CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

320 West 4th Street, Suite 200 Los Angeles, California 90013
Phone (213) 576-6600 · Fax (213) 576-6686
http://www.waterboards.ca.gov/losangeles

ORDER NO. R4-2014-xxxx
NPDES PERMIT NO. CAS004003

MONITORING AND REPORTING PROGRAM – CI No. 8052

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES FROM THE CITY OF LONG BEACH

February 6, 2014

DRAFT MAY 24, 2013

Table of Contents

I. LEGAL BASIS FOR THE MONITORING AND REPORTING PROGRAM

Section 308(a) of the federal Clean Water Act and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations (40 CFR) requires that all National Pollutant Discharge Elimination System (NPDES) Permits specify monitoring and reporting requirements. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements (40 CFR §§ 122.26(d)(2)(i)(F) & (d)(2)(iii)(D), and 122.42(c)). Section 13383 of the California Water Code further authorizes the Regional Water Board, to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

II. MONITORING OBJECTIVES AND SCOPE

A. Primary Objectives

The primary objectives of the Monitoring Program are to:

1. Assess the chemical, physical, and biological impacts of discharges from the municipal storm water sewer system (MS4) on receiving waters.
2. Assess compliance with receiving water limitations and water quality-based effluent limitations (WQBELs) established to implement Total Maximum Daily Load (TMDL) wet weather and dry weather waste load allocations (WLAs).
3. Characterize pollutant concentrations and loads in MS4 discharges.
4. Identify sources of pollutants in MS4 discharges.
5. Measure and improve the effectiveness of pollutant controls implemented under this Order.

B. Purpose

The results of the monitoring requirements outlined below shall be used to refine control measures for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters and to implement the provisions listed in Order R4-2014-xxx.

C. Integrated and Coordinated Monitoring Strategies

1. The Discharger may develop or participate in an integrated monitoring program to address all or part of the monitoring requirements of this Order and other monitoring obligations or requirements in a cost efficient and effective manner.

2. The Discharger may coordinate monitoring efforts on a watershed or subwatershed basis to leverage monitoring resources in an effort to increase cost-efficiency and effectiveness and to closely align monitoring with TMDL monitoring requirements and Watershed Management Programs.

D. Monitoring Program Elements

The Monitoring Program shall include the following elements:

1. **Receiving water monitoring**

   Receiving water monitoring shall be performed at all surface waters downstream of the Discharger's MS4 discharges, and at TMDL receiving water compliance points as designated in TMDL monitoring plans approved by the Los Angeles Regional Water Board Executive Officer (see Table E-1 for a list of approved TMDL Monitoring Plans. The objectives of the receiving water monitoring include the following:

   a. Determine whether the receiving water limitations are being achieved ,

   b. To assess trends in pollutant concentrations over time, or during specified conditions, and

   c. To determine compliance with water quality standards and determine if the designated beneficial uses are fully supported by conducting water chemistry, aquatic toxicity and biological monitoring (bioassessment).

2. **Storm water outfall based monitoring**; including

3. The Discharger shall perform storm water outfall monitoring and include any TMDL monitoring requirements as specified in approved TMDL Monitoring Plans (see Table E-1). Outfall monitoring locations shall be representative of the land uses within the Permittee's jurisdiction. The objectives of the storm water outfall based monitoring program include the following:

   a. Compare concentrations of pollutants in the Discharger's MS4 effluent to municipal action levels, as described in Attachment G of this Order,

b. Determine whether a Permittee's discharge is in compliance with applicable storm water WQBELs derived from WLAs,

c. To determine if the discharges from the MS4 cause or contribute to an exceedance of receiving water limitations.

d. To determine the annual load of pollutants from the MS4.

e. To determine relationships between the range of concentration of pollutants and storm size and intensity, elevation, watershed, and any other variables that may provide an insight on improving the storm water program.

4. Non-storm water outfall based monitoring

The Discharger shall conduct outfall monitoring for non-storm water discharges and include any TMDL monitoring requirements specified in approved TMDL Monitoring Plans (see Table E-1). At a minimum, the Discharger shall monitor outfalls with significant non-storm water discharges that remain unaddressed after source identification. The objectives of the non-storm water outfall based monitoring program include the following:

a. Determine whether a Permittee's discharge is in compliance with applicable non-storm water WQBELs derived from TMDL WLAs,

b. To determine if the discharge exceeds non-storm water action levels, as described in Attachment G of this Order,

c. To determine if the discharge contributes to or causes an exceedance of receiving water limitations,

d. To assist in identifying illicit discharges as described in Part VII.D of this Order.

e. To characterize the discharge's quantity, and quality and annual pollutant load if applicable.

5. New Development/Re-development effectiveness tracking.

The objectives of best management practices (BMP) effectiveness tracking is to determine if the conditions in the building permit issued by the Discharger are being implemented to ensure the volume of storm water associated with the design storm is retained on-site as required by Part VII.D of Order R4-2014-xxxx.

6. Regional studies

The objectives of regional studies are to further characterize the impact of the MS4 discharges on the beneficial uses of receiving waters. Regional studies shall include the Southern California bight studies, the Southern California Stormwater Monitoring Coalition (SMC) Regional Watershed Monitoring Program (bioassessment) and special studies as specified in approved TMDLs (see Section XIX TMDL Reporting, below).

III. GENERAL MONITORING AND REPORTING REQUIREMENTS

A. Monitoring shall be conducted in accordance with the requirements specified in Attachment D to this Order (Part III, Standard Provisions - Monitoring).

B. Records of monitoring information shall include information required under Attachment D to this Order (Part IV, Standard Provisions - Records).

C. All applications, reports, plans, or other information submitted to the Los Angeles Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Attachment D to this Order (Part V.B, Standard Provisions - Reporting, Signatory and Certification Requirements).

D. Monitoring results shall be reported in accordance with the requirements specified in Attachment D to this Order (Part V.C, Standard Provisions - Reporting, Monitoring Reports).

E. All monitoring and reporting shall be conducted in accordance with the Standard Monitoring Provisions specified in Part XIV of this MRP.

F. Sampling Methods

1. Sampling methods shall be fully described in the Discharger's Integrated Monitoring Program (IMP) or Coordinated Integrated Monitoring Program (CIMP) and according to the provisions of the Standard Provisions for Monitoring described in Attachment D to this Order and Part XIV of this MRP.

2. Grab samples shall be taken for constituents that are required to be collected as such (e.g., pathogen indicator bacteria, oil and grease, cyanides, and volatile organics); in instances where grab samples are generally expected to be sufficient to characterize water quality conditions (primarily dry weather); and where the sample location limits the Discharger's ability to install an automated sampler, as provided for in an approved IMP or CIMP.

3. At a minimum, a sufficient volume of sample must be collected to perform all of the required biological and chemical tests, including TIEs where aquatic toxicity is observed during the sample event.

4. Sampling and monitoring methods for trash shall be conducted in accordance with the applicable requirements specified in Part VIII of this Order.

5. Flow may be estimated using USEPA methods at receiving water monitoring stations where flow measuring equipment is not in place.

6. Flow may be estimated for storm water outfall monitoring based on drainage area, impervious cover, and precipitation data as approved in an IMP or CIMP.

G. Analytical Procedures

1. Suspended-Sediment Concentration (SSC) shall by analyzed per American Society for Testing and Materials (ASTM) Standard Test Method D-3977-97.

2. Monitoring methods for trash shall be conducted in accordance with the applicable requirements specified in Part VIII of this Order.

3. Aquatic toxicity shall be monitored in accordance with Part XI of this MRP.

4. All other parameters shall be analyzed according to the provisions of the Standard Provisions for Monitoring described in Attachment D to Order No. R4-2014-xxx and Part XIV of this MRP.

H. Reporting

1. Monitoring results shall be submitted to the Los Angeles Regional Board in a manner consistent with the requirements identified in Part XVIII.A.5 and Part XVIII.A.7 of this MRP.

2. Reporting requirements related to the monitoring of trash shall be conducted in accordance with Part VIII of Order No. R4-2014-xxx.

IV. INTEGRATED MONITORING PROGRAMS

A. Integrated Monitoring Program (IMP)

1. The Discharger may develop an Integrated Monitoring Program designed to satisfy the monitoring requirements of Order No. R4-2014-xxx.
2. The monitoring requirements contained in TMDL Monitoring Plans approved by the Executive Officer of the Los Angeles Regional Water Board are incorporated by reference into this MRP (See Table E-1 for a list of approved TMDL Monitoring Plans).
3. The Integrated Monitoring Program may leverage monitoring resources by selecting monitoring locations, parameters, or monitoring techniques that will satisfy multiple monitoring requirements.
4. Where appropriate, the Integrated Monitoring Program may develop and utilize alternative approaches to meet the Primary Objectives (Part II.A). Sufficient justification shall be provided in the IMP for the alternative approach(es). Such alternative approaches shall be subject to public review and final approval by the Los Angeles Regional Water Board Executive Officer.
5. The requirements of an approved TMDL Monitoring Plan may be modified by an IMP that is subsequently approved by the Executive Officer of the Los Angeles Regional Water Board.

6. At a minimum, the IMP must address all TMDL and Non-TMDL monitoring requirements of this Order, including receiving water monitoring, storm water outfall based monitoring, non-storm water outfall based monitoring, and regional water monitoring studies, except as provided in Parts IV.B.2 and 3 of this MRP.

B. Coordinated Integrated Monitoring Program (CIMP)

1. Benefits of the CIMP Approach

a. The CIMP provides opportunities to increase the cost efficiency and effectiveness of the monitoring program. The greatest efficiency may be achieved when a CIMP is designed and implemented on a watershed/receiving water basis.

b. A CIMP may be employed to implement regional studies, where the Discharger or other entity leads the effort in directing the study, or the Discharger entity provides funding or in lieu services.

2. The Discharger may coordinate their monitoring programs with other entities to develop and implement a CIMP. A CIMP may be developed to address one or more of the required monitoring elements (i.e., receiving water monitoring, outfall based monitoring, regional monitoring or special studies) and may be county-wide or limited to a single receiving water/ watershed, sub-watershed or defined jurisdictional boundary.

3. The requirements of an approved TMDL Monitoring Plan may be modified by an IMP or CIMP that is subsequently approved by the Executive Officer of the Los Angeles Regional Water Board.

4. The Discharger shall not be required to submit an IMP if the Discharger participates in a CIMP that complies with all the applicable monitoring requirements in this Order.

