CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

June 8, 2017

Mr. Darin Fields
Los Angeles Refinery Manager
Phillips 66 Company
Phillips 66 Los Angeles Refinery Carson Plant
1520 East Sepulveda Blvd.
Carson, CA 90745

VIA CERTIFIED MAIL
RETURNED RECEIPT REQUESTED
No. 7001 2510 0002 2222 0402

Dear Mr. Fields:

TRANSMITTAL OF WASTE DISCHARGE REQUIREMENTS (WDRS) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR PHILLIPS 66 COMPANY, PHILLIPS 66 LOS ANGELES REFINERY, CARSON PLANT, CARSON, CA (NPDES NO. CA0063185, CI NO. 7352)

Our letter dated April 10, 2017, transmitted the tentative Waste Discharge Requirements (WDRs) for renewal of your permit to discharge wastewater to surface waters under the National Pollutant Discharge Elimination System (NPDES) Program.

Pursuant to Division 7 of the California Water Code, this Regional Water Board at a public hearing held on June 1, 2017, reviewed the tentative requirements, considered all factors in the case, and adopted Order No. R4-2017-0120. Order No. R4-2017-0120 serves as an NPDES permit, and it expires on July 31, 2022. Section 13376 of the California Water Code requires that an application/Report of Waste Discharge for a new permit must be filed at least 180 days before the expiration date.

You are required to implement the Monitoring and Reporting Program (MRP) on the effective date (August 1, 2017) of Order No. R4-2017-0120. Your first monitoring report for the period of August 1, 2017, through September 30, 2017, is due by November 1, 2017. Phillips 66 Company, Phillips 66 Los Angeles Refinery, Carson Plant will electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) (http://www.waterboards.ca.gov/ciwqs/index.html).

When submitting monitoring or technical reports to the Regional Water Board per these requirements, please include a reference to Compliance File CI-7352 and NPDES No. CA0063185, which will assure that the reports, are directed to the appropriate file and staff.

We are sending the paper copy of the Permit to the Discharger only. For those on the mailing list or other interested parties who would like access to a copy of the Permit, please go to the Regional Water Board's website at:

If you have any questions, please contact Rosario Aston at (213) 576-6653 or Rosario.Aston@waterboards.ca.gov

Sincerely,

Cassandra D. Owens, Chief
Industrial Permitting Unit

Enclosures: Order No. R4-2017-0120 - Waste Discharge Requirements
Attachment E - Monitoring and Reporting Program (MRP No. CI-7352)
Attachment F - Fact Sheet

cc: **(VIA Email Only)**

Ms. Robyn Stuber, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Ms. Becky Mitschele, Environmental Protection Agency, Region 9
Mr. Kenneth Wong, U.S. Army Corps of Engineers
Mr. Bryant Chesney, NOAA, National Marine Fisheries Service
Mr. Jeff Phillips, Department of Interior, U.S. Fish and Wildlife Service
Mr. William Paznokas, Department of Fish and Wildlife, Region 5
NPDES Wastewater Unit, State water Resources Control Board, Division of Water Quality
Mr. Kurt Souza, State Water Resource Control Board (SWRCB), Drinking Water Division
Ms. Teresa Henry, California Coastal Commission, South Coast Region
Mr. Theodore Johnson, Water Replenishment District of Southern California
Mr. Tommy Smith, Los Angeles County, Department of Public Works
Mr. Angelo Bellomo, Los Angeles County, Department of Public Health
Ms. Sarah Sikich, Heal the Bay
Mr. Bruce Reznik, Los Angeles WaterKeeper
Ms. Becky Hayat, Natural Resources Defense Council
Ms. Joan Matthews, Natural Resources Defense Council
Mr. Steven Johnson, Heal the Bay
Ms. Sarah Torres, PG Environmental
Mr. James Ashby, PG Environmental
Mr. Alphonso Graves, Phillips 66 Company

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER NO. R4-2017-0120
NPDES NO. CA0063185

WASTE DISCHARGE REQUIREMENTS FOR THE PHILLIPS 66 COMPANY, PHILLIPS 66 LOS ANGELES REFINERY, CARSON PLANT

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	Phillips 66 Company
Name of Facility	Phillips 66 Los Angeles Refinery, Carson Plant
Facility Address	1520 East Sepulveda Blvd
	Carson, California 90745
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated storm water runoff, boiler condensate, and boiler blowdown	33.8153°	- 118.2319°	Dominguez Channel Estuary

Table 3. Administrative Information

This Order was adopted on:	**June 1, 2017**
This Order shall become effective on:	**August 1, 2017**
This Order shall expire on:	**July 31, 2022**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	**Major**

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on **June 1, 2017.**

Samuel Unger

Samuel Unger, P.E., Executive Officer

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Phillips 66 Los Angeles Refinery, Carson Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

A. Legal Authorities. This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.C, IV.D, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

E. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order R4-2012-0021 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous Order.

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III. DISCHARGE PROHIBITIONS

A. Wastes discharged shall be limited to a maximum of 11 million gallons per day (MGD) of treated storm water from parking lots, roadways, non-process and process areas, and treated boiler condensate and blowdown collected in the storm water retention basin, as described in the findings. The discharge of wastes from accidental spills or other sources is prohibited.

B. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, the Dominguez Channel Estuary, or other waters of the State, are prohibited.

C. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by section 13050 of the Water Code.

D. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.

E. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the federal CWA, and amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

F. The discharge of any radiological, chemical, or biological warfare agent into the waters of the state is prohibited under Water Code section 13375.

G. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

H. The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.

I. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.

J. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations –Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

Table 4. Effluent Limitations at Discharge Point 001

Parameter	Units	Effluent Limitations				Performance Goals[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	26	48	--	--	--
	lbs/day[2]	2,420	4,400	--	--	--
Oil and Grease	mg/L	8.0	15	--	--	--
	lbs/day[2]	737	1,376	--	--	--
pH	standard units	--	--	6.5	8.5	--

Parameter	Units	Effluent Limitations				Performance Goals[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total Suspended Solids (TSS)[3, 4]	mg/L	22	34	--	--	--
	lbs/day[2]	1,980	3,080	--	--	--
Non-Conventional Pollutants						
Chemical Oxygen Demand (COD)	mg/L	180	360	--	--	--
	lbs/day[2]	16,500	33,000	--	--	--
Chronic Toxicity[5]	Pass or Fail, % Effect	Pass[6]	Pass or % Effect <50	--	--	--
Enterococcus	MPN/100 ml	[7]				
Fecal Coliform	MPN/100 ml	[7]				
Total Coliform	MPN/100 ml	[7]				
Phenolic Compounds	mg/L	0.17	0.35	--	--	--
	lbs/day[2]	15	32	--	--	--
Settleable Solids	ml/L	0.1	0.3	--	--	--
Sulfide	mg/L	--	1.0	--	--	--
	lbs/day[2]	--	92	--	--	--
Temperature	ºF	--	--	--	86	--
Total Residual Chlorine	mg/L	--	0.1	--	--	--
	lbs/day[2]	--	9.2	--	--	--
Priority Pollutants						
Cadmium, Total Recoverable[3]	µg/L	--	--	--	--	7.7 (Average Monthly) 15 (Daily Maximum)
Copper, Total Recoverable[4]	µg/L	3.1	6.1	--	--	--
	lbs/day[2]	0.28	0.56	--	--	--
Chromium (VI)	µg/L	28	62	--	--	--
	lbs/day[2]	2.5	5.7	--	--	--
Chromium, Total	µg/L	220	600	--	--	--
	lbs/day[2]	20	55	--	--	--
Lead, Total Recoverable[4]	µg/L	7.0	14	--	--	--
	lbs/day[2]	0.64	1.3	--	--	--
Mercury, Total Recoverable	µg/L	0.050	0.10	--	--	--
	lbs/day[2]	0.0046	0.0092	--	--	--
Nickel, Total Recoverable	µg/L	6.8	14	--	--	--
	lbs/day[2]	0.62	1.3	--	--	--
Silver, Total Recoverable	µg/L	1.1	2.2	--	--	--
	lbs/day[2]	0.10	0.20	--	--	--
Zinc, Total Recoverable[4]	µg/L	70	141	--	--	--
	lbs/day[2]	6.4	13	--	--	--
Cyanide, Total (as CN)	µg/L	0.5	1.0	--	--	--
	lbs/day[2]	0.046	0.092	--	--	--
4,4-DDT[4,8]	µg/L	0.00059	0.0012	--	--	--
	lbs/day[2]	5.4×10^{-5}	1.1×10^{-4}	--	--	--

Parameter	Units	Effluent Limitations				Performance Goals[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Bis (2-Ethylhexyl) Phthalate	µg/L	5.9	12	--	--	--
	lbs/day[2]	0.54	1.1	--	--	--
Benzo(a)anthracene[4,8]	µg/L	0.049	0.098	--	--	--
	lbs/day[2]	0.0045	0.0090	--	--	--
Benzo(a)pyrene[4,8]	µg/L	0.049	0.098	--	--	--
	lbs/day[2]	0.0045	0.0090	--	--	--
Chlordane[3,8]	µg/L	0.00059	0.0012	--	--	--
	lbs/day[2]	5.4×10^{-5}	1.1×10^{-4}	--	--	--
Chrysene[4,8]	µg/L	0.049	0.098	--	--	--
	lbs/day[2]	0.0045	0.0090	--	--	--
Dieldrin[3,8]	µg/L	0.00014	0.00028	--	--	--
	lbs/day[2]	1.3×10^{-5}	2.6×10^{-5}	--	--	--
Hexachlorobenzene	µg/L	0.00077	0.0015	--	--	--
	lbs/day[2]	7×10^{-5}	1.4×10^{-4}	--	--	--
Pyrene[4,8]	µg/L	11,000	22,068	--	--	--
	lbs/day[2]	1,009	2,025	--	--	--
PCBs (sum)[4,8,9]	µg/L	0.00017	0.00034	--	--	--
	lbs/day[2]	1.6×10^{-5}	3.1×10^{-5}	--	--	--

[1] Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the Facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.

[2] Mass limitations (lbs/day) are based on a maximum flow of 11 MGD and calculations as follows:
Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

For reporting, the actual mass for a pollutant shall be calculated based on the actual measured flow of the discharge.

[3] During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for cadmium, chlordane, or dieldrin as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the sediment limitations (final concentration-based sediment WLAs) as specified in Table 5 of this Order; implementation of the effluent sediment monitoring program is required for that priority pollutant. An effluent sediment monitoring result at or below the sediment limitations (final concentration-based sediment WLAs) in Table 5 of this Order demonstrates attainment with the sediment limitations and additional effluent sediment monitoring for those pollutants is not required. An effluent sediment monitoring result that is above the sediment limitations (Table 5) of cadmium, chlordane, or dieldrin constitutes an exceedance of sediment limitations. Annual effluent sediment monitoring is required for the pollutant(s) until the data demonstrates compliance.

[4] During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, chrysene or pyrene as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the interim sediment allocations (Monitoring Thresholds, Table 6 of this Order) stipulated in the *Total Maximum Daily Load for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters* (Harbor Toxics TMDL), Resolution No. R11-008, page 11, and the Discharger is required to implement the effluent sediment monitoring program for that priority pollutant. The Discharger shall begin the effluent sediment monitoring program during the first discharge event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocation (Monitoring Thresholds) in Table 6 of this Order demonstrates attainment with the interim sediment allocation and additional effluent sediment monitoring for that pollutant is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation

requires additional effluent sediment monitoring during discharge but not more frequently than once per year until the three-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation.

[5] The median monthly effluent limitation (MMEL) shall be reported as "Pass" or "Fail". The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail". The MDEL is exceeded when a toxicity test results in a "fail," and the percent effect is greater than or equal to 0.50. The MMEL is exceeded when the median result (i.e. two out of three) is a "fail".

[6] This limitation is applied as an MMEL.

[7] Bacteria Limitations:

a) Geometric Mean Limits - The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

i. Total coliform density shall not exceed 1,000/100 ml.
ii. Fecal coliform density shall not exceed 200/100 ml.
iii. Enterococcus density shall not exceed 35/100 ml.

b) Single Sample Limits

i. Total coliform density shall not exceed 10,000/100 ml.
ii. Fecal coliform density shall not exceed 400/100 ml.
iii. Enterococcus density shall not exceed 104/100 ml.
iv. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

If any of the single sample limits are exceeded, the repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance**.**

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

[8] Samples analyzed must be unfiltered.

