gabriel Reach 2	---	81.34 µg/L x daily storm volume (L)	---
Coyote Creek	24.71 µg/L x daily storm volume (L)	96.99 µg/L x daily storm volume (L)	144.57 µg/L x daily storm volume (L)

3. Permittees shall comply with the following grouped¹ dry weather WLAs, expressed as total recoverable metals discharged to San Gabriel River Reach 1, Coyote Creek, San Gabriel River Estuary, and San Jose Creek Reach 1 and Reach 2 per the provisions in Part VI.E.3:

Water Body	WLA Daily Maximum	
	Copper	Selenium
San Gabriel Reach 1	18 µg/L	---
Coyote Creek	0.941 kg/day*	---
San Gabriel River Estuary	3.7 µg/L	---
San Jose Creek Reach 1 and 2	---	5 µg/L

*Calculated based upon the median flow at LACDPW Station F354-R of 19 cfs multiplied by the numeric target of 20 µg/L, minus direct air deposition of 0.002 kg/d.

4. Permittees may convert the grouped mass-based WLAs into individual WLAs based on the percentage of the watershed and land uses within the Permittee's jurisdiction, upon approval of the Regional Water Board Executive Officer.

B. Los Angeles Area Lakes TMDLs³ (USEPA established)

1. Puddingstone Reservoir Nutrient TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.

¹ The wet weather and dry weather water WLAs are group-based and shared among all MS4 Permittees, which includes LA MS4 Permittees, the City of Long Beach, and Orange County MS4 Permittees located within the drainage area and Caltrans.

² In San Gabriel River Reach 2, wet weather TMDLs apply when the maximum daily flow of the river is equal to or greater than 260 cfs as measured at USGS station 11085000, located at the bottom of Reach 3 just above the Whittier Narrows Dam. In Coyote Creek, wet weather TMDLs apply when the maximum daily flow in the creek is equal to or greater than 156 cfs as measured at LACDPW flow gauge station F354-R, located at the bottom of the creek, just above the Long Beach WRP.

³ Los Angeles Area Lakes TMDL includes multiple watershed management areas.

- c. Permittees shall comply with the following annual mass-based allocations based on current flow conditions:

Subwatershed	Permittee	Total Phosphorus (lb-P/yr)	Total Nitrogen (lb-N/yr)
Northern	Claremont	169	829
Northern	County of Los Angeles	741	3,390
Northern	La Verne	2,772	11,766
Northern	Pomona	630	28.3
Northern	San Dimas	31.1	137

Measured at the point of discharge. The mass-based allocations are equivalent to existing concentrations of 0.071 mg/L total phosphorus as a summer average (May-September) and annual average, and 0.71 mg/L total nitrogen as a summer average (May-September) and annual average based on approved flow conditions.

- d. The following concentration-based WLAs shall apply during both wet and dry weather if:
- i. The Regional Water Board Executive Officer approves a request by a Permittee that the concentration-based WLAs apply, and the USEPA does not object to the Executive Officer's decision within 60 days of receiving notice.
 - ii. Permittees shall submit a request to both the Regional Water Board and USEPA and shall include as part of the request a Lake Management Plan, describing actions that will be implemented to ensure that the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved and the chlorophyll *a* target of 20 µg/L as a summer average (May-September) and an annual average is met, in the lake.
 - iii. If the applicable water quality objectives for ammonia, dissolved oxygen, and pH are achieved, and the chlorophyll *a* target is met, in the lake then the total phosphorus and total nitrogen concentration-based WLAs shall be considered attained.

Subwatershed	Permittee	Total Phosphorus (mg-P/L)	Total Nitrogen (mg-N/L)
Northern	Claremont	0.1	1.0
Northern	County of Los Angeles	0.1	1.0
Northern	La Verne	0.1	1.0
Northern	Pomona	0.1	1.0
Northern	San Dimas	0.1	1.0

Measured as an in-lake concentration. Applied as a summer average (May-September) and an annual average.

2. Puddingstone Reservoir Mercury TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.

- c. Permittees shall comply with the following WLAs during both wet and dry weather:

Subwatershed	Permittee	Total Mercury (g-Hg/yr)
Northern	Claremont	0.674
Northern	County of Los Angeles	2.79
Northern	La Verne	10.6
Northern	Pomona	0.026
Northern	San Dimas	0.109

Measured at the point of discharge.