5. If the CIMP addresses some but not all of the applicable monitoring requirements required under this Order, the Discharger shall submit an IMP that references the CIMP and addresses those requirements not included in the CIMP. The Discharger must describe how the IMP and CIMP fulfill all of the applicable monitoring requirements contained in Order R4-2014-xxx.

6. Where appropriate, the Discharger may include in the CIMP alternative approaches to meet the primary objectives in Part II.A. The Discharger shall provide sufficient justification in the CIMP for the alternative approach(es). Such alternative approaches shall be subject to public review and final approval by the Los Angeles Regional Water Board Executive Officer.

C. Schedule for Submitting the Monitoring Plan to the Los Angeles Regional Water Board and Conducting Outfall Screening

1. Within three (3) months after the effective date of this Order, the Discharger shall submit a letter of intent to the Executive Officer of the Los Angeles Regional Water Board describing the Discharger's intention to follow an IMP

or a CIMP approach for each of the required monitoring plan elements in conjunction with its notification regarding development of a WMP or EWMP.

2. If the Discharger elects to develop a WMP, the Discharger shall submit an IMP or CIMP to the Executive Officer of the Los Angeles Regional Water Board concurrently with the draft WMP.
3. If the Discharger elects to develop an EWMP, the Discharger shall submit an IMP or CIMP to the Executive Officer of the Los Angeles Regional Water Board by June 28, 2014.
4. If upon finalization of the CIMP, the Discharger developed an IMP and determines the IMP must be revised to include monitoring requirements not covered under the final CIMP, the revised IMP shall be submitted to the Executive Officer of the Los Angeles Regional Water Board within 60 days after approval of the CIMP by the Executive Officer of the Los Angeles Regional Water Board.
5. Monitoring shall commence within 30 days after approval of the IMP, or within 90 days after approval of the CIMP, by the Executive Officer of the Los Angeles Regional Water Board.
6. If the Discharger does not elect to develop a Watershed Management Program (WMP) or Enhanced Watershed Management Program (EWMP) and corresponding IMP or CIMP, monitoring shall be conducted on per the requirements of this MRP, beginning six (6) months after the effective date of this Order.
7. Monitoring requirements pursuant to Order No. 99-060, and pursuant to approved TMDL monitoring plans identified in Table E-1, shall remain in effect until the Executive Officer of the Los Angeles Regional Board approves the Discharger's IMP and/or CIMP.

V. TMDL MONITORING PLANS

Table E-1. Approved TMDL Monitoring Plans by Watershed Management Area

TMDL	Comment	Date of Final Plan	Los Angeles Regional Water Board Approval Date
Dominguez Channel and Greater Harbors Waters Watershed Management Area			
Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL	Monitoring Plan is due on November 23, 2013.	---	---
Los Angeles River Watershed Management Area			

TMDL	Comment	Date of Final Plan	Los Angeles Regional Water Board Approval Date
Los Angeles River Watershed Trash TMDL	Monitoring Plan was not required.	N/A	N/A
Los Angeles River Nitrogen Compounds and Related Effects TMDL	Monitoring Plan was due on March 23, 2005.	March 23, 2005	Has not been approved.
Los Angeles River and Tributaries Metals TMDL	Los Angeles River Metals TMDL Coordinated Monitoring Plan	March 25, 2008	April 11, 2008
Los Angeles River Watershed Bacteria TMDL	Monitoring Plan is due on March 23, 2013.	---	---
Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL	USEPA Established TMDL	N/A	N/A
San Gabriel River Watershed Management Area			
San Gabriel River and Impaired Tributaries Metals and Selenium TMDL	USEPA Established TMDL	N/A	N/A
Los Cerritos Channel and Alamitos Bay Watershed Management Area			
Los Cerritos Channel Metals TMDL	USEPA Established TMDL	N/A	N/A
Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals TMDL	Colorado Lagoon TMDL Monitoring Plan (CLTMP)	June 15, 2012	August 23, 2012

VI. RECEIVING WATER MONITORING

A. Integrated Monitoring Program Receiving Water Monitoring Requirements

1. The IMP shall contain the following information for receiving water monitoring requirements:

a. Declaration of whether receiving water monitoring is conducted under an IMP, CIMP or both.

b. If receiving water monitoring is performed under the IMP, the plan must contain the following information:

i. A map (preferably GIS) identifying the proposed receiving water monitoring stations for both dry weather and wet weather monitoring.

ii. An explanation of how and why monitoring at the proposed locations will provide representative measurement of the effects of the Permittee's MS4 discharges on the receiving water.

iii. Identification of applicable TMDLs and TMDL compliance points, based on approved TMDL Monitoring Plans and/or as identified in the Basin Plan for the applicable TMDLs.

iv. A description of how the Discharger is fulfilling its obligations for TMDL receiving water monitoring under this IMP, CIMP or other monitoring plans.

v. A description of how the Discharger's MS4 effluent is contributing to outfall monitoring locations and to mass emission station monitoring locations. .

B. Coordinated and Integrated Monitoring Program Receiving Water Monitoring Requirements

1. The CIMP shall contain the following information for receiving water monitoring requirements:

a. A list of the participants.

b. A map (preferably GIS) delineating the geographic boundaries of the monitoring plan including the receiving waters, the MS4 catchment drainages and outfalls, subwatershed boundaries (i.e., HUC-12 or HUC-12 equivalent), political boundaries, land use, and the proposed receiving water monitoring stations for both dry weather and wet weather receiving water monitoring.

c. An explanation of how and why monitoring at the proposed locations will provide representative measurement of the effects of the MS4 discharges on the receiving water.

2. The CIMP shall contain the following receiving water monitoring requirements pertaining to TMDLs:

a. A list of applicable TMDLs and TMDL compliance points, based on approved TMDL Monitoring Plans and/or as identified in the Basin Plan for the applicable TMDLs.

b. Identification of the proposed receiving water monitoring stations that fulfill the TMDL Monitoring Plan(s) requirements.

c. Shoreline Monitoring Stations monitored pursuant to a bacteria TMDL. Sampling for bacterial indicators (total coliform, fecal coliform (or E. coli), and enterococcus) at shoreline monitoring locations addressed by a TMDL

shall be conducted 5 times per week at sites subject to the reference system criterion for allowable exceedance days, and weekly at sites subject to the antidegradation criterion for allowable exceedance days.

3. The CIMP shall contain the following receiving water monitoring requirements pertaining to mass emission stations

a. Location of mass emission stations,

b. Description of monitoring at outfalls and at mass emission stations.

C. Minimum Wet Weather Receiving Water Monitoring Requirements

1. The IMP or CIMP shall incorporate the following minimum requirements for monitoring the receiving water during wet weather conditions:

a. The receiving water shall be monitored a minimum of three times per year for all parameters except aquatic toxicity, which must be monitored at least twice per year, or more frequently if required by applicable TMDL Monitoring Plans.

b. Monitoring shall be performed in the receiving water during wet weather conditions, defined for the purposes of this monitoring program as follows:

i. When the receiving water is an ocean or estuarine water body, wet weather occurs during a storm event of greater than or equal to 0.1 inch of precipitation, as measured from at least 50 percent of the Los Angeles County controlled rain gauges within the watershed, or based on an alternative precipitation threshold as provided for in an approved IMP or CIMP.

ii. When the receiving water body is a river, stream or creek, wet weather shall be defined as when the flow within the receiving water is at least 20 percent greater than the base flow or an alternative threshold as provided for in an approved IMP or CIMP, or as defined by effective TMDLs within the watershed.

iii. Monitoring shall occur during wet weather conditions, including targeting the first significant rain event of the storm year following the criteria below, and at least two additional wet weather events within the same wet weather season. The Discharger shall target the first storm event of the storm year with a predicted rainfall of at least 0.25 inch at a seventy percent probability of rainfall at least 24 hours prior to the event start time. The Discharger shall target subsequent storm events that forecast sufficient rainfall and runoff to meet program objectives and site specific study needs. Sampling events shall be separated by a minimum of three days of dry conditions (less than 0.1 inch of rain each day).

c. Wet weather receiving water monitoring shall begin as soon as possible after storm water outfall-based monitoring, in order to be reflective of potential impacts from MS4 discharges.

d. At a minimum, the following parameters shall be monitored unless a surrogate pollutant has been approved by the Executive Officer of the Los Angeles Regional Water Board.

i. Flow

ii. Pollutants assigned a receiving water limitation derived from TMDL WLAs (See Part VIII of this Order),

iii. Other pollutants identified on the CWA Section 303(d) List for the receiving water or downstream receiving waters,

iv. Total Suspended Solids (TSS) and Suspended-Sediment Concentration (SSC) if the receiving water is listed on the CWA 303(d) list for sedimentation, siltation or turbidity,[1]

v. Field measurements applicable to inland freshwater bodies only: hardness, pH, dissolved oxygen, temperature, and specific conductivity,

vi. Aquatic Toxicity (twice per year, once during first storm event of the storm year as specified above).

e. Additionally, the screening parameters in Table E-2 shall be monitored in the first year of monitoring during the first significant rain event of the storm year. If a parameter is not detected at the Method Detection Limit (MDL) for its respective test method or the result is below the lowest applicable water quality objective, and is not otherwise identified in subparts d.i.-d.vi. above, it need not be further analyzed. If a parameter is detected exceeding the lowest applicable water quality objective then the parameter shall be analyzed for the remainder of the Order during wet weather at the receiving water monitoring station where it was detected.