[9] Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Arolclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

B. Final Concentration-Based Sediment Waste Load Allocations

The following sediment limitations are based on the final concentration-based sediment waste load allocations (WLAs) for metal (cadmium) and bioaccumulative compounds (chlordane and dieldrin) associated with the Dominguez Channel Estuary in the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbors Waters* (Harbor Toxics TMDL) (Resolution No. R11-008). These WLAs are applicable to discharges through Discharge Point 001.

Table 5. Sediment Limitations – Discharge Point 001

Pollutant	Sediment Limitations (Final Concentration-based Sediment WLAs)	Units
Cadmium, Total Recoverable	1.2	mg/kg dry sediment
Chlordane	0.5	µg/kg dry sediment
Dieldrin	0.02	µg/kg dry sediment

As indicated in footnote 3 of Table 4 above, compliance with the TSS limitation and effluent limitations or performance goal for cadmium, chlordane, and dieldrin, demonstrates the attainment of the sediment limitations and no effluent sediment monitoring for that constituent is required. Otherwise, demonstration of compliance with sediment limitations may be achieved by one of the following options:

Compliance with the sediment limitation (final concentration-based sediment WLA) for cadmium may be demonstrated via one of three means:

1. Final sediment allocation of cadmium (1.2 mg/kg) is met in the effluent. The Discharger may collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses. The cadmium analytical result of the effluent sediment can be used for the direct comparison with sediment allocation of cadmium.
2. The qualitative sediment condition of Unimpacted or Likely Unimpacted via the interpretation and integration of multiple lines of evidence as defined in the Sediment Quality Plan is met.
3. Sediment numeric target of 1.2 mg/kg is met in bed sediments over a 3-year averaging period. The Discharger may choose to conduct bed sediment monitoring as specified in the MRP (Attachment E) to demonstrate compliance with this condition.

Compliance with the sediment limitations (final concentration-based sediment WLAs) for chlordane and dieldrin may be demonstrated via one of four means:

1. Fish tissue targets of 5.6 µg/kg wet fish tissue for chlordane and 0.46 µg/kg wet fish tissue for dieldrin are met in species resident to the TMDL waterbodies. (A site-specific special study to determine resident species shall be submitted to the Executive Officer for approval if this option is selected.)
2. Final sediment allocations of chlordane (0.5 µg/kg) and dieldrin (0.02 µg/kg) are met in the effluent. The Discharger may collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses. The chlordane and dieldrin analytical results of the effluent sediment can be used for the direct comparison with sediment allocations of chlordane and dieldrin, respectively.
3. Sediment numeric targets of chlordane (0.5 µg/kg) and dieldrin (0.02 µg/kg) are met in bed sediments over a 3-year averaging period. The Discharger may choose to conduct bed sediment monitoring as specified in the MRP (Attachment E) to demonstrate compliance with this condition.
4. Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan (Part 2 is under development), as amended to address contaminants in resident finfish and wildlife.

C. Land Discharge Specifications – Not Applicable

D. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the Dominguez Channel Estuary:

1. The pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of the discharge. Ambient pH levels shall not be changed more than 0.2 units from natural conditions as a result of waste discharge. Natural conditions shall be determined on a case-by-case basis.
2. Surface water temperature to rise greater than 5º F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 86º F as a result of waste discharged.

3. Water Contact Standards

In marine water designated for water contact recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water.

a. Rolling 30-day Geometric Mean Limits

i. Total coliform density shall not exceed 1,000/100 mL.
ii. Fecal coliform density shall not exceed 200/100 mL.
iii. Enterococcus density shall not exceed 35/100 mL.

b. Single Sample Maximum

i. Total coliform density shall not exceed 10,000/100 mL.
ii. Fecal coliform density shall not exceed 400/100 mL.
iii. Enterococcus density shall not exceed 104/100 mL.
iv. Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

4. The mean annual concentration of dissolved oxygen shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations.

5. Exceed total ammonia (as N) concentrations specified in the Regional Water Board Resolution 2004-022, adopted on March 4, 2004. Resolution 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including Enclosed Bays, Estuaries, and Wetlands) with the Beneficial Use Designations for Protection of "Aquatic Life"*. The ammonia Basin Plan amendment became effective on May 19, 2004.

6. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.

7. Where natural turbidity is between 0 to 50 NTU, increases in turbidity shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases in turbidity shall not exceed 10%.

8. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.

9. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.

10. Toxic or other deleterious substances in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

11. Accumulation of bottom deposits or aquatic growths.

12. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

13. The presence of substances that result in increases of BOD that adversely affect beneficial uses.

14. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.

15. Alteration of turbidity, or apparent color beyond present natural background levels.

16. Damage, discolor, or formation of sludge deposits on flood control structures or facilities, or overloading of the design capacity.

17. Degradation of surface water communities and populations including vertebrate, invertebrate, and plant species.

18. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.

19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

a. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

b. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the federal CWA and amendments thereto.

c. The provisions of this order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

d. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.

e. Oil or oily material, chemicals, refuse, or other polluting materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

f. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.

g. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   i. Violation of any term or condition contained in this Order;

   ii. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;

   iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

h. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.

i. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

j. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.

k. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

   i. Name and general composition of the chemical,

   ii. Frequency of use,

   iii. Quantities to be used,

   iv. Proposed discharge concentrations, and

   v. U.S. EPA registration number, if applicable.

l. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

m. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

   Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

n. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous

maximum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

o. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the federal CWA, and amendments thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.

c. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 C.F.R., parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.

d. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Dominguez Channel Estuary.

e. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

f. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate constituents. Additional requirements may be included in this Order as a result of the special condition monitoring data.

g. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 C.F.R. sections 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, and endangerment to human health

or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** The Discharger shall submit to the Regional Water Board an Initial Investigation TRE workplan (1-2 pages) **within 90 days** of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected. See section V of the Monitoring and Reporting Program (Attachment E) for an overview of TRE requirements.

b. **Monitoring Thresholds based on Sediment Interim Concentration-based Allocation in the Harbor Toxics TMDL for Sediment Monitoring of Effluent**

The effluent sediment monitoring thresholds in Table 6 are based on the Harbor Toxics TMDL's interim sediment allocations (Dominguez Channel Estuary) for copper, lead, zinc, DDT, PAHs, and PCBs. Effluent sediment monitoring is only required when triggered in accordance with footnote 4 to Table 4 of this Order, or at least once during the permit term if a discharge occurs. Attainment with the effluent sediment monitoring thresholds in Table 7 may be demonstrated by compliance with the effluent limitations for both TSS and the corresponding effluent limitations for copper, lead, zinc, PAHs (benzo(a)anthracene, benzo(a)pyrene, pyrene, and chrysene), DDT, and total PCBs as included in Table 4. Once effluent sediment monitoring is triggered, attainment with the effluent sediment monitoring thresholds may be demonstrated by meeting the effluent sediment monitoring thresholds in the discharge over a 3-year averaging period. An effluent sediment monitoring result that exceeds the effluent sediment monitoring threshold requires additional sediment monitoring of the effluent during discharge but not more frequently than once per year until the three-year average concentration for sediment monitoring results is at or below the interim sediment allocation. If no discharges occur within three years of the initial trigger, the Discharger should conduct effluent sediment monitoring in the subsequent discharge that follows the triggering event. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies existing at the time of permit issuance, reissuance, or modification.

Table 6. Monitoring Thresholds

Pollutant	Monitoring Thresholds based on Sediment Interim Concentration-based Allocations (mg/kg sediment)
Copper, Total Recoverable	220
Lead, Total Recoverable	510
Zinc, Total Recoverable	789
PAHs[1]	1.727
DDT	31.60
PCBs	1.49

[1] According to the Sediment Quality Plan, total PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthene, anthracene, biphenyl, naphthalene, 2,6-

dimethylnaphthalene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, phenanthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, perylene, and pyrene

c. **Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program**

As defined in the Harbor Toxics TMDL, the Discharger is a "responsible party" because it is an "Individual Industrial Permittee". As such, the Discharger, either alone, or as part of a collaborating group, is responsible for monitoring water and sediment discharges. The Discharger, by itself, or as part of a collaborative monitoring effort (Responsible Parties), is required to prepare and submit a Monitoring and Reporting Plan (Monitoring Plan) and Quality Assurance Project Plan (QAPP), following TMDL Element – Monitoring Plan regulatory provisions in Attachment A to Resolution R11-008. The TMDL requires that the Monitoring Plan and QAPP shall be submitted 20 months after the effective date (March 23, 2012) of the TMDL for public review and subsequent Executive Officer approval. Since the effective date of this Order exceeds the deadline for the Monitoring Plan and QAPP, the Discharger shall join a group already formed or develop a site specific monitoring plan. If the Discharger decides to join a group already formed, the Discharger shall notify the Regional Water Board within 90 days of the effective date of the Order. If the Discharger decides to develop a site specific Monitoring Plan with a QAPP, the Discharger shall notify the Regional Water Board within 90 days of the effective date of the Order and submit the proposed Monitoring Plan and QAPP to the Regional Water Board within 12 months of the effective date of the Order for public comment and the Regional Water Board Executive Officer approval. The Discharger shall begin monitoring 6 months after the Monitoring Plan and QAPP are approved by the Executive Officer, unless otherwise directed by the Executive Officer. The compliance monitoring program shall include water column, sediment, and fish tissue monitoring.

The Monitoring Plan shall include the following components:

i. **Water Column Monitoring.**

Water samples and total suspended solids (TSS) samples shall be collected during two wet weather events and one dry weather event each year. TSS shall be collected at several depths during wet weather events. The first large storm event of the season shall be included as one of the wet weather monitoring events. Water samples and TSS samples shall be analyzed for a suite of compounds including, at a minimum, lead, zinc, copper, DDT, PCBs, benzo[a]anthracene, benzo[a]pyrene, chrysene, phenanthrene, and pyrene. Sampling shall be designed to collect sufficient volumes of suspended solids to allow for analysis of the pollutants in the bulk sediment.

In addition, temperature, dissolved oxygen, pH, electrical conductivity, and receiving water flow shall be monitored during each sampling event.

ii. **Sediment Monitoring.**

Sediment samples shall be collected in the Dominguez Channel Estuary.

(a) If compliance will be determined based on achieving sediment quality targets, sediment chemistry samples shall be collected every two years for analysis of general sediment quality constituents and the full chemical suite

as specified in the Water Quality Control Plan for Enclosed Bays and Estuaries, Part 1 (SQO Part 1), Attachment A and Table 6. In addition, benthic community effects shall be assessed in the Dominguez Channel Estuary.

(b) If compliance will be determined based on the SQO compliance method, sediment chemistry samples shall also be collected every 5 years (in addition to, and in between, the sediment triad sampling events as described below), beginning after the first sediment triad event, to evaluate trends in general sediment quality constituents and listed constituents relative to sediment quality targets. Chemistry data without accompanying sediment triad data shall be used to assess sediment chemistry trends and shall not be used to determine compliance.

Sediment quality objective evaluation as detailed in the SQO Part 1 (sediment triad sampling) shall be performed every 5 years in coordination with the Biological Baseline and Bight regional monitoring programs, if possible. Sampling and analysis for the full chemical suite, two toxicity tests and four benthic indices as specified in the SQO Part 1 is observed, results shall be highlighted in annual reports and further analysis and evaluation to determine causes and remedies shall be required in accordance with the Executive Officer approved Monitoring Plan. Locations for sediment triad assessment and the methodology for combining results from sampling locations to determine sediment conditions shall be specified in the Monitoring Plan. The sampling design shall be in compliance with Section VII.E of SQO Part 1.

iii. **Fish Tissue Monitoring.**

Fish tissue samples shall be collected every two years from the Dominguez Channel Estuary and analyzed for chlordane, dieldrin, toxaphene, DDT, and PCBs. The target species in the Dominguez Channel Estuary shall be selected based on residency, local abundance and fish size at the time of field collection. Tissues analyzed shall be based on the most common preparation for the selected fish species.

iv. **Sampling and Analysis Plan.**

The Sampling and Analysis Plan must be proposed based on methods or metrics described in the State Water Board Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (Resolution 2008-0070 – SQO Part 1), and the U.S.EPA or American Society for Testing and Materials (ASTM). The plan shall include a list of chemical analytes for the water column and sediment.

v. **Quality Assurance Project Plan.**

The Quality Assurance Project Plan (QAPP) shall describe the project objectives and organization, functional activities, and quality assurance/quality control protocols for the water and sediment monitoring. The QAPP shall include protocols for sample collection, standard analytical procedures, and laboratory certification. All samples shall be collected in accordance with Surface Water Ambient Monitoring Program (SWAMP) protocols.

vi. The details of the Harbor Toxics TMDL Water and Sediment Monitoring Plan including sampling locations and all methods shall be specified in the Monitoring Plans submitted to the Executive Officer.