3. Puddingstone Reservoir PCBs TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)	Total PCBs in the Water Column (ng/L)
Northern	Claremont	0.59	0.17
Northern	County of Los Angeles	0.59	0.17
Northern	La Verne	0.59	0.17
Northern	Pomona	0.59	0.17
Northern	San Dimas	0.59	0.17

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 3.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total PCBs associated with Suspended Sediment (µg/kg dry weight)**	Total PCBs in the Water Column (ng/L)***
Northern	Claremont	59.8	0.17
Northern	County of Los Angeles	59.8	0.17
Northern	La Verne	59.8	0.17
Northern	Pomona	59.8	0.17
Northern	San Dimas	59.8	0.17

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

4. Puddingstone Reservoir Chlordane TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)	Total Chlordane in the Water Column (ng/L)
Northern	Claremont	0.75	0.57
Northern	County of Los Angeles	0.75	0.57
Northern	La Verne	0.75	0.57
Northern	Pomona	0.75	0.57
Northern	San Dimas	0.75	0.57

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 5.6 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total Chlordane associated with Suspended Sediment (µg/kg dry weight)**	Total Chlordane in the Water Column (ng/L)***
Northern	Claremont	3.24	0.57
Northern	County of Los Angeles	3.24	0.57
Northern	La Verne	3.24	0.57
Northern	Pomona	3.24	0.57
Northern	San Dimas	3.24	0.57

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

5. Puddingstone Reservoir Dieldrin TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)	Dieldrin in the Water Column (ng/L)
Northern	Claremont	0.22	0.14
Northern	County of Los Angeles	0.22	0.14
Northern	La Verne	0.22	0.14
Northern	Pomona	0.22	0.14
Northern	San Dimas	0.22	0.14

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 0.46 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Dieldrin associated with Suspended Sediment (µg/kg dry weight)**	Dieldrin in the Water Column (ng/L)***
Northern	Claremont	1.90	0.14
Northern	County of Los Angeles	1.90	0.14
Northern	La Verne	1.90	0.14
Northern	Pomona	1.90	0.14
Northern	San Dimas	1.90	0.14

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

6. Puddingstone Reservoir DDT TMDL

- a. Permittees subject to the provisions below are identified in Attachment K, Table K-6.
- b. Permittees shall comply with the following WLAs per the provisions in Part VI.E.3.
- c. Permittees shall comply with the following WLAs:

Subwatershed	Permittee	Total DDT associated with Suspended Sediment (µg/kg dry weight)	4-4' DDT in the Water Column (ng/L)
Northern	Claremont	3.94	0.59
Northern	County of Los Angeles	3.94	0.59
Northern	La Verne	3.94	0.59
Northern	Pomona	3.94	0.59
Northern	San Dimas	3.94	0.59

Measured at the point of discharge. Applied as an annual average.

- d. Permittees may comply with the following alternative WLAs upon approval by the Regional Water Board Executive Officer based upon documentation that the fish tissue target of 21 ppb wet weight has been met for the preceding three or more years. A demonstration that the fish tissue target has been met in any given year must at a minimum include a composite sample of skin of fillets from at least five common carp each measuring at least 350 mm in length. Documentation shall be submitted to the Regional Water Board and USEPA. Compliance may be demonstrated based on the alternative WLAs upon approval by the Executive Officer, so long as USEPA does not object within 60 days of receiving notice.

Subwatershed	Permittee	Total DDT associated with Suspended Sediment (µg/kg dry weight)**	4-4' DDT in the Water Column (ng/L)***
Northern	Claremont	5.28	0.59
Northern	County of Los Angeles	5.28	0.59
Northern	La Verne	5.28	0.59
Northern	Pomona	5.28	0.59
Northern	San Dimas	5.28	0.59

*Measured at the point of discharge.

**Applied as a three-year average.

***Applied as an annual average.

**ATTACHMENT Q. TMDLs IN LOS CERRITOS CHANNEL AND ALAMITOS BAY
WATERSHED MANAGEMENT AREA**

A. Los Cerritos Channel Metals TMDL (USEPA established)

1. Permittees subject to the provisions below are identified in Attachment K, Table K-7.
2. Permittees shall comply with the following dry weather¹ WLAs, expressed as total recoverable metals discharged to Los Cerritos Channel, per the provisions in Part VI.E.3:

Constituent	WLA Daily Maximum (g/day)
Copper	67.2

3. Permittees shall comply with the following wet weather² WLA, expressed as total recoverable metals discharged to Los Cerritos Channel, per the provisions in Part VI.E.3:

Constituent	WLA Daily Maximum (g/day)
Copper	$4.709 \times 10^{-6} \times$ daily storm volume (L)
Lead	$26.852 \times 10^{-6} \times$ daily storm volume (L)
Zinc	$46.027 \times 10^{-6} \times$ daily storm volume (L)

B. Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals TMDL

1. Permittees subject to the provisions below are identified in Attachment K, Table K-7.
2. Permittees shall comply with the following interim water quality-based effluent limitations as of the effective date of this Order, for sediments within Colorado Lagoon:

Constituent	Interim Concentration-based Effluent Limitations Monthly Average ($\mu\text{g}/\text{dry kg}$)
Chlordane	129.65
Dieldrin	26.20
Lead	399,500
Zinc	565,000
PAHs	4,022
PCBs	89.90
DDT	149.80

¹ Dry weather is defined as any day when the maximum daily flow in Los Cerritos Channel is less than 23 cubic feet per second (cfs) measured at Stearns Street Monitoring Station.

² Wet weather is defined as any day when the maximum daily flow in Los Cerritos Channel is equal to or greater than 23 cfs measured at Stearns Street Monitoring Station.

3. Permittees shall comply with the following final water quality-based effluent limitations no later than July 28, 2018, for sediments within Colorado Lagoon:

Constituent	Final Concentration Based Effluent Limitations Monthly Average (µg/dry kg)
Chlordane	0.50
Dieldrin	0.02
Lead	46,700
Zinc	150,000
PAHs	4,022
PCBs	22.70
DDT	1.58

4. The mass-based water quality-based effluent limitations are shared by the MS4 Permittees, which includes the LACFCD, City of Long Beach and Caltrans. Permittees shall comply with the following grouped final water quality-based effluent limitations no later than July 28, 2018, expressed as an annual discharge of sediment to Colorado Lagoon:

Constituent	Annual Mass-based Effluent Limitations (mg/yr)				
	Project 452	Line I	Termino Ave	Line K	Line M
Chlordane	5.10	3.65	12.15	1.94	0.73
Dieldrin	0.20	0.15	0.49	0.08	0.03
Lead	476,646.68	340,455.99	1,134,867.12	181,573.76	68,116.09
Zinc	1,530,985.05	1,093,541.72	3,645,183.47	583,213.37	218,788.29
PAHs	41,050.81	29,321.50	97,739.52	15,637.89	5,866.44
PCBs	231.69	165.49	551.64	88.26	33.11
DDT	16.13	11.52	38.40	6.14	2.30

5. Compliance with the concentration-based water quality-based effluent limitations shall be determined by pollutant concentrations in the sediment in Colorado Lagoon at points in the West Arm, North Arm and Central Arm that represent the cumulative inputs from the MS4 drainage to the lagoon.

ATTACHMENT R. TMDLs IN THE MIDDLE SANTA ANA RIVER WATERSHED MANAGEMENT AREA (SANTA ANA REGION TMDL)

A. Middle Santa Ana River Watershed Bacterial Indicator TMDLs

1. Permittees subject to the provisions below are identified in Attachment K, Table K-8.
 2. Permittees shall comply with the following final water quality-based effluent limitations for discharges to San Antonio Creek and Chino Creek during dry weather no later than December 31, 2015, and during wet weather no later than December 31, 2025:
 - a. Fecal coliform¹: geometric mean less than 180 organisms/100 mL based on five or more samples during any 30-day period, and not more than 10% of the samples exceed 360 organisms/100 mL during any 30-day period.
 - b. *E. coli*: geometric mean less than 113 organisms/100 mL based on five or more samples during any 30-day period, and not more than 10% of the samples exceed 212 organisms/100 mL during any 30-day period.
 3. Permittees shall comply with the following receiving water limitations for discharges to San Antonio Creek and Chino Creek during dry weather no later than December 31, 2015, and during wet weather no later than December 31, 2025:
 - a. Fecal coliform²: geometric mean less than 200 organisms/100 mL based on 5 samples during any 30-day period, and not more than 10% of the samples exceed 400 organisms/100 mL during any 30-day period.
 - b. *E. coli*: geometric mean less than 126 organisms/100 mL based on 5 samples during any 30-day period, and not more than 10% of the samples exceed 235 organisms/100 mL during any 30-day period.
- B.** Section A of this Attachment R, and Parts V and VI.C of this Order, shall not be applicable to discharges of bacteria through MS4s of the Permittees identified in Attachment K, Table K-8, to receiving waters within the Middle Santa Ana River Watershed that are addressed by the Middle Santa Ana River Watershed Bacterial Indication TMDLs, Resolution No. R8-2005-0001, established by the Regional Water Quality Control Board, Santa Ana Region (Santa Ana Regional Board), during the effective dates of any NPDES permit that is issued by the Santa Ana Regional Board:
1. Pursuant to a valid and enforceable designation agreement between this Regional Water Board and the Santa Ana Regional Board under Water Code section 13228, that is applicable to MS4 discharges by the Permittees identified in Attachment K, Table K-8; and
 2. The designation agreement delegates the Santa Ana Regional Board as the regulator of MS4 discharges by the Permittees identified in Attachment K, Table K-8, to ensure compliance with the Middle Santa Ana River Watershed Bacterial Indicator

¹ The fecal coliform water quality-based effluent limitations become ineffective upon the replacement of the REC-1 fecal coliform water quality objectives with REC-1 *E. coli* water quality objectives in the Santa Ana Region Basin Plan.