D. Minimum Dry Weather Receiving Water Monitoring

1. The IMP and/or CIMP shall incorporate the following minimum requirements for monitoring the receiving water during dry weather conditions:

a. The receiving water shall be monitored a minimum of two times per year for all parameters, or more frequently if required by applicable TMDL Monitoring Plans. One of the monitoring events shall be during the month with the historically lowest instream flows, or where instream flow data are not available, during the historically driest month.

b. Monitoring shall be performed in the receiving water during dry weather conditions, defined as follows:

i. When the receiving water is the ocean or estuary water body, dry weather occurs on days with less than 0.1 inch of rain and those days

[1] Gray, John, R., G. Douglas Glysson, Lisa M. Turcios, and Gregory E. Schwarz. 2000. *Comparability of Suspended-Sediment Concentration and Total Suspended Solids Data*. United States Geological Survey. Water Resources Investigations Report 00-4191. August 2000.

not less than three days after a rain event of 0.1 inch or greater within the watershed, as measured from at least 50 percent of Los Angeles County controlled rain gauges within the watershed, or an alternative criterion as provided for in an approved IMP or CIMP.

ii. When the receiving water body is a river, stream or creek, dry weather shall be defined as when the flow is less than 20 percent greater than the base flow or as defined by effective TMDLs within the watershed, or an alternative criterion as provided for in an approved IMP or CIMP.

c. At a minimum the following parameters shall be monitored during dry weather conditions, unless a surrogate pollutant has been approved by the Executive Officer of the Los Angeles Regional Water Board:

i. Flow

ii. Pollutants assigned receiving water limitations derived from TMDL dry weather WLAs,

iii. Other pollutants identified on the CWA Section 303(d) List for the receiving water or downstream receiving waters,

iv. TSS, pH, and hardness, when metals are monitored,

v. Field measurements for monitoring of inland freshwater bodies: dissolved oxygen, pH, temperature, and specific conductance,

vi. Aquatic Toxicity (once per year, during the month with the historically lowest flows).

d. Additionally, the parameters in Table E-2 shall be monitored in the first year of monitoring during the critical dry weather event. If a parameter is not detected at the Method Detection Limit (MDL) for its respective test method or the result is below the lowest applicable water quality objective, and is not otherwise identified in subparts c.i.-c.iii. or c.v.-c.vii. above, it need not be further analyzed. If a parameter is detected exceeding the lowest applicable water quality objective then the parameter shall be analyzed for the remainder of the Order during dry weather at the receiving water monitoring station where it was detected.

Table E-2. Storm Water Monitoring Program's Constituents with Associated Minimum Levels (MLs)[2]

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	**mg/L**
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005

[2] For priority pollutants, MLs published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (SIP) shall be used for all analyses, unless otherwise specified. Method Detection Levels (MDLs) must be lower than or equal to the ML value, unless otherwise approved by the Regional Board.

CONSTITUENTS	MLs
pH	0 - 14
Temperature	N/A
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA (single sample limits)	**MPN/100ml**
Total coliform (marine waters)	10,000
Enterococcus (marine waters)	104
Fecal coliform (marine & fresh waters)	400
E. coli (fresh waters)	235
GENERAL	**mg/L**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1 NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1 umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1
Perchlorate	4 µg/L
METALS (Dissolved & Total)	**µg/L**
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Chromium (Hexavalent)	5
Copper	0.5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	
ACIDS	**µg/L**
2-Chlorophenol	2
4-Chloro-3-methylphenol	1
2,4-Dichlorophenol	1

CONSTITUENTS	MLs
2,4-Dimethylphenol	2
2,4-Dinitrophenol	5
2-Nitrophenol	10
ACIDS	**µg/L**
4-Nitrophenol	5
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	**µg/L**
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexl) phthalate	5
4-Bromophenyl phenyl ether	5
Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5

CONSTITUENTS	MLs
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
BASE/NEUTRAL	**µg/L**
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	**µg/L**
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02
beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
POLYCHLORINATED BIPHENYLS	**µg/L**
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	**µg/L**
Atrazine	2
Chlorpyrifos	0.05
Cyanazine	2
Diazinon	0.01
Malathion	1
Prometryn	2
Simazine	2
HERBICIDES	**µg/L**
2,4-D	10
Glyphosate	5
2,4,5-TP-SILVEX	0.5

VII. OUTFALL MONITORING

A. Storm Drains, Channels and Outfalls Map(s) and/or Database. The IMP and/or CIMP shall include a map(s) and/or database of the MS4 to include the following information:

1. Surface water bodies receiving discharges from the MS4
2. Sub-watershed (HUC-12 or HUC-12 equivalent) boundaries
3. Land use overlay
4. Effective Impervious Area (EIA) overlay (if available)
5. Jurisdictional boundaries
6. The location and length of all open channel and underground pipes 18 inches in diameter or greater (with the exception of catch basin connector pipes)
7. The location of all dry weather diversions
8. The location of all major MS4 outfalls within the Discharger's jurisdictional boundary. Each major outfall shall be assigned an alphanumeric identifier, which must be noted on the map
9. Notation of outfalls with significant non-storm water discharges (to be updated annually)
10. Storm drain outfall catchment areas for each major outfall within the Discharger's jurisdiction
11. Each mapped MS4 outfall shall be linked to a database containing descriptive and monitoring data associated with the outfall. The data shall include:
    a. Ownership
    b. Latitude and longitude coordinates
    c. Physical description
    d. Photographs of the outfall, where possible, to provide baseline information to track operation and maintenance needs over time
    e. Determination of whether the outfall conveys significant non-storm water discharges
    f. Storm water and non-storm water monitoring data

VIII. STORM WATER OUTFALL MONITORING

A. Storm Water Outfall Based Monitoring

1. Storm water discharges from the MS4 shall be monitored at outfalls and/or alternative access points such as manholes or in channels at the Discharger's jurisdictional boundary.
2. The Discharger shall consider the following criteria when selecting outfalls for storm water discharge monitoring:
    a. The storm water outfall based monitoring program should ensure representative data by monitoring at least one major outfall per subwatershed (HUC-12 or HUC-12 equivalent) drainage area, within the Permittee's jurisdiction, or alternate approaches as approved in an IMP or CIMP.

b. The drainage(s) to the selected outfall(s) shall be representative of the land uses within the Discharger's jurisdiction.

c. If the Discharger implements an IMP, to the extent possible, the selected outfalls shall not receive drainage from another jurisdiction. If this is not possible, the Discharger shall conduct "upstream" and "downstream" monitoring as the system enters and exits the Discharger's jurisdiction.

d. The Discharger shall select outfalls with configurations that facilitate accurate flow measurement and consideration of safety of monitoring personnel.

e. The specific location of sample collection may be within the MS4 upstream of the actual outfall to the receiving water if field safety or accurate flow measurement require it.

B. Minimum Storm Water Outfall Based Monitoring Requirements

1. The IMP and/or CIMP shall incorporate the following minimum requirements for monitoring storm water outfalls:

a. Storm water discharges shall be monitored a minimum of three times per year for all parameters except aquatic toxicity.

b. Monitoring shall be performed at the selected outfalls during wet weather conditions, defined for the purposes of this monitoring program as follows:

i. When the receiving water is the ocean or estuary water body, wet weather occurs during a storm event equal to or greater than 0.1 inch of precipitation, as determined by the closest Los Angeles County rain gauge to the catchment area draining to the outfall, or based on an alternative precipitation threshold as provided for in an approved IMP or CIMP.

ii. When the receiving water body is a river, stream or creek, wet weather shall be defined as when the flow within the receiving water is at least 20 percent greater than the base flow or an alternative threshold as provided for in an approved IMP or CIMP, or as defined by effective TMDLs within the watershed.

iii. Monitoring of storm water discharges shall occur during wet weather conditions resulting from the first rain event of the year, and at least two additional wet weather events within the same wet weather season. The Discharger shall target the first storm event of the storm year with a predicted rainfall of at least 0.25 inch at a seventy percent probability of rainfall at least 24 hours prior to the event start time. The Discharger shall target subsequent storm events that forecast sufficient rainfall and runoff to meet program objectives and site specific study needs. Sampling events shall be separated by a minimum of three days of dry conditions (less than 0.1 inch of rain each day).

c. At a minimum, the following parameters shall be monitored unless a surrogate pollutant has been approved by the Executive Officer of the Los Angeles Regional Water Board:

i. Flow

ii. Pollutants assigned a WQBEL derived from TMDL WLAs (See Part VIII of this Order),

iii. Other pollutants identified on CWA Section 303(d) List for the receiving water or downstream receiving waters,

iv. Total Suspended Solids (TSS) and Suspended-Sediment Concentration (SSC) if the receiving water is listed on the CWA Section 303(d) list for sedimentation, siltation or turbidity,

v. Field measurements applicable to inland freshwater bodies only: hardness, pH, dissolved oxygen, temperature, and specific conductivity,

vi. Pollutants identified in a TIE conducted at the downstream receiving water monitoring station during the most recent sample event, or where the TIE conducted on the receiving water sample was inconclusive, aquatic toxicity. If the discharge exhibits aquatic toxicity, then a TIE shall be conducted.

d. Other parameters in Table E-2 identified as exceeding the lowest applicable water quality objective in the nearest downstream receiving water monitoring station per Part VI.C.1.e.

C. Sampling Methods

1. Samples shall be collected during the first 24 hours of the storm water discharge or for the entire storm water discharge if it is less than 24 hours.

2. If the Discharger is not participating in a IMP or CIMP, the flow-weighted composite sample for a storm water discharge shall be taken with a continuous sampler, or it shall be taken as a combination of a minimum of 3 sample aliquots, taken in each hour of discharge for the first 24 hours of the discharge or for the entire discharge if the storm event is less than 24 hours, with each aliquot being separated by a minimum of 15 minutes within each hour of discharge, unless the Los Angeles Regional Water Board Executive Officer approves an alternate protocol.

IX. NON-STORM WATER OUTFALL SCREENING AND MONITORING

A. Objectives of the Non-Storm Water Outfall Screening and Monitoring Program

The outfall screening and monitoring process is intended to meet the following objectives.

1. Develop criteria or other means to ensure that all outfalls with significant non-storm water discharges are identified and assessed during the term of this Order.
2. For outfalls determined to have significant non-storm water flow, determine whether flows are the result of illicit connections/illicit discharges (IC/IDs), authorized or conditionally exempt non-storm water flows, natural flows, or from unknown sources.
3. Refer information related to identified IC/IDs to the IC/ID Elimination Program (Part VII.D of this Order) for appropriate action.
4. Based on existing screening or monitoring data or other institutional knowledge, assess the impact of non-storm water discharges (other than identified IC/IDs) on the receiving water.
5. Prioritize monitoring of outfalls considering the potential threat to the receiving water and applicable TMDL compliance schedules.
6. Conduct monitoring or assess existing monitoring data to determine the impact of non-storm water discharges on the receiving water.
7. Conduct monitoring or other investigations to identify the source of pollutants in non-storm water discharges.
8. Use results of the screening process to evaluate the conditionally exempt non-storm water discharges identified in Parts IV.B.2 of this Order and take appropriate actions pursuant to Part IV.B.3 of this Order for those discharges that have been found to be a source of pollutants. Any future reclassification shall occur per the conditions in Parts IV.B.3 of this Order.
9. Maximize Discharger resources by integrating the screening and monitoring process into existing or planned IMP and/or CIMP efforts.