3. Storm Water Pollution Prevention, Best Management Practices, and Spill Contingency Plans.

a. The Discharger shall submit, within 90 days of the effective date of this Order:

i. An updated **Storm Water Pollution Prevention Plan (SWPPP)** that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff and trash from being discharged directly to waters of the state. The SWPPP shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of trash or hazardous waste/material; and address the feasibility of containment and/or treatment of storm water. In addition, the SWPPP shall address and include best management practices procedures that the Discharger will implement to prohibit the discharge of trash from the Facility. The SWPPP shall be developed in accordance with the requirements in Attachment G.

ii. An updated Best Management Practices Plan (BMPP) that will be implemented to reduce the discharge of pollutants to the receiving water. The BMPP shall include site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material and trash from being discharged to waters of the State. Further, the Discharger shall ensure that the storm water discharges from the Facility would neither cause nor contribute to nuisance in the receiving water, and that unauthorized discharges (i.e. spills) to the receiving water have been effectively prohibited. In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material and trash discharge to surface waters. The BMPP can be included and submitted with the SWPPP**.**

iii. An updated Spill Control Plan (SCP) that shall be site-specific and shall cover all areas of the Facility. The SCP shall describe the preventive (failsafe and contingency [cleanup]) plans for controlling accidental discharges, and for minimizing the effect of such events. A Spill Prevention Control and Countermeasure (SPCC) plan may be submitted to satisfy this requirement.

Each plan shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material; and address the feasibility of containment and/or treatment of storm water. The plans shall be reviewed annually and at the same time. Updated information shall be submitted within 30 days of revision.

The Discharger shall implement the SWPPP, BMPP, and SCP (or SPCC) within 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. The plans shall be reviewed

annually and at the same time. Updated information shall be submitted to the Regional Water Board within 30 days of revisions.

3. Construction, Operation and Maintenance Specifications

a. The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this order.

4. Other Special Provisions – Not Applicable

5. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Single Constituent Effluent Limitation.

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents.

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Effluent Limitations Expressed as a Median.

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as = $X_{(n+1)/2}$, or

2. If the number of measurements (n) is even, then the median will be calculated as= [$X_{n/2}$ + $X_{(n/2)+1}$], i.e. the midpoint between the n/2 and n/2+1 data points.

D. Multiple Sample Data.

When determining compliance with an AMEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

E. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection 2 above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given constituent, this will represent a single violation; though the Discharger will be considered out of compliance for each day of that month for that constituent (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For anyone calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;

2. If the analytical result of a single sample monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

When all sample results are greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), the numerical average of the analytical results of these five samples will be used for compliance determination.

When one or more sample results are reported as "Not-Detected (ND)" or "Detected, but Not Quantified (DNQ)" (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.

3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

4. If only one sample was obtained for the month or more than a monthly period and the result exceeds the AMEL; then the Discharger is in violation of the AMEL.

F. Maximum Daily Effluent Limitations (MDEL).

If a daily discharge exceeds the MDEL for a given constituent, an alleged violation will be flagged and the discharger will be considered out of compliance for that constituent for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

G. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a constituent, a violation will be flagged and the discharger will be considered out of compliance for that constituent for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

H. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a constituent, a violation will be flagged and the discharger will be considered out of compliance for that constituent for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation.

I. Median Monthly Effluent Limitation (MMEL)

If the median of daily discharges over a calendar month exceeds the MMEL for a given constituent, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that constituent (e.g., resulting in 31 days of noncompliance in a 31-day month). However, an alleged violation of the MMEL will be considered one violation for the purpose of assessing State mandatory minimum penalties. If no sample (daily discharge) is taken over a calendar month, no compliance determination can be made for that month with respect to effluent violation determination, but compliance determination can be made for that month with respect to reporting violation determination.

J. Chronic Toxicity

This discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the *Test of Significant Toxicity (TST) approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (Ho) for the TST approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response) × 100.

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST approach, results in "Fail" and the "Percent (%) Effect" is ≥50.

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests conducted within the same calendar month—analyzed using the TST approach—results in "Fail". During a calendar month, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

K. Mass and Concentration Limitations

Compliance with mass effluent limitations and concentration effluent limitations for the same constituent shall be determined separately. When the concentration for a constituent in a sample is reported as ND or DNQ, the corresponding mass emission rate determined using that sample concentration shall also be reported as ND or DNQ.

L. Bacterial Standards and Analyses

The geometric mean used for determining compliance with bacterial standards is calculated using the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling. For

bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 mL for total and fecal coliform, at a minimum, and 1 to 1000 per 100 mL for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R. section 136 (revised May 18, 2012), unless alternate methods have been approved by U.S.EPA pursuant to 40 C.F.R. section 136, or improved methods have been determined by the Executive Officer and/or U.S.EPA.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of

measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the 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.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Regional Water Board.

Reporting Level (RL)
The RL is the ML (and it's associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

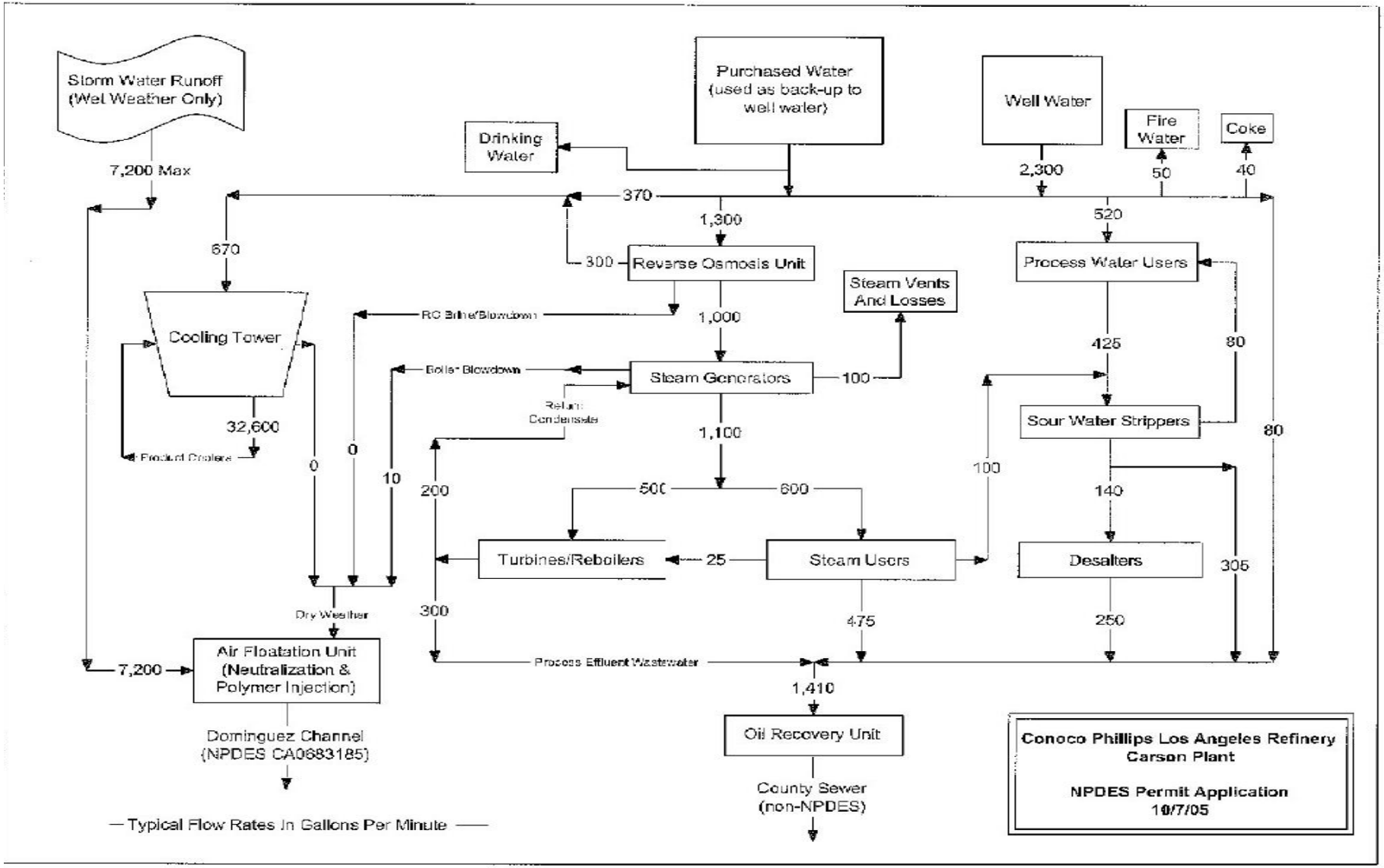
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Trash
All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural material.

ATTACHMENT B – MAP

ATTACHMENT C – FLOW SCHEMATIC
STORM WATER FLOW MAP



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

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

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or constituents at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a

notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant constituents or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant constituent, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant constituent or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant constituent in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant constituent in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N for the measured pollutant or pollutant constituent.

In the case of pollutants or pollutant constituents for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant constituents. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. 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 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 at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant

manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 7352)

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize 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.

I. GENERAL MONITORING PROVISIONS

A. An effluent sampling station shall be established for the point of discharge (Discharge Point 001 [latitude 33.8041º, longitude -118.2404º]) and shall be located where representative samples of that effluent can be obtained.

B. Effluent samples shall be taken downstream of any treatment works and prior to mixing with the receiving waters.

C. The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

D. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. sections 136.3, 136.4, and 136.5 (revised May 18, 2012); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Resources Control Board (State Water Board).

E. For any analyses performed for which no procedure is specified in the U.S. EPA guidelines or in the MRP, the constituent analyzed and the method or procedure used must be specified in the monitoring report.

F. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Board, Drinking Water Division, Environmental Laboratory Accreditation Program (ELAP) in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

G. Each monitoring report must affirm in writing that "*all analyses were conducted at a laboratory certified for such analyses by the State Water Board or approved by the Executive Officer and in accordance with current U.S. EPA guideline procedures or as specified in this MRP*".

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

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

2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

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

Analytical data reported as "less than" for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given constituent.

Current MLs (Attachment H) are those published by the State Water Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 24, 2005.

I. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this Order for a given constituent as per 40 C.F.R. parts 122 and 136; *Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting*. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

J. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this Order shall be lower than the lowest applicable water quality objective for a given constituent as per 40 C.F.R. parts 122 and 136; *Use of Sufficiently Sensitive Methods for Permit Applications and Reporting*. Water quality objectives for constituents may be found in Chapter 3 of the Basin Plan and the CTR (40 C.F.R. section 131.38). If the ML value is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment H;

2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 C.F.R. part 136 (revised May 18, 2012);

3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;

4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,

5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the U.S. EPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

K. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 C.F.R. section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

L. Field analyses with short sample holding time such as pH, total residual chlorine, and temperature, may be performed using properly calibrated and maintained portable instruments by trained personnel acting on the Discharger's behalf, using methods in accordance with 40 C.F.R. part 136. All field instruments must be calibrated per manufacturer's instructions. A

manual containing the standard operating procedures for all field analyses, including records of personnel proficiency, training, instruments calibration and maintenance, and quality control procedures shall be maintained onsite, and shall be available for inspection by Regional Water Board staff. Information including instrument calibration, time of sample collection, time of analysis, name of analyst, quality assurance/quality control data, and measurement values shall be clearly documented during each field analysis and submitted to the Regional Water Board as part of the corresponding regular monitoring report.

M. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.

N. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.

O. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there are fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.

P. When requested by the Regional Water Board or U.S. EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.

Q. For constituents that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

R. In the event wastes are transported to a different disposal site during the reporting period, the following shall be reported in the monitoring report:

1. Types of wastes and quantity of each type;

2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and

3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

S. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

T. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814

II. MONITORING LOCATION

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Effluent: After treatment, prior to discharge to the Dominguez Channel Estuary (33.8041º, -118.2404º)
--	RSW-002	Receiving Water: 250 feet from the center of the outfall line in the direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be in the direction where the channel waters have been influenced by the discharge at the time of sampling.
--	RSW-003	Receiving Water: 250 feet from the center line in the opposite direction of tidal flow at the time of sampling. If sampled at slack tide, this station shall be located opposite of where the channel waters have been influenced by the discharge at the time of sampling.
--	SED-001	The bed sediment sampling station shall be located in the vicinity of the discharge point to the receiving water, the Dominguez Channel Estuary.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated storm water comingled with boiler condensate and boiler blowdown at EFF-001 If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML.

Table E-2. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Daily Average Flow	MGD	Meter	1/Discharge Event[1]	--
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Oil and Grease	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
pH	standard units	Grab	1/Discharge Event[3]	[4]
Total Suspended Solids (TSS)[5,6]	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Non-Conventional Pollutants				
Enterococcus	MPN/100 ml	Grab	1/Discharge Event[3]	[4, 7]
Fecal Coliform	MPN/100 ml	Grab	1/Discharge Event[3]	[4, 7]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform	MPN/100 ml	Grab	1/Discharge Event[3]	[4, 7]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event[3]	[4]
Chemical Oxygen Demand (COD)	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Chronic Toxicity[8]	Pass or Fail, % Effect	Grab	1/Year[9]	[4]
Methyl Tert-butyl Ether (MTBE)	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Phenolic Compounds[10]	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Settleable Solids	ml/L	Grab	1/Discharge Event[3]	[4]
Sulfide, Total	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Temperature	°F	Grab	1/Discharge Event[3]	[4]
Tert-butyl Alcohol (TBA)	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Total Residual Chlorine	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Total Organic Carbon	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Total Petroleum Hydrocarbons (TPH) as Gasoline (C_4-C_{12})	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	EPA Method 503.1 or 8015B
TPH as Diesel (C_{13}-C_{22})	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	EPA Method 503.1, 8015B, or 8270
TPH as Waste Oil (C_{23}+)	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	EPA Method 503.1, 8015B, or 8270
Turbidity	NTU	Grab	1/Discharge Event[3]	[4]
Priority Pollutants				
Arsenic, Total Recoverable	µg/L, lbs/day[3]	Grab	1/Discharge Event[3]	[4]
Cadmium, Total Recoverable[5]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Chromium (Total)	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Chromium (VI)	mg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Copper, Total Recoverable[6]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Lead, Total Recoverable[6]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Mercury, Total Recoverable	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4, 11]
Nickel, Total Recoverable	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Silver, Total Recoverable	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Zinc, Total Recoverable[6]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Cyanide, Total (as CN)	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
4,4-DDT[6, 12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Benzo(a)anthracene[6, 12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Benzo(a)pyrene[6, 12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Bis (2-Ethylhexyl) Phthalate	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Chlordane[5,12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Chrysene[6, 12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Dieldrin[5,12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Hexachlorobenzene	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Pyrene[6, 12]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Total PCBs[7, 12, 13]	µg/L, lbs/day[2]	Grab	1/Discharge Event[3]	[4]
Remaining Priority Pollutants[14]	µg/L	Grab	1/Year[9]	[4]
TCDD Equivalents[15]	µg/L	Grab	1/Year[9]	[4]

1. Flow shall be recorded daily during each period of discharge. Periods of no flow shall also be reported.
2. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured effluent concentration and the actual flow rate measured at the time of discharge, using the formula:

   $M = 8.34 \times Ce \times Q$

   where: M = mass discharge for a pollutant, lbs/day
   Ce = Reported concentration for a pollutant in mg/L
   Q = actual discharge flow rate (MGD).
3. During periods of extended discharge, (a discharge that occurs more than 7 days) no more than one sample per week (or a 7-day period) is required. Sampling shall be performed during the first hour of discharge. If, for safety, reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report. If there is no discharge to surface waters, then no monitoring is required. In the corresponding monitoring report, the Discharger will indicate under statement of perjury that no effluent was discharged to surface water during the reporting period.
4. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given pollutant, the Discharger must select from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations or to meet the most stringent ML for each pollutant.
5. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for cadmium, chlordane, or dieldrin as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the sediment limitations (final concentration-based sediment WLAs) as specified in Table 5 of this Order; implementation of the effluent sediment monitoring program is required for that priority pollutant. An effluent sediment monitoring result at or below the sediment limitations (final concentration-based sediment WLAs) in Table 5 of this Order demonstrates attainment with the sediment limitations and additional effluent sediment monitoring for those pollutants is not required. An effluent sediment monitoring result that is above the sediment limitations (Table 5) of cadmium, chlordane, or dieldrin constitutes an exceedance of sediment limitations. Annual effluent sediment monitoring is required for the pollutant(s) until the data demonstrates compliance.
6. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, chrysene or pyrene as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the interim sediment allocations (Monitoring Thresholds, Table 6 of this Order) stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, and the Discharger is required to implement the effluent sediment monitoring program for that priority pollutant. The Discharger shall begin the effluent sediment monitoring program during the first discharge event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocation (Monitoring Thresholds) in Table 6 of this Order demonstrates attainment with the interim sediment allocation and additional effluent sediment monitoring for that pollutant is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional effluent sediment monitoring during discharge but not more frequently than once per year until the three-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation.
7. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R. section 136, unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.
8. The Discharger shall conduct Whole Effluent Toxicity monitoring as outlined in section V. Refer to section V.A.7 of this MRP for the accelerated monitoring schedule. The median monthly summary result shall be reported as "Pass" or "Fail." The maximum daily single result shall be reported as "Pass or Fail" and "% Effect." When there

is discharge more than one day in a calendar month period, up to three independent toxicity tests are required when one toxicity test results in "Fail."

9. Monitoring is only required during years in which discharge occurs. Annual samples shall be collected during the first hour of discharge during the first discharge of the calendar year. If there is no discharge to surface waters, the Discharger will indicate in the corresponding monitoring report, under statement of perjury that no effluent was discharged to the surface water during the reporting period.
10. Phenolic compounds include the sum of the following individual chlorinated and non-chlorinated phenolic compounds: 2-chlorophenol; 2-nitrophenol; phenol; 2,4-dimethylphenol; 2,4-dichlorophenol; 2,4,6-trichlorophenol; 4-chloro-3-methylphenol; 2,4-dinitrophenol; 2-methyl-4,6-dinitrophenol; pentachlorophenol; and 4-nitrophenol.
11. The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631, Revision E) for mercury monitoring. The minimum level (ML) for mercury is 0.5 ng/L (or 0.005 µg/L) (U.S. EPA Method 1631, Revision E or U.S. EPA Method 245.7).
12. Samples analyzed must be unfiltered samples.
13. PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
14. Priority pollutants as defined by the California Toxics Tule (CTR) defined in Attachment I to this Order.
15. TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed in the Table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

2. Effluent Sediment Monitoring at Monitoring Location EFF-001

Effluent sediment monitoring is only required during years in which an exceedance occurs as described in footnotes 1 and 3 to the following table. If effluent sediment monitoring is not triggered by an exceedance, effluent sediment monitoring must be conducted as described here at least once during the permit term.

The Discharger must sample the discharge at EFF-001 following final treatment, prior to the discharge entering the receiving water. The exact location of the sampling point must be stipulated in the initial self-monitoring report. The effluent sediment sampling shall be conducted according to methods or metrics described in 40 C.F.R. part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* and the State Water Board Sediment Quality Plan. The Discharger must collect sufficient effluent sample to provide an adequate amount of effluent sediments (suspended solids) for sediment analyses.

Table E-3. Effluent Sediment Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Copper, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
Lead, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
Zinc, Total Recoverable	mg/kg	Grab	1/Year[1]	[2]
Cadmium, Total Recoverable	mg/kg	Grab	1/Year[3]	[2]
Chlordane	mg/kg	Grab	1/Year[3]	[2]
Dieldrin	mg/kg	Grab	1/Year[3]	[2]
DDT[4]	mg/kg	Grab	1/Year[1]	[2]
PAHs[5]	mg/kg	Grab	1/Year[1]	[2]
PCBs[6]	mg/kg	Grab	1/Year[1]	[2]

1. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit for copper, lead, zinc, 4,4'-DDT, total PCBs, benzo(a)anthracene, benzo(a)pyrene, chrysene or pyrene as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the interim sediment allocations (Monitoring Thresholds, Table 6 of this Order) stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11, and the Discharger is required to implement the effluent sediment monitoring program for that priority pollutant. The Discharger shall begin the effluent sediment monitoring program during the first discharge event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocation (Monitoring Thresholds) in Table 6 of this Order demonstrates attainment with the interim sediment allocation and additional effluent sediment monitoring for that pollutant is not required. An effluent sediment monitoring result that exceeds the interim sediment allocation requires additional effluent sediment monitoring during discharge but not more frequently than once per year until the three-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation.
2. Pollutants shall be analyzed in accordance with U.S.EPA or ASTM methodologies where such methods exist. Where no U.S.EPA or ASTM methods exist, the State Board or Regional Water Board shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the State Water Board in accordance with Water Code section 13176.
3. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for cadmium, chlordane, or dieldrin as specified in Table 4 of this Order, then the Discharger has not demonstrated attainment with the sediment limitations (final concentration-based sediment WLAs) as specified in Table 5 of this Order; implementation of the effluent sediment monitoring program is required for that priority pollutant. An effluent sediment monitoring result at or below the sediment limitations (final concentration-based sediment WLAs) in Table 5 of this Order demonstrates attainment with the sediment limitations and additional effluent sediment monitoring for those pollutants is not required. An effluent sediment monitoring result that is above the sediment limitations (Table 5) of cadmium, chlordane, or dieldrin constitutes an exceedance of sediment limitations. Annual effluent sediment monitoring is required for the pollutant(s) until the data demonstrates compliance

4. The *State Water Board Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality*, August 25, 2009, (known as Sediment Quality Plan, Attachment A) listed chemical analytes needed to characterize sediment contamination exposure and effect. According to Sediment Quality Plan, DDTs shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.
5. According to the Sediment Quality Plan, total PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthene, anthracene, biphenyl, naphthalene, 2,6-dimethylnaphthalene, fluorene, 1-methylnaphthalene, 2-methylnaphthalene, 1-methylphenanthrene, phenanthrene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, chrysene, dibenz(a,h)anthracene, fluoranthene, perylene, and pyrene.
6. According to the Sediment Quality Plan, total PCBs (polychlorinated biphenyls) shall mean the sum of the following PCB congeners: 2,4'-dichlorobiphenyl, 2,2',5-trichlorobiphenyl, 2,4,4'- trichlorobiphenyl, 2,2',3,5'-tetrachlorobiphenyl, 2,2',5,5'-tetrachlorobiphenyl, 2,3',4,4'- tetrachlorobiphenyl, 2,2',4,5,5'-pentachlorobiphenyl, 2,3,3',4,4'-pentachlorobiphenyl, 2,3',4,4',5- pentachlorobiphenyl, 2,2',3,3',4,4'-hexachlorobiphenyl, 2,2',3,4,4',5'-hexachlorobiphenyl, 2,2',4,4',5,5'-hexachlorobiphenyl, 2,2',3,3',4,4',5-heptachlorobiphenyl, 2,2',3,4,4',5,5'- heptachlorobiphenyl, 2,2',3,4',5,5',6-heptachlorobiphenyl, 2,2',3,3',4,4',5,6-octachlorobiphenyl, 2,2',3,3',4,4',5,5',6-nonachlorobiphenyl, and decachlorobiphenyl.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic toxicity IWC for this discharge at Discharge Point 001 is 100 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. For the storm water, sufficient sample volume shall also be collected for subsequent TIE studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Marine and Estuarine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity ≥1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples—at the in-stream waste concentration for the discharge—in accordance with species and 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 these species be substituted with another test species unless written authorization from the Executive Officer is received.