² The fecal coliform receiving water limitations become ineffective upon the replacement of the REC-1 fecal coliform water quality objectives with REC-1 *E. coli* water quality objectives in the Santa Ana Region Basin Plan.

MS4 Discharges within the
Coastal Watersheds of Los Angeles County

ORDER NO. R4-2012-0175
NPDES NO. CAS004001

TMDLs, Resolution No. R8-2005-0001, in satisfaction of the requirements of 40 CFR
section 122.44(d)(1)(vii)(B).

1 RUTAN & TUCKER, LLP
Richard Montevideo (State Bar No. 116051)
2 Joseph Larsen (State Bar No. 244506)
611 Anton Boulevard, Fourteenth Floor
3 Costa Mesa, California 92626-1998
Telephone: 714-641-5100
4 Facsimile: 714-546-9035

5 Attorneys for Petitioners
Cities of Duarte and Huntington Park
6
7

8 BEFORE THE STATE WATER RESOURCES CONTROL BOARD
9
10

11 In the Matter of:

12 California Regional Water Quality Control
13 Board, Los Angeles Region's Adoption of
Waste Discharge Requirements for Municipal
14 Separate Storm Sewer System (MS4)
Discharges Within The Coastal Watersheds
15 of Los Angeles County, except those
discharges originating from the City of Long
16 Beach MS4 Order No. R4-2012-0175,
NPDES No. CAS004001
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27
28

PROOF OF SERVICE

[Water Code § 13320 and Title 23,
CCR § 2050, et seq.]

1 **PROOF OF SERVICE BY MAIL**

2
3 **STATE OF CALIFORNIA, COUNTY OF ORANGE**

4 I am employed by the law office of Rutan & Tucker, LLP in the County of Orange, State of
5 California. I am over the age of 18 and not a party to the within action. My business address is
6 611 Anton Boulevard, Suite 1400, Costa Mesa, California 92626-1931.

7 On December 7, 2012, I served on the interested parties in said action the within:

8 **PETITION FOR REVIEW OF THE CITIES OF DUARTE AND HUNTINGTON**
9 **PARK; PETITIONERS CITIES OF DUARTE AND HUNTINGTON PARK**
10 **MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF PETITION**
11 **FOR REVIEW OF NOVEMBER 8, 2012 ACTION OF THE CALIFORNIA**
12 **REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION,**
13 **ADOPTING ORDER NO. R4-2012-0175, NPDES NO. CAS004001; EXHIBIT 1, LOS**
14 **ANGELES REGIONAL WATER QUALITY CONTROL BOARD ORDER NO. R4-**
15 **2012-0175, NPDES NO. CAS004001**

16 by placing a true copy thereof in sealed envelope(s) addressed as stated below:

17 Jeannette L. Bashaw Legal Analyst
18 1001 "I" Street, 22nd Floor
19 Sacramento, CA 95814
20 Telephone: (916) 341-5155
21 Facsimile: (916) 341-5199
22 jbashaw@waterboards.ca.gov

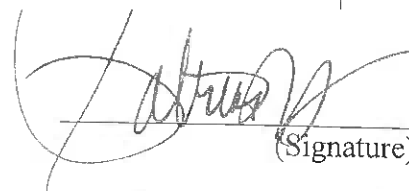
Samuel Unger, Executive Officer
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
sunger@waterboards.ca.gov

17 by depositing in a box or other facility regularly maintained by the carrier; an express service
18 carrier, or delivering to a courier or driver authorized by said express service carrier to receive
19 documents, a true copy of the foregoing document in sealed envelopes or packages designated by
20 the express service carrier, addressed as stated below, with fees for overnight delivery provided for
21 or paid.

Executed on December 7, 2012, at Costa Mesa, California.

I declare under penalty of perjury under the laws of the State of California that the
foregoing is true and correct.

22
23 Patricia Johnson
24 (Type or print name)

25 
26 (Signature)