B. Outfall Screening and Monitoring Plan

1. Concurrent with the development of an IMP or CIMP, or within one (1) year of the effective date of this Order, the Discharger shall submit a non-storm water outfall-based screening and monitoring program plan that documents with written procedures an explanation of how the program is to be implemented. The procedures must be updated as needed to reflect the Discharger's program. The plan may be a separate stand-alone document or may be part of an IMP or CIMP.
2. The Discharger shall conduct at least one re-assessment of its non-storm water outfall-based screening and monitoring program during the term of this Order to determine whether changes or updates are needed. Where changes are needed, the Discharger shall make the changes in its written program documents, implement these changes in practice after obtaining approval from the Los Angeles Regional Board Executive Officer, and describe the changes within the next annual report.

C. Identification of Outfalls with Significant Non-Storm Water Discharge

1. Based on the inventory of MS4 outfalls required under Part VII of this MRP, the Discharger shall identify MS4 outfalls with significant non-storm water discharges. Significant non-storm water discharges may be determined by one or more of the following characteristics:
   - **a.** Discharges from major outfalls subject to dry weather TMDLs.
   - **b.** Discharges for which existing monitoring data exceeds non-storm water Action Levels identified in Attachment G of this Order.
   - **c.** Non-storm water discharges that have caused or have the potential to cause overtopping of downstream diversions.
   - **d.** Discharges exceeding a proposed threshold discharge rate as determined by the Discharger.
   - **e.** Discharges with the largest pollutant loading into the receiving waters;
   - **f.** Other characteristics as determined by the Discharger and incorporated within their screening program plan.

D. Inventory of MS4 Outfalls with Non-Storm Water Discharges

1. The Discharger shall develop and maintain an inventory of MS4 outfalls and identify those with known significant non-storm water discharges and those requiring no further assessment. If the MS4 outfall requires no further assessment, the inventory must include the rationale for the determination of no further action required. This inventory shall be recorded in a database with outfall locations linked to the storm drains, channels and outfalls map required in Part VII.A of this MRP. A GIS version is preferred.
2. As a component of the inventory, the Discharger shall record existing data from past outfall screening and monitoring and initiate data collection efforts as warranted. The data shall include the physical attributes of those MS4 outfalls or alternative monitoring locations determined to have significant non-storm water discharges. Attributes to be obtained shall, at a minimum, include:
   - **a.** Date and time of last visual observation or inspection
   - **b.** Outfall alpha-numeric identifier
   - **c.** Description of outfall structure including size (e.g., diameter and shape)
   - **d.** Description of receiving water at the point of discharge (e.g., natural, soft-bottom with armored sides, trapezoidal, concrete channel)
   - **e.** Latitude/longitude coordinates
   - **f.** Nearest street address
   - **g.** Parking, access, and safety considerations
   - **h.** Photographs of outfall condition

i. Photographs of significant non-storm water discharge (or indicators of discharge) unless safety considerations preclude obtaining photographs

j. Estimation of discharge rate

k. All diversions either upstream or downstream of the outfall

l. Observations regarding discharge characteristics such as turbidity, odor, color, presence of debris, floatables, or characteristics that could aid in pollutant source identification.

4. Each year, the storm drains, channels and outfalls map and associated outfall database required in Part VII.A of the MRP shall be updated to incorporate the most recent characterization data for outfalls with significant non-storm water discharge.

E. Prioritized Source Identification

1. Outfalls within the inventory shall be prioritized in the following order (a= highest priority, etc.) for source identification activities:

a. Outfalls discharging directly to receiving waters with WQBELs or receiving water limitations in the TMDL provisions for which final compliance deadlines have passed.

b. All major outfalls and other outfalls that discharge to a receiving water subject to a TMDL shall be prioritized according to TMDL compliance schedules.

c. Outfalls for which monitoring data exist and indicate recurring exceedances of one or more of the Action Levels identified in Attachment G of this Order.

d. All other major outfalls identified to have significant non-storm water discharges.

2. The Discharger shall develop a source identification schedule based on the prioritized list of outfalls exhibiting significant non-storm water discharges. The schedule shall ensure that source investigations are conducted for no less than 25% of the outfalls in the inventory within three years of the effective date of this Order and 100% of the outfalls in the inventory within 5 years of the effective date of this Order.

3. Alternatively, the Discharger may request an alternative prioritization and schedule from the Los Angeles Regional Water Board if it can demonstrate an equivalent level of source investigation and abatement through an approved IMP or CIMP.

F. Identify Source(s) of Significant Non-Storm Water Discharge

1. If the source is determined to be an illicit discharge, the Discharger shall implement procedures to eliminate the discharge consistent with IC/ID requirements and document the actions in the next annual report.

2. If the source is determined to be an NPDES permitted discharge, a discharge subject to a Record of Decision approved by USEPA pursuant to Section 121 of CERCLA, a conditionally exempt essential non-storm water discharge, or entirely comprised of natural flows as defined at Part IV.B.2 of this Order, the Discharger shall document the source and report it to the Los Angeles Regional Water Board in the next annual report.
3. If the source is either unknown or a conditionally exempt, but non-essential, non-storm water discharge, the Discharger shall conduct monitoring required in Part IX.G of this MRP.
4. If the discharge is comprised of more than one source, the Discharger shall attempt to quantify the relative contribution from the individual or group of similar sources (e.g., irrigation overspray) and classify the contributions as authorized, conditionally exempt essential, natural, illicit discharge, conditionally exempt non-essential, or unknown.
5. If the source of non-storm water discharge is unknown, the Discharger shall describe the efforts undertaken to identify the source. Methods for identifying the source of non-storm water discharge may include inspection and/or surveillance, discharge monitoring and data loggers, video or physical inspection, monitoring for indicator parameters (e.g., surfactants, chlorine, Pyrethroids), or other means.
6. If a source originates within an upstream jurisdiction, the Discharger shall inform in writing both the upstream jurisdiction and the Los Angeles Regional Water Board within 30 days of determination of the presence of the discharge, all available characterization data, contribution determination efforts, and efforts taken to identify its source.
7. MS4 outfalls requiring no further action shall continue to be included in the storm drains, channels and outfalls map and associated database (see Part VII.A. of this MRP).

G. Monitor Non-Storm Water Discharges Exceeding Criteria

1. Within 90 days after completing the source identification or after the Los Angeles Regional Board Executive Officer approves the IMP or CIMP, whichever is later, the Discharger shall monitor outfalls that have been determined to convey significant discharges comprised of either unknown or conditionally exempt non-storm water discharges, or continuing discharges attributed to illicit discharges. The following parameters shall be monitored:
   a. Flow,
   b. Pollutants assigned a WQBEL or receiving water limitation to implement TMDL Provisions for the respective receiving water, as identified in Part VIII of this Order,
   c. Other pollutants identified on the CWA Section 303(d) List for the receiving water or downstream receiving waters,

d. Pollutants identified in a TIE conducted in response to observed aquatic toxicity during dry weather at the nearest downstream receiving water monitoring station during the last sample event or, where the TIE conducted on the receiving water sample was inconclusive, aquatic toxicity. If the discharge exhibits aquatic toxicity, then a TIE shall be conducted.

e. Other parameters in Table E-2 identified as exceeding the lowest applicable water quality objective in the nearest downstream receiving water monitoring station per Part VI.A.

2. For outfalls subject to a dry weather TMDL, monitoring frequency shall be per the approved TMDL Monitoring Plan or as otherwise specified in the TMDL, or as specified in an IMP or CIMP approved by the Executive Officer of the Los Angeles Regional Water Board.

3. For outfalls not subject to dry weather TMDLs, monitoring frequency shall be four times during the first year following source identification, distributed approximately quarterly, during dry weather conditions or as specified in an IMP or CIMP approved by the Executive Officer of the Los Angeles Regional Water Board.

4. Except as required by an applicable TMDL Monitoring Plan, IMP, or CIMP approved by the Executive Officer of the Los Angeles Regional Water Board, monitoring frequency may be reduced to twice per year, beginning in the second year of monitoring, if pollutant concentrations measured during the first year do not exceed WQBELs, non-storm water Action Levels or water quality standards for other pollutants identified on the CWA Section 303(d) List for the receiving water or downstream receiving waters.

5. Following one year of monitoring, the Discharger may submit a written request to the Executive Officer of the Los Angeles Regional Water Board to reduce or eliminate monitoring of specified pollutants, based on an evaluation of the monitoring data.

H. Sampling Methods

1. For the purposes of this monitoring program, non-storm water discharges shall be monitored during days when precipitation is < 0.1 inch and those days not less than 3 days after a rain day unless an alternative criterion is provided for in an approved IMP or CIMP. A rain day is defined as those with >= 0.1 inch of rain.

2. Flow-weighted composite samples shall be taken for a non-storm water discharge using a continuous sampler, or it shall be taken as a combination of a minimum of 3 sample aliquots, taken in each hour during a 24-hour period, unless the Los Angeles Regional Water Board Executive Officer approves an alternate protocol.

X. NEW DEVELOPMENT/RE-DEVELOPMENT EFFECTIVENESS TRACKING

A. The Discharger shall maintain a database providing the following information for each new development/re-development subject to the requirements of Part VII.D of this Order that is approved by the Discharger on or after the effective date of this Order:

1. Name of the Project and Developer,

2. Project location and map (preferably linked to the GIS storm drain map),

3. Date of Certificate of Occupancy,

4. 85th percentile storm event for the project design (inches per 24 hours),

5. Project design storm (inches per 24-hours),

6. Project design storm volume (gallons or MGD),

7. Percent of design storm volume to be retained on site,

8. Design volume for water quality mitigation treatment BMPs, if any.

9. If flow through, water quality treatment BMPs are approved, provide the one-year, one-hour storm intensity as depicted on the most recently issued isohyetal map published by the Los Angeles County Hydrologist,

10. Percent of design storm volume to be infiltrated at an off-site mitigation or groundwater replenishment project site,

11. Percent of design storm volume to be retained or treated with biofiltration at an off-site retrofit project,

12. Location and maps (preferably linked to the GIS storm drain map required in Part VII.A of this MRP) of off-site mitigation, groundwater replenishment, or retrofit sites,

13. Documentation of issuance of requirements to the developer.

XI. REGIONAL STUDIES

A. Southern California Stormwater Monitoring Coalition Watershed Monitoring Program

1. The Southern California Stormwater Monitoring Coalition (SMC) Regional Watershed Monitoring Program was initiated in 2008. This program is conducted in collaboration with the Southern California Coastal Water Research Project (SCCWRP), State Water Board's Surface Water Ambient Monitoring Program, three Southern California Regional Water Quality Control Boards (Los Angeles, Santa Ana, and San Diego) and several county storm water agencies (Los Angeles, Ventura, Orange, Riverside, San Bernardino and San Diego). SCCWRP acts as the facilitator to organize the program and completes data analysis and report preparation.