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

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

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

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection. The Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests, using the fish, an invertebrate, and the alga species as referenced in this section. The sample shall also be analyzed for the constituents required for the discharge. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle.

Rescreening is required at least once per five (5) years. The Discharger shall rescreen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suit of tests. If a different species is the most sensitive, or if there is ambiguity, then the Discharger shall proceed with suites of screening tests using enough collected effluent for a minimum of three, but not to exceed five suites.

5. Quality Assurance and Additional Requirements

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

a. The discharge is subject to determination of "Pass" or "Fail" and "Percent Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (Ho) for the TST approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response–Mean discharge IWC response) ÷ Mean control response)) × 100%.

b. The median monthly effluent limit (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail". This requirement is not applicable to discharges composed entirely of industrial storm water.

c. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and re-test at the subsequent discharge event.

d. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

e. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.). Monthly reference toxicant testing is sufficient.

f. All reference toxicant test results should be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found in *Method*

Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 C.F.R. part 136) (EPA 821-B-00-004, 2000).

g. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).

6. Preparation of Initial Investigation TRE Work Plan

The Discharger shall prepare or update and submit a generic Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan within 90 days of the permit effective date, to be ready to respond to toxicity events. The Discharger shall review and update this work plan as necessary so it remains current and applicable to the discharge. At minimum, the work plan shall include:

a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.

c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

7. Accelerated Monitoring Schedule for Median Monthly Summary Result: "Fail" (or Maximum Daily Single Result: "Fail and % Effect ≥ 50")

The summary result shall be used when there is discharge more than one day in a calendar month. The single result shall be used when there is discharge of only one day in a calendar month.

Within 24 hours of the time the Discharger becomes aware of a failing result, the Discharger shall implement an accelerated monitoring schedule consisting of four, five concentration (including the discharge IWC) toxicity tests, conducted at approximately two week intervals, over an eight week period. If there is no discharge during the eight week period, the Discharger should conduct toxicity testing at the next discharge event following the failing result. If each of the accelerated toxicity tests at the discharge IWC results in "Pass", the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests at the discharge IWC results in "Fail", the Discharger shall immediately implement the Toxicity Reduction Evaluation (TRE) Process conditions set forth below.

8. TIE and TRE Process

a. **TIE.** A toxicity test sample is immediately subject to TIE procedures to identify the toxic chemical(s), if a chronic toxicity test shows "Fail and % Effect value ≥50". The Discharger shall initiate a TIE using, as guidance, EPA manuals*: Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *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). The TIE

should be conducted on the species demonstrating the most sensitive toxicity response.

b. **TRE.** When a toxicant or class of toxicants is identified, a TRE shall be performed for that toxicant. 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 and/or treatment are identified, the Discharger shall submit a TRE Corrective Action Plan to the Executive Officer for approval. At minimum, the plan shall include:

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

   ii. Recommended BMPs and/or treatment to reduce the pollutant(s) causing toxicity.

   iii. Follow-up monitoring to demonstrate that toxicity has been removed.

   iv. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.

   v. A schedule for these actions, progress reports, and the final report.

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

d. The Discharger shall conduct routine effluent monitoring for the duration of the TRE process.

e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, including:

a. The toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent (%) Effect” at the chronic toxicity IWC for the discharge.

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

c. TRE/TIE results. The Regional Water Board Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

d. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

e. Any additional QA/QC documentation or any additional chronic toxicity related information, upon request by Regional Water Board staff.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring Location RSW-001

1. The Discharger shall monitor the Dominguez Channel Estuary at upstream monitoring location RSW-001 as follows:

Table E-4. Upstream Receiving Water Monitoring Requirements – RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Year[1]	[2]
Dissolved Oxygen	mg/L	Grab	1/Year[1]	[2]
Enterococcus	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
Fecal Coliform	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
Total Coliform	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
pH[4]	standard units	Grab	1/Year[1]	[2]
Salinity[4]	ppt	Grab	1/Year[1]	[2]
Temperature[4]	°F	Grab	1/Year[1]	[2]
Priority Pollutants[5]	µg/L	Grab	1/Year[1]	[2]
TCDD Equivalents[6]	µg/L	Grab	1/Year[1]	[2]

1. Sampling shall be during the first hour of discharge from the first storm event of the year. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report. Receiving water monitoring at RSW-001 is only required during years in which discharge occurs and at the same time as effluent sampling, if possible. If there is no discharge to surface waters during the year, the Discharger shall state so in the corresponding monitoring report under penalty of perjury.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given pollutant, the Discharger must select from the listed methods and corresponding ML.
3. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R. section 136, unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.
4. Receiving water pH, salinity, and temperature must be analyzed at the same time the effluent samples (Monitoring Location EFF-001) are collected for ammonia and priority pollutants analysis. A hand-held field meter may be used for pH and temperature, provided the meter utilizes an U.S. EPA approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
5. Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.I of the Limitations and Discharge Requirements of this Order, and included as Attachment I.
6. TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed in the Table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall

set congener concentrations below the MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

B. Surface Water Monitoring Location RSW-002

1. The Discharger shall monitor the Dominguez Channel Estuary at downstream monitoring location RSW-002 as follows:

Table E-5. Downstream Receiving Water Monitoring Requirements – RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Year[1]	[2]
Dissolved Oxygen	mg/L	Grab	1/Year[1]	[2]
Enterococcus	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
Fecal Coliform	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
Total Coliform	MPN/100ml or CFU/100ml	Grab	1/Year[1]	[2, 3]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Year[1]	[2]
pH[4]	standard units	Grab	1/Year[1]	[2]
Salinity[4]	ppt	Grab	1/Year[1]	[2]
Temperature[4]	°F	Grab	1/Year[1]	[2]

1. Sampling shall be during the first hour of discharge from the first storm event of the year. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe

opportunity, and the reason for the delay shall be included in the report. Receiving water monitoring at RSW-002 is only required during years of discharge and at the same time as effluent sampling, if possible. If there is no discharge to surface waters during the year, the Discharger shall state so in the corresponding monitoring report under penalty of perjury. Receiving water samples are collected at the same time as effluent samples, if possible, or at the first safe opportunity.

2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML.

3. Detection methods used for coliforms (total and fecal) and Enterococcus shall be those presented in Table 1A of 40 C.F.R. section 136, unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.

4. Receiving water pH, salinity, and temperature must be analyzed at the same time the samples are collected for ammonia. A hand-held field meter may be used for pH and temperature, provided the meter utilizes an U.S. EPA approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

C. Bed Sediment Monitoring at SED-001

The Harbor Toxics TMDL encourages responsible parties to join a group of responsible parties to design and implement a collaborative monitoring plan. The Dominguez Channel Estuary responsible parties are each individually responsible for conducting water, sediment, and fish tissue monitoring. However, they are encouraged to collaborate or coordinate their efforts to avoid duplication and reduce associated costs. Dischargers interested in coordinated monitoring shall submit a collaborative monitoring plan that identifies monitoring to be implemented by the responsible parties. Under the coordinated monitoring option, the compliance point for the WLAs shall be storm drain outfalls or a point(s) in the receiving water that suitably represents the combined discharge of cooperating parties.

The details of the monitoring program including sampling locations and all methods shall be specified in the collaborative monitoring plan to be approved by the Executive Officer.

The Discharger shall monitor bed sediment at a sampling location specified in the collaborative monitoring plan. As an option, the Discharger may choose to conduct additional bed sediment monitoring at Monitoring Location SED-001 in order to demonstrate compliance with sediment limitations by meeting sediment numeric targets of cadmium, chlordane and dieldrin in bed sediments over a 3-year averaging period (see section IV.B. of the Order). Surface grab samples containing the upper 5 centimeters of sediment shall be collected and analyzed for the following:

Table E-6. Bed Sediment Monitoring Requirements for SED-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Cadmium, Total Recoverable	mg/kg dry sediment	Grab	1/Year	[1]
Chlordane	µg/kg dry sediment	Grab	1/Year	[1]
Dieldrin	µg/kg dry sediment	Grab	1/Year	[1]

1. Pollutants shall be analyzed in accordance with U.S. EPA or ASTM methodologies where such methods exist. Where no U.S. EPA or ASTM methods exist, the State Board or Regional Water Board shall

approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the State Water Board in accordance with Water Code section 13176.

IX. OTHER MONITORING REQUIREMENTS

A. Rainfall Monitoring

The Discharger shall measure and record the rainfall on each day of the month or submit the data obtained from the nearest city/county operated rain gauge monitoring station. This information shall be included in the monitoring report for that month.

B. Visual Observation

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of trash, floating and suspended materials, oil and grease, discoloration, turbidity, and odor. A “significant storm water discharge” is a continuous discharge of storm water comingled with process wastewater for a minimum of one hour, or the intermittent discharge of storm water comingled with process wastewater for a minimum of 3 hours in a 12-hour period.

C. Regional Monitoring

The Discharger may participate in the development of Regional Monitoring Program(s) to address pollutants as specified in the Harbor Toxics TMDL. If the Discharger joins a group of stakeholders to complete this monitoring, the Discharger must provide documentation of participation and a description of applicable responsibilities. The Regional Water Board must also be provided with documentation of the availability of the reports associated with the implementation of the Monitoring Plan.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. If there is no discharge during any reporting period, the report shall so state.

3. If the Discharger monitors (other than for process/operational control, startup, research, or equipment testing) any influent, effluent, or receiving water constituent more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the monitoring report. These results shall be reflected in the calculation of the average (or median) used in demonstrating compliance with this Order/Permit.

4. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements (WDRs). This section shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.

5. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

6. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, section V.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
1/Day	Permit effective date	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Discharge Event	Permit effective date	January – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Week	Permit effective date	January – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Month	Permit effective date	January – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Year	Permit effective date	January 1 – December 31	February 1

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

5. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

7. Multiple Sample Data. When determining compliance with an AMEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

8. The Discharger shall submit SMRs in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at:

<http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring>.

D. Other Reports

1. Within 90 days of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:

a. Initial Investigation TRE workplan

b. Updated SWPPP

c. Updated BMPP

d. Updated Spill Contingency Plan

The SWPPP, BMPP, and SCP (or SPCC) status shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of trash and pollutants in wastewater and storm water discharged from the facility are addressed. All changes or revisions to the SWPPP, BMPP, and Spill Contingency Plan shall be submitted to the Regional Water Board within 30 days of revisions.

2. According to the Harbor Toxics TMDL, the Discharger shall submit an annual monitoring/implementation report to the Regional Water Board. The report shall describe the measures implemented and the progress achieved toward meeting the assigned WLAs, as specified in section VI.C.2.c. The annual monitoring/implementation report shall be submitted with the corresponding annual sampling frequency requirement in this Order and received by this Regional Water Board by February 1st for the reporting period of January 1st through December 31st.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4B192131026
Discharger	Phillips 66 Company
Name of Facility	Phillips 66 Los Angeles Refinery, Carson Plant
Facility Address	1520 E. Sepulveda Blvd.
	Carson, California 90745
	Los Angeles County
Facility Contact, Title and Phone	Alphonso Graves, Environmental Compliance Specialist, (310) 952-6327
Authorized Person to Sign and Submit Reports	Darin Fields, Phillips 66 Los Angeles Refinery, Carson Plant, Manager, (310) 952-6002
Mailing Address	SAME
Billing Address	SAME
Type of Facility	Petroleum Refinery (SIC 2911)
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	Discharge Point 001: 11 million gallons per day (MGD)
Facility Design Flow	Discharge Point 001: 11 MGD
Watershed	Dominguez Channel Estuary Watershed, Los Angeles/Long Beach Harbor Watershed Management Area
Receiving Water	Dominguez Channel Estuary
Receiving Water Type	Inland Surface Water

A. Phillips 66 Company (hereinafter Discharger) is the owner and operator of the Phillips 66 Los Angeles Refinery, Carson Plant (hereinafter Facility), a petroleum refinery. The Facility is located at 1520 East Sepulveda Boulevard, Carson, California.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to the Dominguez Channel Estuary, a water of the United States. The Discharger was previously regulated by Order R4-2012-0021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0063185 adopted on February 2, 2012, and it expired on January 10, 2017. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on December 20, 2016. Supplemental information was requested on January 20, 2017, and was received on March 3, 2017 and March 7, 2017. The application was deemed complete on March 7, 2017. A site visit was conducted on November 30, 2016, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

D. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Carson Plant is a petroleum refining facility and is categorized as a cracking refinery. The Facility receives a daily average crude oil throughput of 131,000 barrels per day. Crude oil is separated and processed in various refinery processes and intermediate products are piped to another refinery located in Wilmington, California for processing to produce gasoline, diesel fuel, and jet fuel. Sulfur, carbon dioxide, and petroleum cokes are produced as co-products. The refinery processes at the Carson Plant include crude distillation, vacuum flashing, coking, hydrotreating, sulfur recovery, and hydrogen generation.