2. The SMC monitoring program seeks to coordinate and leverage existing monitoring efforts to produce regional estimates of condition, improve data

comparability and quality assurance, and maximize data availability, while conserving monitoring expenditures. The primary goal of this program is to implement an ongoing, large-scale regional monitoring program for southern California's coastal streams and rivers. The monitoring program addresses three main questions:

a. What is the condition of streams in southern California?

b. What are the stressors that affect stream condition?; and

c. Are conditions getting better or worse?

3. A comprehensive program was designed by the SMC, in which each participating group assesses its local watersheds and then contributes their portion to the overall regional assessment. The program utilizes the following indicators: benthic macroinvertebrate community bioassessment, benthic algal community bioassessment (soft algae and diatoms), riparian wetland evaluation (using California Rapid Assessment Methodology), water chemistry (nutrients and certain pesticides), water toxicity (using *Ceriodaphnia*), and physical habitat. Sampling occurs in 15 coastal southern California watersheds from Ventura to the US-Mexico border, and sites are sampled randomly across three land use types (open space, urban and agriculture). Six sites are sampled per year per watershed, resulting in monitoring of 90 sites per year and 450 sites overall over a five-year period (reaching the statistically desirable target of 30 data points per watershed).

4. To continue to implement the SMC design, the Discharger shall be responsible for supporting the monitoring described at the sites within the watershed management area(s) that overlap with the Discharger's jurisdictional area. The Discharger shall continue to contribute monitoring resources to the San Gabriel River and Los Angeles River Regional Watershed Monitoring Programs (overall, both of these programs fund six sites per year to contribute to the SMC Program).

XII. AQUATIC TOXICITY MONITORING METHODS

A. Aquatic Toxicity Monitoring as required in Parts VI (Receiving Water Monitoring), VIII (Storm Water Outfall Based Monitoring), and IX (Non-storm Water Outfall Based Monitoring) of this MRP, shall be conducted according to the procedures described in this Part. When the State Water Board's *Policy for Toxicity Assessment and Control* is fully approved and in effect, the Los Angeles Regional Water Board Executive Officer may direct the Discharger to replace current toxicity program elements with standardized procedures in the policy.

B. The Discharger shall collect and analyze samples taken from receiving water monitoring locations to evaluate the extent and causes of toxicity in receiving waters.

C. Toxicity samples may be flow-weighted composite samples, or grab samples, for wet and dry event sampling.

D. The total sample volume shall be determined both by the specific toxicity test method used and the additional volume necessary for TIE studies. Sufficient sample volume shall be collected to perform both the required toxicity tests and TIE studies.

E. Holding Times. All toxicity tests shall be conducted as soon as possible following sample collection. The 36-hour sample holding time for test initiation shall be targeted. However, no more than 72 hours shall elapse before the conclusion of sample collection and test initiation.

F. Definition of Chronic Toxicity. Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or receiving waters compared to that of the control organisms.

G. Chronic Toxicity Monitoring Programs.

1. Freshwater Test Species and Methods.

If samples are collected in receiving waters with salinity <1 ppt, or from outfalls discharging to receiving waters with salinity <1 ppt, then the Discharger shall conduct the following critical life stage chronic toxicity tests on undiluted samples in accordance with species and short-term test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002; Table IA, 40 CFR Part 136). In no case shall the following test species be substituted with another organism unless written authorization from the Los Angeles Regional Water Board Executive Officer is received.

i. A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0[3]).

ii. A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0[5]).

iii. A static renewal toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

2. Marine and Estuarine Test Species and Methods.

If samples are collected in receiving waters with salinity $\geq$1 ppt, or from outfalls discharging to receiving waters with salinity $\geq$1 ppt, then the Discharger shall conduct the following critical life stage chronic toxicity tests on undiluted samples in accordance with species and short-term test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts shall be used to increase sample salinity. In no case shall the following test species be substituted with

[3] Daily observations for mortality make it possible to calculate acute toxicity for desired exposure periods (e.g., a 7-day acute endpoint).

another organism unless written authorization from the Regional Water Board Executive Officer is received.

a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01[5]);

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus* (Fertilization Test Method 1008.0); and

c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

3. Test Species Sensitivity Screening.

To determine the most sensitive test species, the Discharger shall conduct two wet weather and two dry weather toxicity tests with a vertebrate, an invertebrate, and a plant. After this screening period, subsequent monitoring shall be conducted using the most sensitive test species. Alternatively, if a sensitive test species has already been determined, or if there is prior knowledge of potential toxicant(s) and a test species is sensitive to such toxicant(s), then monitoring shall be conducted using only that test species. Sensitive test species determinations shall also consider the most sensitive test species used for proximal receiving water monitoring. After the screening period, subsequent monitoring shall be conducted using the most sensitive test species. Rescreening shall occur in the fourth year of the permit term.

4. Chronic toxicity test biological endpoint data shall be analyzed using the Test of Significant Toxicity t-test approach specified in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, D.C. EPA 833-R-10-003, 2010). For this monitoring program, the critical chronic instream waste concentration (IWC) is set at 100% receiving water for receiving water samples and 100% effluent for wet- and dry-weather outfall samples. A 100% receiving water/outfall effluent sample and a control shall be tested.

H. Quality Assurance.

1. If the receiving water or outfall effluent test does not meet all test acceptability criteria (TAC) specified in the test methods manuals (*Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002) and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995)), then the Discharger must re-sample and re-test at the earliest time possible.

2. Control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manuals.

3. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests

and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).

I. Toxicity Identification Evaluation (TIE).

1. A toxicity test sample is immediately subject to TIE procedures to identify the toxic chemical(s), if either the survival or sublethal endpoint demonstrates a percent effect value equal to or greater than 50% at the IWC. Percent effect is defined as the effect value—denoted as the difference between the mean control response and the mean IWC response, divided by the mean control response—multiplied by 100.

2. A TIE shall be performed to identify the causes of toxicity using the same species and test method and, as guidance, U.S. EPA manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

3. The TIE should be conducted on the test species demonstrating the most sensitive toxicity response at a sampling station. A TIE may be conducted on a different test species demonstrating a toxicity response with the caveat that once the toxicant(s) are identified, the most sensitive test species triggering the TIE shall be further tested to verify that the toxicant has been identified and addressed.

4. A TIE Prioritization Metric (see Appendix 5 in SMC Model Monitoring Program) may be utilized to rank sites for TIEs.

J. Toxicity Reduction Evaluation (TRE).

1. When a toxicant or class of toxicants is identified through a TIE conducted at a receiving water monitoring station, the Discharger shall analyze for the toxicant(s) during the next scheduled sampling event in the discharge from the outfall(s) upstream of the receiving water location.

2. If the toxicant is present in the discharge from the outfall at levels above the applicable receiving water limitation, a TRE shall be performed for that toxicant.

3. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. No later than 30 days after the source of toxicity and appropriate BMPs are identified, the Discharger shall submit a TRE Corrective Action Plan to the Regional Water Board Executive Officer for approval. At minimum, the plan shall include a discussion of the following:

a. The potential sources of pollutant(s) causing toxicity.

b. A list of municipalities and agencies that may have jurisdiction over sources of pollutant(s) causing toxicity.

c. Recommended BMPs to reduce the pollutant(s) causing toxicity.

d. Proposed post-construction control measures to reduce the pollutant(s) causing toxicity.

e. Follow-up monitoring to demonstrate that the toxicants have been reduced or eliminated.

4. The TRE process shall be coordinated with TMDL development and implementation (i.e., if a TMDL for 4,4'-DDD is being implemented when a TRE for 4,4'-DDD is required, then efforts shall be coordinated to avoid overlap).

K. Chronic Toxicity Reporting

1. Aquatic toxicity monitoring results submitted to the Regional Water Board shall be consistent with the requirements identified in Part XIV.L and M and Part XVIII.A.5 and A.7 of the MRP.

2. The Annual Report in Part XVIII of the MRP shall include:

a. A full laboratory report for each chronic toxicity test prepared according to the appropriate test methods manual chapter on Report Preparation, including:

i. The chronic toxicity test results for the t-test, reported as “Pass” or “Fail”, and the “Percent Effect”.

ii. The dates of sample collection and initiation of each toxicity test.

iii. Test species with biological endpoint values for each concentration tested.

iv. Reference toxicant test results.

v. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

vi. TRE/TIE testing results.

vii. A printout of CETIS (Comprehensive Environmental Toxicity Information System) program results.

b. All results for receiving water or outfall effluent parameters monitored concurrently with the toxicity test.

c. TIEs (Phases I, II, and III) that have been completed or are being conducted, by monitoring station.

d. The development, implementation, and results for each TRE Corrective Action Plan, beginning the year following the identification of each pollutant or pollutant class causing chronic toxicity.

XIII. SPECIAL STUDIES

A. The Discharger shall be responsible for conducting special studies required in an effective TMDL or an approved TMDL Monitoring Plan applicable to a watershed that transects its political boundary.

XIV. STANDARD MONITORING AND REPORTING PROVISIONS

A. All monitoring and reporting activities shall meet the following requirements.

1. Monitoring and Records [40 CFR § 122.41(j)(1)]

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. Monitoring and Records [40 CFR § 122.41(j)(2)] [California Water Code § 13383(a)]

i. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge (ROWD) and application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board Executive Officer or USEPA at any time.

c. Monitoring and Records [40 CFR § 122.41(j)(3)]

i. Records of monitoring information shall include:

1. The date, time of sampling or measurements, exact place, weather conditions, and rain fall amount.

2. The individual(s) who performed the sampling or measurements.

3. The date(s) analyses were performed.

4. The individual(s) who performed the analyses.

5. The analytical techniques or methods used.

6. The results of such analyses.

7. The data sheets showing toxicity test results.

d. Monitoring and Records [40 CFR § 122.41(j)(4)]. All monitoring, sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR Part 136 for the analysis of pollutants, unless another test procedure is required under 40 CFR subchapter N or O or is otherwise specified in this Order for such pollutants. If a particular Minimum Level (ML) is not attainable in accordance with procedures set forth in 40 CFR Part 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

e. Monitoring and Records [40 CFR § 122.41(j)(5)]. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

B. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory that is:

1. Certified for such analyses by an appropriate governmental regulatory agency.

2. A participant in "Intercalibration Studies" for storm water pollutant analysis conducted by the SMC.[4]

3. Which performs laboratory analyses consistent with the storm water monitoring guidelines as specified in, the S*tormwater Monitoring Coalition Laboratory Guidance Document,* 2nd Edition R. Gossettt and K. Schiff (2007), and its revisions.

C. For priority toxic pollutants that are identified in the CTR (40 CFR § 131.38), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (SIP) shall be used for all analyses, unless otherwise specified.

D. The Monitoring Report shall specify the analytical method used, the Method Detection Level (MDL) and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML.

2. "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

3. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

[4] The 'Intercalibration Studies' are conducted periodically by the SMC to establish a consensus based approach for achieving minimal levels of comparability among different testing laboratories for storm water samples to minimize analytical procedure bias. Stormwater Monitoring Coalition Laboratory Document, Technical Report 420 (2004) and subsequent revisions and augmentations.

E. For priority toxic pollutants, if the Discharger can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR Part 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Discharger must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to raising the ML for any constituent.

F. Monitoring Reports [40 CFR § 122.41(l)(4)(ii)].

1. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136, or another method specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the Annual Monitoring Reports.

G. Monitoring Reports [40 CFR § 122.41(l)(4)(iii)]

1. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

H. If no flow occurred during the reporting period, then the Monitoring Report shall so state.

I. The Regional Water Board or its Executive Officer, consistent with 40 CFR section 122.41, may approve changes to the Monitoring and Reporting Program, after providing the opportunity for public comment, either:

1. By request of the Discharger or by an interested person after submittal of the Monitoring Report. Such request shall be in writing and filed not later than 60 days after the Monitoring Report submittal date, or

2. As deemed necessary by the Regional Water Board Executive Officer, following notice to the Discharger.

J. The Discharger must provide a copy of the Standard Operation Procedures (SOPs) for the Monitoring and Reporting Program to the Regional Water Board upon request. The SOP will consist of five elements: Title page, Table of Contents, Procedures, Quality Assurance/ Quality Control (QA/ QC), and References. Briefly describe the purpose of the work or process, including any regulatory information or standards that are appropriate to the SOP process, and the scope to indicate what is covered. Denote what sequential procedures should be followed, divided into significant Sections; e.g., possible interferences, equipment needed, equipment/instrument maintenance and calibration, personnel qualifications, and safety considerations. Describe QA/ QC activities, and list any cited or significant references.

K. When monitoring cannot be performed to comply with the requirements of this Order due to circumstances beyond the Discharger's control, then within two working days, the following shall be submitted to the Regional Water Board Executive Officer:

1. Statement of situation.
2. Explanation of circumstance(s) with documentation.
3. Statement of corrective action for the future.

L. Results of monitoring from each receiving water or outfall based monitoring station conducted in accordance with the Standard Operating Procedure submitted under Standard Provision 14 of this MRP shall be sent electronically per the Regional Water Board's paperless office guidelines to the Regional Water Board's Storm Water at losangeles@waterboards.ca.gov, semi-annually, highlighting exceedances of applicable WQBELs, receiving water limitations, action levels, or aquatic toxicity thresholds for all test results, with corresponding sampling dates per receiving water monitoring station. The sample data transmitted shall be in the most recent update of the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs).

XV. ANNUAL REPORT SUBMITTAL TIMELINES

A. The Discharger shall submit an annual report no later than December 15, 2014 and annually thereafter to the Regional Water Board. The Discharger shall submit the annual report in hard copy and electronically to losangeles@waterboards.ca.gov per the Regional Board's paperless office guidelines. The monitoring data shall be submitted in SWAMP format compatible with Microsoft Excel 2010 or newer version.

XVI. ANNUAL REPORTING REQUIREMENT OBJECTIVES

A. The annual reporting process is intended to meet the following objectives.

1. Present summary information that allows the Regional Water Board to assess overall compliance with this Order and answer the following:
   - **a.** Are the surface waters receiving the Discharger's MS4 discharge meeting water quality standards during the wet and dry season?
   - **b.** What are the annual MS4 pollutant loadings to the receiving waters during the wet and dry season?
   - **c.** What are the individual and median pollutant concentrations in the outfalls by season?
   - **d.** What are the general sources (areas of concern) of the pollutant loadings into receiving waters during the dry and wet season?
   - **e.** What are the specific sources of the pollutant loadings into receiving waters during the dry and wet season?
   - **f.** How many facilities did the Discharger inspect during the year? How many of these facilities have coverage under the General Permit for Stormwater Discharges Associated with Industrial Facilities? What are the SIC codes of these facilities? What types of enforcement actions were taken this year

for these facilities? What percentage of the facilities located within the discharger's jurisdiction did the Discharger inspect during the year? What type of follow up actions did the Discharger implement to ensure the facilities implemented corrective actions?

g. How many Discharger owned/operated facilities did the Discharger inspect during the year? What percentage of the Discharger owned/operated facilities did the Discharger inspect during the year? What corrective actions were required of these facilities? What type of follow up actions did the Discharger implement to ensure the facilities implemented corrective actions?

h. How many construction sites were inspected during the year? How many of these construction projects were inspected more than once? How many of these construction projects are covered under the General Permit for Discharges Associated with Construction Activity. What types of enforcement actions were taken this year for these construction projects? What percentage of the construction projects located within the discharger's jurisdiction did the Discharger inspect? What type of follow up actions did the Discharger implement to ensure the facilities implemented corrective actions?

i. How much did the Discharger spend during the year in complying with Order No.R4-2014-XXXX and how much does the Discharger plan on spending in the upcoming year? The Discharger shall divide the funding into the various categories in Order R4-2014-XXXX, these include but are not limited to: industrial inspections and enforcement, construction inspections and enforcement, new development plan reviews, non TMDL monitoring, TMDL monitoring, public education, source identification, illegal discharge identification and enforcement, program planning and implementation. What are the sources of funding for the past and upcoming year?

j. What is the legal authority the Discharger has to control the contribution of pollutants to the MS4 (storm water and non-storm water), prohibit non-storm water discharges, eliminate and prohibit illicit discharges or connections to the MS4, require compliance with conditions in the Discharger's ordinances, permits, contracts or orders to hold dischargers to its MS4 accountable for their contributions of pollutants and flows, control the contribution of pollutants form one portion of the MS4 to another ? What measures does the Discharger implement to address discharges from facilities outside of the Discharger's jurisdiction? Please provide the citation of applicable municipal ordinances or other appropriate legal authorities and their relationship to the requirements of 40 CFR sections 122.26(d)(2)(i)(A)-(F) and of this Order; and the local administrative and legal procedures available to mandate compliance with applicable municipal ordinances identified and a statement as to whether enforcement actions can be completed administratively or whether they must be commenced and completed in the judicial system.

k. How many watershed management programs does the Discharger participate in? Please list the watershed management programs and the status of the participation.

l. Are annual pollutant loadings and concentrations in each surface water body receiving the MS4 discharge increasing decreasing or staying the same?

m. How often does the MS4 discharge exceed receiving water limitations, numeric water quality-based effluent limitations, prohibitions, and non-storm water action levels for each receiving water body per year during the wet and dry season?

n. What is the status of compliance with all applicable water quality based effluent limitations and receiving water limitations in Part VI.A. and VIII of this Order?

o. How effective are the current control measures in reducing discharges of pollutants from the MS4 to receiving waters to the MEP?

p. How effective is the monitoring program at meeting the objectives specified above?

q. Can changes in water quality be attributed to pollutant controls imposed on new development, re-development, or retrofit projects?

r. What detailed data or information has the Discharger included in the annual report to demonstrate compliance with Order No.R4-2014-xxx?

s. What public education programs did the Discharger implement this year and plans to implement the upcoming year?

t. What progress has the Discharger made in implementing the provisions of this Order?

2. Provide a forum to discuss the effectiveness of past and ongoing control measure efforts and to convey plans for future control measures and propose any changes to the storm water management programs.

3. Present data and conclusions in a transparent manner so as to allow review and understanding by the general public.

4. Focus the reporting efforts on watershed condition, water quality assessment, and an evaluation of the effectiveness of control measures.

XVII. WATERSHED SUMMARY INFORMATION, ORGANIZATION AND CONTENT

A. The Discharger shall include the information requested in A.1 through A.3 below in its odd year Annual Report (e.g., Year 1, 3, 5). The requested information shall be provided for each watershed within the Discharger's jurisdiction. Alternatively, if the Discharger is participating in a Watershed Management Program, the Discharger may provide the requested information through the development and submission of a Watershed Management Program plan and any updates thereto.

1. **Watershed Management Area**

   If the Discharger has individually or collaboratively developed a Watershed Management Program Plan (WMPP) as described in Part VII.C of this Order, reference to the Watershed Management Program plan and any revisions thereto may suffice for baseline information regarding the Watershed Management Area.

   a. The following information shall be included for each Watershed Management Area within the Discharger jurisdiction, where not included in a WMPP:

      i. A description of effective TMDLs, applicable WQBELs and receiving water limitations, and implementation and reporting requirements, and compliance dates

      ii. CWA Section 303(d) listings of impaired waters not addressed by TMDLs

      iii. Results of regional bioassessment monitoring

      iv. Description of groundwater recharge areas including number and acres

      v. Maps and/or aerial photographs identifying the location of ESAs, ASBS, and groundwater recharge areas

2. **Subwatershed (HUC-12) Description.** The following information shall be included for each Subwatershed (HUC-12 or HUC-12 equivalent) within the Discharger's jurisdiction. If the Discharger has individually or collaboratively developed a WMPP as described in Part VII.C of this Order, reference to the WMPP and any revisions thereto may suffice for baseline information regarding the subwatershed (HUC-12) descriptions, where the required information is already included in the WMPP. The summary information describing the subwatershed shall include the following information:

   a. Description including HUC-12 number, name and a list of all tributaries named in the Basin Plan

   b. Land Use map of the HUC-12 subwatershed

   c. 85th percentile, 24-hour rainfall isohyetal map for the subwatershed

   d. One-year, one-hour storm intensity isohyetal map for the subwatershed

   e. MS4 map for the subwatershed, including major MS4 outfalls and all low-flow diversions

3. **Description of the Discharger Drainage Area within the Subwatershed.** Where a Discharger has individually or collaboratively developed a WMP as described in Part VII.C of this Order, reference to the WMP and any revisions thereto may suffice for baseline information regarding the Discharger's Drainage Area within the subwatershed (HUC-12), where the required information is already included in the Watershed Management Program. The

following information shall be included for each jurisdiction within the subwatershed (HUC-12):

a. A subwatershed map depicting the Discharger's jurisdictional area and the MS4, including major outfalls (with identification numbers), and low flow diversions (with identifying names or numbers) located, within the Discharger's jurisdiction.

b. Provide the estimated baseline percent of effective impervious area (EIA) within the Discharger jurisdictional area as existed at the time that this Order became effective.