A. Description of Wastewater Treatment and Controls

Process wastewaters and storm water from process areas are segregated from non-process waters and storm water from non-process areas (i.e., tank farms, parking lots, roadways, and other non-process areas) via site grading, piping, and berms. The drainage system at the Facility includes numerous catch basins. There are three types of catch basins that are used at the Facility: storm catch basins; process catch basins, and common catch basins. Each type of catch basin is interconnected by a series of storm water conveyance lines. These lines are segregated according to the type of water they convey, i.e., storm, process, and common (storm or process water). Below is the description of the function of each type of catch basin:

- Process catch basins - The process catch basins are designed to capture process waters, storm waters, and contaminants that may be present in waters from the process areas. The process catch basins receive flow from areas of concrete pads within the various process units. The water from these pads flows to the process water closed drain system. It is treated in the process wastewater system using Corrugated Plate Interceptors (CPI's), American Petroleum Institute (API) separators, and Air-Flotation Units (AFU 1 and AFU 2). The effluent water is discharged to the County Sanitation District of Los Angeles County (CSDLAC) sanitary sewer under Industrial Permit No. 21079.
- Storm catch basins - Storm water catch basins receive runoff from areas outside of the process units. Storm water catch basins are located around the perimeter of the process areas and within non-process areas of the Facility. Runoff flows through these catch basins to the storm water collection system, which is separate from the process water

drain system. From this storm drain system, the water flows to the 200,000-barrel capacity Storm Water Pond (8.4 million gallon retention basin). The storm water from parking lots, roadways, non-process areas, and boiler condensate and blowdown are directed to the Storm Water Pond.

- Common catch basins - Common catch basins serve as process water catch basins during dry weather and serve as storm water catch basins during wet weather. The common catch basins are located within the tank farm areas of the Facility. After flushing the first tenth of an inch of rainfall to the process wastewater system, storm water is diverted to the Storm Water Pond through the use of manually activated diversion boxes/valves. Process water that enters the common catch basins during dry weather and the first tenth of an inch during storm events are routed to the process wastewater system to prevent non-storm water discharges, contaminants, and spills from being discharged to the Storm Water Pond.

The contaminated storm water runoff is combined with process wastewater, treated and discharged to the CSDLAC sanitary sewer. Storm water from non-process areas, tanks farms, parking lots, and roadways is collected in the Storm Water Pond for observation and treatment before discharge to the process wastewater system, intermediate storm water holding areas, CSDLAC sanitary sewer system or to the Dominguez Channel Estuary when the capacity of the Storm Water Pond is exceeded.

Under most conditions, storm water, boiler blowdown, and boiler condensate from the Storm Water Pond is gradually pumped to the Oil Recovery Unit (ORU) for treatment prior to discharge to the sanitary sewer or Dominguez Channel Estuary. During storm events when the capacity of the Storm Water Pond is exceeded, the Facility is permitted to discharge treated wastewater consisting of storm water runoff, boiler condensate, and boiler blowdown to the Dominguez Channel Estuary, a water of the United States. Discharge of treated wastewater to the Dominguez Channel Estuary is not initiated until it meets the discharge limitations specified in the NPDES Permit. If initiated, discharge of treated wastewater to the Dominguez Channel Estuary continues until the level in the Storm Water Pond drops below 3 feet as long as water quality meeting discharge limitations is maintained. The remaining water in the Storm Water Pond is then re-routed into the process wastewater system for discharge to the sanitary sewer.

The Facility has not discharged to the Dominguez Channel Estuary since March 2001. In addition, the pipe leading from the ORU to Discharge Point No. 001 has a flat sheet of steel (referred to as “blind”) that completely occludes the pipe and prevents the passage of any fluids through the pipe except when it is manually removed.

B. Discharge Points and Receiving Waters

The Facility discharges up to 11 MGD of treated storm water, boiler condensate, and boiler blowdown, when the capacity of the storm water retention basin is exceeded during extreme precipitation events, to the Dominguez Channel Estuary, a water of the United States, via Discharge Point No. 001. Discharge Point 001 is located at Latitude 33.815278 and Longitude -118.231944.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Monitoring at Monitoring Location EFF-001 was not conducted, as there were no discharges from Discharge Point 001 during the term of the previous Order. Effluent limitations contained in R4-2012-0021 for discharges from Discharge Point 001 are as follows:

Table F-2. Historic Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitation		Monitoring Data (From March 2012 – To December 2016)
		Average Monthly	Maximum Daily	Highest Daily Discharge
Conventional Pollutants				
Biochemical oxygen demand (5-day@20ºC) (BOD)	mg/L	26	48	[1]
	lbs/day[2]	2,420	4,400	[1]
Oil and Grease	mg/L	8	15	[1]
	lbs/day[2]	737	1,367	[1]
pH	Standard Units	6.5 - 8.5[3]		[1]
Total Suspended Solids (TSS)	mg/L	21	33	[1]
	lbs/day[2]	1,927	3,027	[1]
Non-conventional Pollutants				
Acute Toxicity	% Survival	[4]		[1]
Bacteria	MPN/100 ml	[5]		[1]
Chemical Oxygen Demand (COD)	mg/L	180	360	[1]
	lbs/day[2]	16,500	33,000	[1]
Phenolic Compounds	µg/L	170	350	[1]
	lbs/day[2]	15	35	[1]
Settleable Solids	ml/L	0.1	0.3	[1]
Sulfide	mg/L	--	1.0	[1]
	lbs/day[2]	--	92	[1]
Temperature	ºF	86[3]		[1]
Total Residual Oxidants (Chlorine and Bromine)	mg/L	--	0.1	[1]
	lbs/day[2]	--	92	[1]
Priority Pollutants				
Copper, Total Recoverable	mg/L	1.9	2.1	[1]
	lbs/day[2]	0.17	0.2	[1]
Chromium, Total	mg/L	210	600	[1]
	lbs/day[2]	19	55	[1]
Chromium (VI)	mg/L	28	62	[1]
	lbs/day[2]	2.5	5.7	[1]
Lead, Total Recoverable	µg/L	5.8	7.4	[1]
	lbs/day[2]	0.53	0.68	[1]
Mercury, Total Recoverable	µg/L	0.05	0.1	[1]
	lbs/day[2]	0.0046	0.0092	[1]
Nickel, Total Recoverable	µg/L	6.8	14	[1]
	lbs/day[2]	0.62	1.3	[1]
Silver, Total Recoverable	µg/L	1.1	2.2	[1]
	lbs/day[2]	0.10	0.20	[1]
Zinc, Total Recoverable	µg/L	33	40	[1]
	lbs/day[2]	3.0	3.7	[1]

Parameter	Units	Effluent Limitation		Monitoring Data (From March 2012 – To December 2016)
		Average Monthly	Maximum Daily	Highest Daily Discharge
Cyanide, Total Recoverable	µg/L	0.5	1	[1]
	lbs/day[2]	0.046	0.092	[1]
Bis (2-Ethylhexyl) Phthalate	µg/L	5.9	12	[1]
	lbs/day[2]	0.54	1.1	[1]
Chrysene	µg/L	0.049	0.098	[1]
	lbs/day[2]	0.0045	0.0090	[1]
Hexachlorobenzene	µg/L	0.00077	0.0015	[1]
	lbs/day[2]	0.00007	0.00014	[1]

1. No monitoring data. There were no discharges to surface waters during the term of Order R4-2012-0021. The last discharge to surface water was in March 2001.
2. Mass-based effluent limitations for pollutants are based on a maximum flow rate of 11 MGD.
3. Instantaneous range or instantaneous maximum.
4. The acute toxicity shall be such that:
   i. The average survival in the undiluted effluent of any three consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
   ii. No single test shall produce less than 70% survival.
5. Geometric Mean Limits
   i. Total coliform density shall not exceed 1,000/100 ml.
   ii. Fecal coliform density shall not exceed 200/100 ml.
   iii. Enterococcus density shall not exceed 35/100 ml.

   Single Sample Limits
   i. Total coliform density shall not exceed 10,000/100 ml.
   ii. Fecal coliform density shall not exceed 400/100 ml.
   iii. Enterococcus density shall not exceed 104/100 ml.
   iv. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to total coliform exceeds 0.1.

   The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period). If any of the single sample limits are exceeded, the Regional Water Board may require repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance. When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

D. Compliance Summary

The Facility has not discharged during the term of Order R4-2012-0021, therefore, no violations of numeric permit limitations. The Facility was cited for minor reporting violations in two instances since issuance of Order R4-2012-0021. The violations were deficient reporting of rainfall data in the 1st Quarter 2012 monitoring report and non-submittal of the 1st Quarter 2013 monitoring report. On July 15, 2013, a notice of violation was sent to the Discharger for non-submittal of the first Quarter 2013 monitoring report that was due on May 1, 2013. These violations were Class 3 – Minor[1] and not subject to mandatory minimum penalties (MMP).

[1] Class 3 violations are those violations that pose only a minor threat to water quality and have little or no known potential for causing a detrimental impact on human health and the environment. Class 3 violations include statutorily required liability for late reporting when such late filings do not result in causing an unauthorized discharge or allowing one to continue. Class 3 violations should only include violations by dischargers who are first time or infrequent violators and are not part of a pattern of chronic violations.

E. Planned Changes

There are no planned changes for the Facility.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the Los Angeles Region* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Dominguez Channel Estuary are as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Dominguez Channel Estuary	Existing: Water contact recreation (REC1)[1], non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), preservation of rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN). Potential: Navigation (NAV)

1. Access prohibited by Los Angeles Department of Public Works.

Requirements of this Order implement the Basin Plan.

2. **Enclosed Bays and Estuaries Policy.** The *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* (Enclosed Bay and Estuaries Policy), adopted by the

State Water Resources Control Board (State Board) as Resolution No. 95-84 on November 16, 1995, states that:

> *"It is the policy of the State board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Water Board only when the Regional Water Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

Discharges from the Phillips 66 Los Angeles Refinery, Carson Plant to the Dominguez Channel Estuary would occur during precipitation events and would be comprised mostly of treated storm water with a small amount of boiler condensate, and boiler blowdown. As per the Enclosed Bays and Estuaries Policy, this is not a new discharge of municipal wastewater, the permit includes prohibitions which prevent the discharge of rubbish or refuse, the discharge of radiological, chemical or biological warfare agents, and a receiving water limitation which stipulates that the discharge does not cause oils, greases or waxes in concentrations that result in a visible sheen in the surface water. This Order contains provisions necessary to protect all beneficial uses of the receiving water and it is in compliance with the Enclosed Bays and Estuaries Policy.

3. **Thermal Plan.** The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan. Additionally, a white paper was developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel; typical aquatic life species present in surface water bodies in the Los Angeles Region. A maximum effluent temperature limitation of 86°F was determined to be appropriate for protection of aquatic life and it is consistent with the maximum temperature limitation of 86°F for thermal waste discharges to estuaries included in the Thermal Plan. Therefore, a maximum temperature effluent limitation of 86°F is included in this Order.

4. **Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries. Requirements of this Order implement sediment quality objectives of this Plan.

5. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

6. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

7. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

9. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rate, threatened, or endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

10. **Part 1 Trash Provisions Requirements.** The State Water Board adopted "Amendment to *the Ocean Plan and Part I Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California"* (Trash Amendments) through Resolution 2015-0019, which was approved by OAL on December 2, 2015, and became effective upon U.S. EPA approval on January 12, 2016. The Trash Amendments apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Board where trash or debris TMDLs are in effect prior to the effective date of the Trash Amendments. The discharge described in this Order may be subjected to the Trash Provisions as there are currently no Trash TMDLs for the Dominguez Channel Estuary. The Trash Amendments established a narrative water quality objective for trash and a prohibition on the discharge of trash, with specific implementation provisions for discharges permitted pursuant to CWA section 402(p), including the MS4, Caltrans, Industrial General Permit, and the Construction General

Permit; no specific implementation provisions were prescribed for individual industrial permittees.

This Order implements the requirements of the Trash Provisions through the prohibition of trash discharges to the NPDES discharge point. The Trash Provisions did not prescribe specific monitoring and reporting requirements applicable to the Discharger; as such, consistent with the monitoring and reporting requirements for dischargers under the Industrial General Permit (due to similarity of the type of discharge, this Order requires the Discharger to develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which shall include specific BMPs used as storm water control measures that the Discharger will undertake to prevent the discharge of trash from the Facility to the Dominguez Channel Estuary. The Discharger is required to detail and submit to the Regional Water Board annually (through their annual SWPPP submittal) specific BMPs (storm water control measures) employed to control and prohibit the discharge of trash and other pollutants from the Facility through the NPDES discharge point to satisfy the monitoring and reporting requirement of the Trash Provisions.

D. Impaired Water Bodies on the CWA section 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt TMDLs that will specify waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

The U.S. EPA approved the State's 2012 CWA section 303(d) list of impaired water bodies on June 26, 2015. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2012 303(d) list and have been scheduled for TMDL development.

The Facility discharges into Dominguez Channel Estuary. The 2012 State Water Resources Control Board (State Water Board) California 303(d) List classifies the Dominguez Channel Estuary as impaired. The pollutants of concern include ammonia, benthic community effects, benzo(a)pyrene (3,4-benzopyrene -7-d), benzo[a]anthracene, chlordane (tissue), chrysene (C1-C4), coliform bacteria, dichlorodiphenyltrichloroethane [(DDT), tissue and sediment], dieldrin (tissue), lead (tissue), polychlorinated biphenyls (PCBs), phenanthrene, pyrene, sediment toxicity, and zinc (sediment). TMDLs have been developed to address these impairments in Dominguez Channel Estuary.

The following are summaries of the TMDLs for the Dominguez Channel Estuary:

1. **Bacteria TMDL.** The Los Angeles Harbor Bacteria TMDL was adopted by the Regional Water Board on July 1, 2004, by Resolution No. R4-2004-011. The TMDL was subsequently approved by the State Water Board on October 21, 2004, by the Office of Administrative Law (OAL) on January 5, 2005, and by U.S. EPA on March 1, 2005. The TMDL became effective on March 10, 2005. The Bacteria TMDL addresses Inner Cabrillo Beach and the Main Ship Channel of the Los Angeles Inner Harbor, but does not address the Dominguez Channel Estuary. The requirements in the Bacteria TMDL are not applicable to the discharge from this Facility. This Order retains effluent bacteria limitations based on water quality objectives (WQO) included in the Basin Plan that are applicable to the Dominguez Channel Estuary. These WQOs are identical to the WQOs used to develop the Bacteria TMDL that is applicable to the Main Ship Channel immediately downstream of the Dominguez Channel Estuary.

2. Harbor Toxics TMDL.

Background

The Regional Water Board adopted Resolution No. R11-008 on May 5, 2011, that amended the Basin Plan to incorporate the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbors Waters* (Harbor Toxics TMDL). The Harbor Toxics TMDL was approved by the State Water Board on February 7, 2012, the OAL on March 21, 2012, and the U.S. EPA on March 23, 2012. The Harbor Toxics TMDL contains requirements applicable to this discharge. Therefore, the Regional Water Board has developed and included effluent limitations and monitoring requirements within this Order that are consistent with all assumptions and requirements of all WLAs included in the Harbor Toxics TMDL.

For the Dominguez Channel Estuary, the Harbor Toxics TMDL included:

a. Sediment interim concentration-based allocations (in mg/kg sediment) for copper, lead, zinc, 4,4'-DDT, PAH's (benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene), and PCBs (Attachment A to Resolution No. R11-008, p. 11).

b. Water column final concentration-based WLAs (µg/L) for copper, lead, zinc, PAHs, chlordane, 4,4'-DDT, dieldrin, and total PCBs (Attachment A to Resolution No. R11-008, pp. 13-14).

c. Final concentration-based sediment WLA (in mg/kg dry sediment) for cadmium (Attachment A to Resolution No. R11-008, p. 17)

d. Final bed sediment concentration-based sediment WLAs (in µg/kg dry sediment) for bioaccumulative compounds: chlordane and dieldrin (Attachment A to Resolution No. R11-008, p. 21).

e. Provisions for monitoring discharges and/or receiving waters during the TMDL's 20 year implementation schedule to determine attainment with wasteload and load allocations as appropriate.

Implementation

The provisions included here are consistent with the assumptions and requirements of the WLAs established in the Harbor Toxics TMDL that are applicable to the discharge from this Facility.

a. **Water Column WLAs**. In accordance with the TMDL and federal regulations this Order includes final WQBELs that are statistically-calculated based on salt water column final concentration-based WLAs (in µg/L, total metal) for copper (3.73), lead (8.52), zinc (85.6), PAHs [benzo(a)anthracene, benzo(a)pyrene, chrysene (0.049), pyrene (11,000)], chlordane (0.00059), 4,4'-DDT (0.00059), dieldrin (0.00014), and total PCBs (0.00017) (referred to in this Order as CTR TMDL-based WLAs), converted from saltwater CTR criteria using CTR saltwater default translators, and relevant implementation provisions in section 1.4 of the State Implementation Policy. CTR human health criteria were not established for total PAHs. Therefore, the CTR criterion for individual PAHs of 0.049 µg/L is applied individually to benzo(a)anthracene, benzo(a)pyrene, and chrysene. The CTR criteria for pyrene of 11,000 µg/L is assigned as an individual WLA to pyrene. The CTR criterion for pyrene of 11,000 µg/L is assigned as an individual WLA to pyrene. WQBELs are developed using relevant implementation provisions in section 1.4 of the State Implementation Policy.

The TMDL includes provisions for a 20-year implementation schedule when warranted. One condition for obtaining a compliance schedule is that the Discharger must demonstrate an inability to comply with more stringent effluent limitations resulting from the TMDL. This Order includes final WQBELs that are based on the final concentration based WLAs specified in the Harbor Toxics TMDL. The Discharger retains coverage under the NPDES permit for the emergency discharge of storm water in the event that storm water from the Facility cannot be contained within the Facility or discharged to the CSDLAC sewer system.

b. **Interim and Final Sediment WLAs and Monitoring**. This Order also includes monitoring thresholds based on the TMDLs interim and final sediment allocations (in mg/kg sediment dry weight) for cadmium (1.2), copper (220.0), lead (510.0), zinc (789.0), DDT (1.727), PAHs (31.60), and PCBs (1.490), and allocations in bed sediments for chlordane (0.5 µg/kg dry sediment) and dieldrin (0.02 µg/kg dry sediment); this order also includes the associated sediment monitoring requirements for the effluent. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies existing at the time of permit issuance, reissuance, or modification. The TMDL's final sediment allocations were developed to ensure that the beneficial uses of the Dominguez Channel Estuary are preserved.

The water column CTR TMDL-based WLAs for copper, lead, zinc, PAHs, chlordane, 4,4'-DDT, dieldrin, and total PCBs were developed to ensure that the beneficial uses of the Dominguez Channel Estuary are preserved. However, no water column CTR TMDL-based WLA was assigned for cadmium in the Dominguez Channel Estuary. Therefore, performance goals are established for cadmium. The cadmium performance goals were developed using CTR criteria and section 1.4 of the SIP. This performance goal will therefore serve as a monitoring threshold, to ensure proper implementation of the TMDL's final cadmium sediment allocation for this Discharge.

During each reporting period, if effluent monitoring results exceed both a TSS effluent limitation and an effluent limitation for copper, lead, zinc, PAHs (benzo(a)anthracene, benzo(a)pyrene, chrysene, and pyrene), 4,4-DDT, chlordane, dieldrin, or PCBs or a performance goal for cadmium, then the Discharger has not demonstrated attainment with the sediment allocations stipulated by the Harbor Toxics TMDL, (Attachment A to Resolution No. R11-008) and implementation of the effluent sediment monitoring program is required for that priority pollutant. Sediment monitoring of the effluent shall begin during the first discharge event following the effluent exceedances. An effluent sediment monitoring result at or below the interim and final sediment allocations (sediment monitoring thresholds) in Tables 5 and 6 of this Order demonstrates attainment with the monitoring thresholds and additional sediment monitoring of the effluent is not required. An effluent sediment monitoring result that exceeds the sediment allocation requires additional sediment monitoring of the effluent during discharge, but not more frequently than once per year, until the 3-year average concentration for sediment monitoring results is at or below the applicable sediment allocation. In an effort to accurately characterize the sediment discharged from the Facility, the Discharger will be required to collect enough effluent to perform sediment monitoring at least once during the permit term, if the effluent monitoring does not trigger sediment monitoring during the five year permit term and a discharge occurs from the Facility.

c. **Water Column, Sediment, and Fish Tissue Monitoring for Dominguez Channel, Torrance, and Dominguez Channel Estuary**. As defined in the Harbor Toxics TMDL, the Discharger is a "responsible party" because it is an "Individual Industrial Permittee." As such, either individually or with a collaborating group, the Discharger shall develop a monitoring and reporting plan (Monitoring Plan) and quality assurance project plan (QAPP) for the water column, sediment, and fish tissue in Dominguez Channel, Torrance Lateral, and Dominguez Channel Estuary Compliance Monitoring Program. These plans shall follow the "TMDL Element - Monitoring Plan" provisions in Attachment A to Resolution No. R11-008. The TMDL requires that the Monitoring Plan and QAPP shall be submitted 20 months after the effective date (March 23, 2012) of the TMDL for public review and subsequent Executive Officer approval. Since the effective date of this Order exceeds the deadline for the Monitoring Plan and QAPP, the Discharger shall join a group already formed or develop a site specific monitoring plan. If the Discharger decides to join a group already formed, the Discharger shall notify the Regional Water Board within 90 days of the effective date of the Order. Documentation of Discharger's participation and responsibilities shall be provided with the notification. If the Discharger decides to develop a site specific Monitoring Plan with a QAPP, the Discharger shall notify the Regional Water Board within 90 days of the effective date of the Order and submit them to the Regional Water Board within 12 months of the effective date of the Order for public comment, and subsequently, the Regional Water Board approval. The Discharger shall begin monitoring 6 months after the Monitoring Plan and QAPP are approved by the Executive Officer, unless otherwise directed by the Executive Officer. The compliance monitoring program shall include water column, sediment, and fish tissue monitoring. The Discharger shall submit the annual monitoring report to the Regional Water Board by the specified date in the proposed Monitoring Plan. The annual monitoring report shall indicate compliance and non-compliance with waste load and/or load allocations.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The Discharger operates a petroleum refining facility and is categorized as a cracking refinery as defined in part 419.20. Contributing waste streams consist of boiler condensate and blowdown, and storm water runoff from non-process areas (i.e., tank farms, parking lots, roadways, and other non-process areas). Typical pollutants present in these waste streams may include total oxidants (chlorine and bromine), solids, oil and grease, sulfides, phenol, metals, petroleum hydrocarbons, methyl tertiary butyl ether, tertiary butyl alcohol, and volatile organic compounds. In addition, biochemical oxygen demand (BOD), total suspended solids (TSS), chemical oxygen demand (COD), oil and grease, phenolic compounds, total chromium and chromium (VI) are regulated under the *Petroleum Refining Point Source Category Subpart B: Cracking Subcategory* [40 CFR 419.22(e)(2); 40 CFR 419.23(e)(2); and 40 CFR 419.24(e)(2)] effluent limitation guidelines and standards (ELGs). The *Development Document for Effluent Limitations Guidelines and Standards*

for the Petroleum Refining Point Source Category (Subpart B: Cracking Category) indicates these pollutants are common in the wastewater discharged from these facilities and because the Facility is a petroleum refinery they are considered pollutants of concern. These pollutants have the potential to adversely affect the water quality and the aquatic life of the receiving water. These pollutants were regulated in Order R4-2012-0021 and are regulated in this Order.