XVIII. ANNUAL ASSESSMENT AND REPORTING

A. The Discharger shall include the information requested in A.1 through A.7 below in its Annual Report. The requested information shall be provided for each watershed within the Discharger's jurisdiction. The Discharger shall format its Annual Report to align with the reporting requirements identified in Parts A.1 through A.7 below.

The Annual Report shall clearly identify all data collected and strategies, control measures, and assessments implemented by the Discharger within its jurisdiction as well as those implemented by the Discharger in coordination with other entities on a watershed scale.

1. Storm Water Control Measures. The Discharger shall make all reasonable efforts to determine, compile, analyze, and summarize the following information.

a. Estimated cumulative change in percent EIA since the effective date of this Order and, if possible, the estimated change in the storm water runoff volume during the 85th percentile storm event.

b. Summary of New Development/Re-development Projects constructed within the Discharger jurisdictional area during the reporting year.

c. Summary of Retrofit Projects that reduced or disconnected impervious area from the MS4 during the reporting year.

d. Summary of other projects designed to intercept storm water runoff prior to discharge to the MS4 during the reporting year.

e. For the projects summarized above in 1.b through 1.d, estimate the total runoff volume retained on site by the implemented projects.

f. Summary of actions taken in compliance with TMDL implementation plans or approved Watershed Management Programs to implement TMDL provisions in Part VIII of this Order.

g. Summary of riparian buffer/wetland restoration projects completed during the reporting year. For riparian buffers include width, length and vegetation type; for wetland include acres restored, enhanced or created.

h. Summary of other Minimum Control Measures implemented during the reporting year, as the Discharger deems relevant.

i. Status of all multi-year efforts that were not completed in the current year and will therefore continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, the Discharger shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

2. Effectiveness Assessment of Storm Water Control Measures

a. Rainfall summary for the reporting year. Summarize the number of storm events, highest volume event (inches/24 hours), highest number of consecutive days with measureable rainfall, total rainfall during the reporting year compared to average annual rainfall for the subwatershed. Precipitation data may be obtained from Los Angeles County Department of Public Works rain gauge stations available at http://www.ladpw.org/wrd/precip/.

b. Provide a summary table describing rainfall during storm water outfall and wet-weather receiving water monitoring events. The summary description shall include the date, time that the storm commenced and the storm duration in hours, the highest 15-minute recorded storm intensity (converted to inches/hour), the total storm volume (inches), and the time between the storm event sampled and the end of the previous storm event.

c. Where control measures were designed to reduce impervious cover or storm water peak flow and flow duration, provide hydrographs or flow data of pre- and post-control activity for the 85th percentile, 24-hour rain event, if available.

d. Provide an assessment as to whether the quality of storm water discharges as measured at designed outfalls is improving, staying the same or declining. The Discharger may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct trends analysis, or use other means to develop and support its conclusions (e.g., use of non-storm water action levels or municipal action levels as provided in Attachment G of this Order).

e. Provide an assessment as to whether wet-weather receiving water quality within the jurisdiction of the Discharger is improving, staying the same or declining, when normalized for variations in rainfall patterns. The Discharger may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct trends analysis, draw from regional bioassessment studies, or use other means to develop and support its conclusions.

f. Status of all multi-year efforts, including TMDL implementation, that were not completed in the current year and will continue into the subsequent year(s). Additionally, if any of the requested information cannot be

obtained, the Discharger shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

3. Non-Storm Water Control Measures

a. Estimate the number of major outfalls within the Discharger's jurisdiction in the subwatershed.

b. Provide the number of outfalls that were screened for significant non-storm water discharges during the reporting year.

c. Provide the cumulative number of outfalls that have been screened for significant non-storm water discharges since the date this Order was adopted through the reporting year.

d. Provide the number of outfalls with confirmed significant non-storm water discharge.

e. Provide the number of outfalls where significant non-storm water discharge was attributed to other NPDES permitted discharges; other authorized non-storm water discharges; or conditionally exempt discharges pursuant to Part IV.B of this Order.

f. Provide the number of outfalls where significant non-storm water discharges were abated as a result of the Discharger's actions.

g. Provide the number of outfalls where non-storm water discharges was monitored.

h. Provide the status of all multi-year efforts, including TMDL implementation, that were not completed in the current year and will continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, the Discharger shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

4. Effectiveness Assessment of Non-Storm Water Control Measures

a. Provide an assessment as to whether receiving water quality within the jurisdiction of the Discharger is impaired, improving, staying the same or declining during dry-weather conditions. The Discharger may compare water quality data from the reporting year to previous years with similar dry-weather flows, conduct trends analysis, draw from regional bioassessment studies, or use other means to develop and support its conclusions.

b. Provide an assessment of the effectiveness of the Discharger control measures in effectively prohibiting non-storm water discharges through the MS4 to the receiving water.

c. Provide the status of all multi-year efforts that were not completed in the current year and will continue into the subsequent year(s).

5. Integrated Monitoring Compliance Report

a. Provide an Integrated Monitoring Report that summarizes all identified exceedances of (1) outfall-based storm water monitoring data, (2) wet weather receiving water monitoring data, (3) dry weather receiving water data, and (4) non-storm water outfall monitoring data against all applicable receiving water limitations, water quality-based effluent limitations, non-storm water action levels, and aquatic toxicity thresholds as defined in Sections XII.F and G of this MRP. All sample results that exceeded one or more applicable thresholds shall be readily identified.

b. If aquatic toxicity was confirmed and a TIE was conducted, identify the toxic chemicals as determined by the TIE. Include all relevant data to allow the Los Angeles Regional Board to review the adequacy and findings of the TIE. This shall include, but not be limited to, the sample(s) date, sample(s) start and end time, sample type(s) (flow-weighted composite, grab, or field measurement), sample location(s) as depicted on the map, the parameters, the analytical results, and the applicable limitation.

c. Provide a description of efforts that were taken to mitigate and/or eliminate all non-storm water discharges that exceeded one or more applicable water quality based effluent limitations, non-storm water action levels, or caused or contributed to aquatic toxicity.

d. Provide a description of efforts that were taken to address storm water discharges that exceeded one or more applicable water quality based effluent limitations, or caused or contributed to aquatic toxicity.

e. Where Receiving Water Limitations were exceeded, provide a description of efforts that were taken to determine whether discharges from the MS4 caused or contributed to the exceedances and all efforts that were taken to control the discharge of pollutants from the MS4 to those receiving waters in response to the exceedances.

6. Adaptive Management Strategies

a. Identify the most effective control measures and describe why the measures were effective and how other control measures will be optimized based on past experiences.

b. Identify the least effective control measures and describe why the measures were deemed ineffective and how the control measures will be modified or terminated.

c. Identify significant changes to control measures during the prior year and the rationale for the changes.

d. Describe all significant changes to control measures anticipated to be made in the next year and the rationale for the changes. Those changes requiring approval of the Regional Board or its Executive Officer shall be clearly identified at the beginning of the Annual Report.

e. Include a detailed description of control measures to be applied to New Development or Re-development projects disturbing more than 50 acres.

f. Provide the status of all multi-year efforts that were not completed in the current year and will continue into the subsequent year(s).

7. Supporting Data and Information

a. All monitoring data and associated meta-data used to prepare the Annual Report shall be summarized in an Excel spreadsheet and sorted by watershed, subwatershed and monitoring station/outfall identifier linked to the subwatershed map. The data summary must include the date, sample type (flow-weighted composite, grab, field measurement), sample start and stop times, parameter, analytical method, value, and units. The date field must be linked to a database summarizing the weather data for the sampling date including 24-hour rainfall, rainfall intensity, and days since the previous rain event.

b. Optional. The Discharger may at its option, provide an additional detailed summary table describing control measures that are not otherwise described in the reporting requirements.

XIX. TMDL REPORTING

The Discharger shall report on the progress of TMDL implementation per the schedules identified below in Sections A – G.

A. Reporting Requirements for Dominguez Channel and Greater Harbors Waters WMA TMDLs

Deliverable	Description	Due Date(s)
Los Angeles Harbor Bacteria TMDL		
Monitoring Results	Monthly data summary reports shall be submitted to the Los Angeles Regional Water Board by the last day of each month for data collected during the previous month.	Monthly on the last day of the month.
Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL		
Monitoring and Reporting Plan and Quality Assurance Project Plan	The Discharger shall develop Monitoring and Reporting Plans (MRPs) and Quality Assurance Project Plans (QAPPs) for Los Angeles Regional Water Board Executive Officer approval in accordance with the TMDL. The MRPs shall include a requirement that the responsible parties report compliance and non-compliance with water quality-based effluent limitations as part of annual reports submitted to the Los Angeles Regional Water Board. The QAPPs shall include protocols for sample collection, standard analytical procedures, and laboratory certification. All samples shall be collected in accordance with applicable SWAMP protocols.	November 23, 2013, or Submit an IMP or CIMP plan concurrently with the Discharger's draft WMP.
Monitoring Plan	The Discharger shall implement monitoring as outlined in the approved MRP and QAPP.	30 days after MRP and QAPP is approved by Los Angeles Regional Water Board Executive Officer.
Annual Monitoring Reports	The Discharger shall submit annual monitoring reports to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Implementation Plan	The Discharger in the Dominguez Channel and Greater Harbors Waters Watershed Management Area shall develop and submit an Implementation Plan.	Submit concurrently with WMP or EWMP. If a WMP or EWMP will not be developed then submit the Implementation Plan 12 months after the effective date of this Order.
Report of Implementation	The Discharger in the Los Angeles River and San Gabriel River Watersheds shall submit a Report of Implementation to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter
Implementation Reports	The Discharger shall submit annual implementation reports to the Los Angeles Regional Water Board. Report on implementation progress and demonstrate progress toward meeting the water quality-based effluent limitations.	December 15, 2014, and annually thereafter
Updated Implementation Plan	The Discharger in the Dominguez Channel and Greater Harbors Waters Watershed Management Area shall submit an updated Implementation	March 23, 2017

	Plan).	

B. Reporting Requirements for the Los Angeles River WMA TMDLs

Deliverable	Description	Due Date(s)
Los Angeles River Watershed Trash TMDL		
Reporting	Report compliance with the installation of full capture systems.	December 15, 2013, and annually thereafter.
Los Angeles River Nitrogen Compounds and Related Effects TMDL		
Reporting	Annual reporting of monitoring results to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Los Angeles River and Tributaries Metals TMDL		
Annual Monitoring Report	The Discharger shall submit annual monitoring reports as detailed in the approved coordinated monitoring plan to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Los Angeles River Watershed Bacteria TMDL		
Bacteria Coordinated Monitoring Plan	The Discharger shall submit a Bacteria Coordinated Monitoring Plan (CMP), which shall be submitted for Los Angeles Regional Water Board Executive Officer approval. The CMP shall detail: the number and location of sites, including at least one monitoring station per each river segment, reach and tributary addressed under this TMDL; measurements and sample collection methods; and monitoring frequencies. The Discharger may also include in the CMP, for Executive Officer consideration, other meteorological stations which may be more representative of the existing hydrology and climate. Each segment, reach, and tributary addressed under this TMDL shall be monitored at least monthly until the subject segment, reach or tributary is at the end of the execution part of its first implementation phase (i.e. 7 years after beginning the segment or tributary-specific phase), to determine compliance with the interim water quality based effluent limitations. Each segment, reach and tributary addressed under this TMDL shall be monitored at least weekly to determine compliance with the instream targets after the first implementation phase. For parties pursuing a Load Reduction Strategy (LRS), intensive outfall monitoring will be conducted before and after implementation of the LRS. Pre-LRS monitoring will be used to estimate the *E. coli* loading from MS4 outfalls to the segment or tributary, and identify the outfalls and types of implementation actions that are expected to be necessary to attain the water quality based limits. Post-LRS monitoring will be used to evaluate compliance with the interim water quality based limits and to plan for additional implementation actions to meet the final water quality based limits, in a second implementation phase, if necessary.	March 23, 2013, or Submit an IMP or CIMP plan concurrently with the Discharger's draft WMP.

	When applicable, outfall monitoring shall including *E. coli* by USEPA- approved methods and flow rate at *all* MS4 outfalls ("snapshots") that are discharging to a segment or tributary or across jurisdictional boundaries during a given monitoring event. For each LRS, at least six (6) snapshots shall be conducted for pre-LRS monitoring, and at least three (3) snapshots shall be conducted for post- LRS monitoring. For MS4s that choose to follow a non-LRS implementation approach, but choose to demonstrate compliance with Equivalent Conditions, at least six (6) snapshots shall be conducted.	
Implement CMP	The Discharger shall begin implementation actions to attain water quality-based effluent limitation, as necessary.	30 days after approval of the CMP
Annual Monitoring Report	Annual reporting of monitoring results to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Implementation Plan	The Discharger shall submit an Implementation Plan for wet weather with interim milestones for approval of the Los Angeles Regional Water Board Executive Officer.	March 23, 2022
Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL		
Compliance Monitoring	To evaluate compliance with numeric targets, monitoring shall take place at existing monitoring sites as well as any new monitoring locations in the ambient water. For beach monitoring locations, daily or systematic weekly sampling in the wave wash at all major drains and creeks, existing monitoring stations at beaches without storm drains, and freshwater outlets is recommended to evaluate compliance. At all beach locations, samples should be taken at ankle depth and on an incoming wave, consistent with Section 7961(b) of title 17 of the California Code of Regulations. At locations where there is a freshwater outlet, during wet weather, samples should be taken as close as possible to the wave wash, and no further away than 10 meters down current of the storm drain or outlet. A robust monitoring program shall be developed for the LAR Estuary. Available data includes bi-weekly monitoring from May through September of 2009, and 2010. Monitoring shall be expanded to include year round monitoring requirements, and at least three monitoring locations within the Estuary. We understand that adequate data to establish a reference estuary approach is currently not available. If in the future, adequate data from reference estuary studies become available, it may be appropriate to consider a reference estuary approach to evaluate compliance with these TMDLs.	Submit an IMP or CIMP plan concurrently with the Discharger's draft WMP. If a WMP or IMP or CIMP will not be developed then submitted the Monitoring Plan 12 months after the effective date of this Order.
Annual Monitoring Report	Annual reporting of monitoring results to the Los Angeles Regional Board.	December 15, 2013, and annually thereafter.

C. Reporting Requirements for San Gabriel River WMA TMDLs

Deliverable	Description	Due Date(s)
San Gabriel River and Impaired Tributaries Metals and Selenium TMDL		
Coordinated Monitoring Plan	The Discharger shall develop a Coordinated Monitoring Plan, to be approved by the Los Angeles Regional Water Board Executive Officer, which includes both TMDL effectiveness monitoring and ambient monitoring. The ambient monitoring program shall contain monitoring in all reaches and major tributaries of the San Gabriel River, including but not limited to additional dry- and wet-weather monitoring in the San Gabriel River Reaches 4 and 5 and Walnut Creek, additional dry-weather monitoring in San Gabriel River Reach 2, and additional wet-weather monitoring in San Jose Creek, San Gabriel River Reaches 1 and 3, and the Estuary. Sediment samples shall be collected semi-annually in the Estuary and analyzed for sediment toxicity resulting from copper, lead, selenium, and zinc. The TMDL effectiveness monitoring shall demonstrate the effectiveness of the phased implementation schedule for reducing pollutant loads to achieve the dry- and wet-weather water quality based effluent limitations. Monitoring stations specified for the ambient monitoring program may be used for the TMDL effectiveness monitoring. The final dry-weather monitoring stations shall be located in San Jose Creek Reach 1 and the Estuary. The final wet-weather TMDL effectiveness monitoring stations may be located at the existing Los Angeles County Department of Public Works mass emission sites in San Gabriel River Reach 2 and Coyote Creek. The Discharger shall sample once per month, during dry-weather conditions, at each proposed TMDL effectiveness monitoring location. The Discharger shall sample at least 4 wet-weather events where flow meets wet-weather conditions (260 cfs in San Gabriel River Reach 2 and 156 cfs in Coyote Creek) in a given storm season (November to March), unless there are fewer than 4 wet-weather events, at each proposed TMDL effectiveness monitoring location. The Discharger are encouraged to coordinate with the San Gabriel watershed-wide monitoring program to avoid duplication and leverage resources.	Submit an IMP or CIMP plan concurrently with the Discharger's draft WMP, or If a WMP or IMP or CIMP will not be developed then submitted the Coordinated Monitoring Plan 12 months after the effective date of this Order.
Annual Monitoring Report	Annual reporting of monitoring results to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Implementation Plan	The Discharger shall submit an Implementation Plan outlining how to achieve compliance with the water quality based effluent limitations, for approval of the Los Angeles Regional Water Board Executive Officer. The Plan shall include implementation methods, an implementation schedule, and proposed milestones.	1 year after the effective date of this Order

D. Reporting Requirements for Los Cerritos Channel WMA TMDLs

Deliverable	Description	Due Date(s)
Los Cerritos Channel Metals TMDL		
Coordinated Monitoring Plan	The Discharger shall develop a Coordinated Monitoring Plan, to be approved by the Los Angeles Regional Water Board Executive Officer, which includes both TMDL effectiveness monitoring and ambient monitoring. The ambient monitoring program shall be developed to track trends in water quality improvements in Los Cerritos Channel; to provide background information on hardness values; and the partitioning of metals between the total recoverable and dissolved fraction. TMDL effectiveness monitoring shall demonstrate the effectiveness of the phased implementation schedule for reducing pollutant loads to achieve the water quality based effluent limitations. Monitoring stations specified for the ambient monitoring program may be used for the TMDL effectiveness monitoring. The Discharger shall sample at least 4 wet-weather events where flow meets wet-weather conditions (>23 cfs in Los Cerritos Channel above the tidal prism) in a given storm season.	Submit an IMP or CIMP plan concurrently with the Discharger's draft WMP, or If a WMP or IMP or CIMP will not be developed then submitted the Coordinated Monitoring Plan 12 months after the effective date of this Order.
Annual Monitoring Report	Annual reporting of monitoring results to the Los Angeles Regional Water Board.	December 15, 2013, and annually thereafter.
Implementation Plan	The Discharger shall submit an Implementation Plan outlining how to achieve compliance with the water quality based effluent limitations, for approval of the Los Angeles Regional Water Board Executive Officer. The Plan shall include implementation methods, an implementation schedule, and proposed milestones.	1 year after the effective date of this Order
Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals TMDL		
Monitoring	Water column and sediment samples will be collected at the outlet of the storm drains discharging to the lagoon, while water column, sediment, and fish tissue samples will be collected in the West Arm, Central Arm, North Arm, at the outlet of the lagoon to Marine Stadium during an incoming tide, and at the outfall of Termino Avenue Drain to Marine Stadium as specified in the Colorado Lagoon TMDL Monitoring Plan (CLTMP).	February 1, 2013
Annual Monitoring Reports	The Discharger shall submit annual monitoring reports to the Los Angeles Regional Water Board. All compliance monitoring must be conducted in conjunction with a Los Angeles Regional Water Board approved Quality Assurance Project Plan.	December 15, 2013, and annually thereafter.
Implementation Progress	The Discharger shall submit annual progress reports on the status of implementation actions performed under the TMDL. The plan shall contain mechanisms for demonstration progress toward meeting the water quality based effluent limitations.	December 15, 2013, and annually thereafter.

I, Samuel Unger, Executive Officer, do hereby certify that this Monitoring and Reporting Program is a full, true, and correct copy of the Monitoring and Reporting Plan adopted by the California Regional Water Quality Control Board, Los Angeles Region, on February 6, 2014.

_____
Samuel Unger, P.E.
Executive Officer

Date: _____ 2014