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. Part 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment.

A. Discharge Prohibitions

Discharge Prohibitions in this Board Order are based on the federal Clean Water Act, Basin Plan, Water Code, State Water Board's plans and policies, U.S. EPA guidance and regulations, and previous permit provisions, and are consistent with the requirements set for other discharges to the Dominguez Channel Estuary regulated by NPDES permits.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations (TBELs)

a. TBELs Applicable at Discharge Point 001

The Facility is categorized as a cracking refinery and.is subject to the Petroleum Refining category of 40 CFR part 419. 40 C.F.R. Part 419 subpart B contains effluent limitation guidelines (ELGs) for wastewater discharged from the cracking subcategory within the petroleum refining point source category. ELGs for contaminated runoff (i.e., runoff which comes into contact with any raw material, intermediate product, finished product, by-product or waste product located on petroleum refinery property) have been established for the Petroleum Refining category, representing BPT, BCT, and BAT. TBELs for Discharge Point 001 are developed based on the ELGs for contaminated runoff included in 40 C.F.R. Part 419.

The Facility wastewaters contributing to Discharge Point 001 include boiler condensate and boiler blowdown. These waste streams were evaluated with respect to applicability of production-based ELGs under 40 CFR sections 419.22(a), 419.23(a), and 419.24(a). The discharge characteristics of boiler condensate and boiler blowdown are not closely tied to production. Based on the flow information submitted by the Discharger in the report of waste discharge (ROWD), boiler condensate and boiler blowdown comprise of 0.1 to 0.5 percent of the non-storm water contributions to Discharge Point 001. Therefore, production-based ELGs were not applied for discharges at Discharge Point 001; the ELGs for contaminated storm water are applied to the waste streams discharges at Discharge Point 001. In addition, Sections 419.22(e), 419.23(f), and 419.24(e) establish effluent limitations of 15 mg/L for oil and grease and 110 mg/L for TOC for contaminated runoff. The ELGs state that when the discharge exceeds the effluent limitation for oil and grease or TOC specified above, then effluent limitations for BOD, chromium, chromium (VI), COD, oil and grease, pH, phenolic compounds, and TSS, also established in sections 419.22(e), 419.23(f), and 419.24(e), are applicable. Due to lack of discharges, there is no current representative data to determine if the discharge concentration of oil and grease or TOC are below the specified limits above. In addition, there is a small quantity of boiler condensate and boiler blowdown that comingles with the storm water. Therefore, this Order utilized the contaminated runoff ELGs that was also applied in the previous Orders (Order Nos. 01-074, and R4-2012-0021) for discharges at Discharge Point 001.

For the discharges through Discharge Point 001, the BPT, BAT and BCT limitations for BOD, TSS, COD, oil and grease, phenolic compounds, total chromium, chromium (VI), and pH are applicable. The most stringent of BPT, BCT, and BAT are applied as effluent limitations to the discharge (see Table F-4).

The most stringent of BPT, BAT, or BCT, as found in 419.22(e), 419.23(f), and 419.24(e) are summarized in Table F-4:

Table F-4. ELGs for Contaminated Storm Water Runoff and Mass-based (lbs/day) TBELs – Discharge Point 001

Parameter	Effluent Limit in 40 CFR 419 B[1]						Most Stringent Limit (ELG)		Effluent Limits (Mass, lbs/day)[2]		ELG Basis for Limit[6]
	BPT 419.22(e)		BAT 419.23(f)		BCT 419.24(e)						
	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.	Daily Max	30-day Avg.	
	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	(lbs/1000 gal)	lbs/day	lbs/day	
BOD_5	0.40	0.22	--	--	0.40	0.22	0.40	0.22	4,400	2,420	BPT/BCT
TSS	0.28	0.18	--	--	0.28	0.18	0.28	0.18	3,080	1,980	BPT/BCT
COD	3.0	1.5	3.0	1.5	--	--	3.0	1.5	33,000	16,500	BPT/BAT
Oil and Grease	0.13	0.067	--	--	0.13	0.067	0.13	0.067	1,430	737	BPT/BCT
Phenolic Compounds	0.0029	0.0014	0.0029	0.0014	--	--	0.0029	0.0014	32	15	BPT/BAT
Chromium, Total	0.0060	0.0035	0.0050	0.0018	--	--	0.0050	0.0018	55	20	BAT
Chromium (VI)	0.00052	0.00023	0.00052	0.00023	--	--	0.00052	0.00023	5.7	2.5	BPT/BAT
pH	The pH of the wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.						6.0 – 9.0		6.0 – 9.0		BPT/BAT

[1] 40 C.F.R. part 419, subpart B–Cracking Category (419.22(a), 419.23(a), and 419.24(a)). The Facility is categorized as a Cracking Facility, subject to subpart B.

[2] Mass-based (lbs/day) = (Flow in gpd) x ELG Effluent Limitation. Flow = 11,000,000 gpd (11 MGD).

b. Example of Mass-based ELG Calculations

From the ELGs for contaminated storm water runoff, mass-based (lbs/day) limitations are calculated using the most stringent ELGs and the maximum flow of 11 MGD reported by the Discharger in the ROWD. Because the discharges through Discharge Point 001 occur only during storm events to prevent flooding, the maximum flow is considered a reliable estimate of an actual discharge flow rate from the Facility. Effluent limitations in lbs/day are provided in Table F-4 above. The example below used total chromium at Discharge Point 001 as an example to demonstrate how BPT, BAT, and BCT limitations were calculated and included as effluent limitations in this Order.

For total chromium at Discharge Point 001, the BAT ELGs are the most stringent. The ELGs establish a maximum daily effluent limitation of 0.0050 lbs/1,000 gallons of contaminated storm water and a 30-day average of 0.0018 lbs/1,000 gallons of contaminated storm water.

The following formula was used to calculate the mass-based limitations for ELG Constituents:

Mass-based (lbs/day) = Flow in gpd x ELG Limit (Table F-4)

For this example for total chromium,

Flow = 11 MGD =11,000,000 gpd

ELG Effluent Limitation (Daily Max) = 0.0050 lbs/1,000 gallons of flow
ELG Effluent Limitation (30-day Average) = 0.0018 lbs/1,000 gallons of flow

Daily Maximum Total Chromium:
MDEL (lbs/day) = 11,000,000 gpd x (0.0050 lbs/1000 gallons) = 55 lbs/day

30-Day Average, Total Chromium:
AMEL (lbs/day) = 11,000,000 gpd x (0.0018 lbs/1000 gallons) = 20 lbs/day

Pursuant to 40 CFR section 122.45(f)(2), pollutants limited in terms of mass may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations. Concentration-based effluent limitations were calculated from the ELG derived mass-based limitations using the following formula:

Concentration-based (mg/L) = Mass-based (lbs/day) ÷ Flow (MGD) ÷ 8.34 (conversion factor)

To demonstrate total chromium concentration-based limitations:

Daily Maximum, Concentration-based:

MDEL (mg/L) = 55 lbs/day ÷ 11 MGD ÷ 8.34 = 0.60 mg/L (600 µg/L)

30-Day Average, Concentration-based:

AMEL (mg/L) = 20 lbs/day ÷ 11 MGD ÷ 8.34 = 0.22 mg/L (220 µg/L)

The TBELs for BOD, COD, TSS, oil and grease, phenolic compounds, total chromium, chromium (VI), are calculated based on the ELGs using the above formula/procedures for Discharge Point 001 and are provided in Table F-5.

The calculated TBELs in this Order for total chromium (AMEL) and TSS (maximum daily effluent limitation [MDEL] and AMEL) are slightly less stringent than in Order R4-2012-0021. The limitations in Order R4-2012-0021 correspond to the ELGs presented as metric units of kilograms per cubic meter of flow. While these units correspond to parts per million, they are slightly different than concentration limits calculated directly from the English Unit values used to calculate mass limitations. Subsequently, the mass limitations in Order R4-2012-0021 were calculated from the concentrations equated to the metric mass limits, rather than directly from the ELG mass limit.

For this Order, the mass limits are calculated consistent with the ELG regulations. Effluent flow is multiplied by ELGs in English units in 40 CFR part 419.22(e)(e)(2) and the resulting mass limitations are applied to discharges from Discharge Point 001. Concentration limitations are also calculated directly from the ELG mass limitations.

c. Effluent Limitations Based on Best Professional Judgment (BPJ) - Discharge Point 001

Order R4-2012-0021 included effluent limitations for oil and grease (MDEL), sulfide, and settleable solids based on the previous Orders (Order Nos. 01-74, R4-2006-0082, and R4-2012-0021). These constituents are pollutants of concern in storm water from facilities that store and handle petroleum products. In establishing these limitations, the Regional Water Board considered the factors in 40 C.F.R. section 125.3. Therefore, the oil and grease (MDEL), sulfide, and settleable solids limitations are retained in this Order.

d. Summary of Technology-based Effluent Limitations at Discharge Point 001

The effluent limitations based on ELGs and BPJ that apply to this Facility are presented in Table F-5.

Table F-5. Summary of Technology-Based Effluent Limitations at Discharge Point 001

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
ELG Based Limitations			
Biochemical Oxygen Demand (BOD)	mg/L[1]	26	48
	lbs/day[1]	2,420	4,400
Total Suspended Solids (TSS)	mg/L[1]	22	34
	lbs/day[1]	1,980	3,080
Chemical Oxygen Demand (COD)	mg/L[1]	180	360
	lbs/day[1]	16,500	33,000
Oil and Grease	mg/L[1]	8.0	16
	lbs/day[1]	737	1430
Phenolic Compounds	mg/L[1]	0.17	0.35
	lbs/day[1]	15	32
Chromium, Total	µg/L[1]	220	600
	lbs/day[1]	20	55
Chromium (VI)	µg/L[1]	28	62
	lbs/day[1]	2.5	5.7
pH	standard units	Between 6.0 and 9.0[2]	
BPJ Limitations			
Oil and Grease	mg/L	---	15[3]
	lbs/day[5]	---	1,376[4]
Settleable Solids	ml/L	0.1	0.3
Sulfide	mg/L	--	1.0
	lbs/day[5]	--	92

1. The mass-based (lbs/day) effluent limitations are calculated based on mass loading factors contained in 40 CFR part 419 and a maximum design flow of 11 MGD (11,000,000 gpd). It is calculated as follows:

   Mass-based (lbs/day) = Flow (gpd) x ELG Limit/1000 gallon of flow (Table F-4)

   The equivalent concentration-based (mg/L or µg/L) effluent limitations are calculated based on the mass loading factors and a conversion factor as follows:

   Concentration-based (mg/L) = Mass (lbs/day) / [Flow (MGD) x 8.34 (conversion factor)].

2. The ELG limitation for pH presented in this Table F-5 is less stringent than the water quality objective in the Basin Plan and in Order R4-2012-0021 in which the pH limitation is 6.5-8.5. This Order included the more stringent pH limitation of 6.5-8.5 (see section IV.C.6 and IV.D.5 of this Fact Sheet.
3. The BPJ technology-based limit from Order No. R4-2012-0021 is included in this Order as it is more stringent than the MDEL calculated based on ELGs.
4. The mass limitation for oil and grease in Order R4-2012-0021 (1,367 lbs/day) is a typographical error. This Order includes the correct mass limitation of 1,376 lbs/day).
5. The mass emission rates are based on the Facility's maximum flow rate of 11 MGD at Discharge Point 001, and are calculated as follows:

   Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor).

6 New effluent limitations based on BPJ.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator constituent for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

The specific procedures for determining reasonable potential and, if necessary, calculating WQBELs, are contained in the SIP for the discharge of wastewater from the Phillips 66 Los Angeles Refinery, Carson Plant.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in section III of this Fact Sheet, the Regional Water Board adopted a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Dominguez Channel Estuary are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Priority pollutant water quality criteria in the CTR are applicable to the Dominguez Channel Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with section 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The ambient maximum salinity reported by the Tesoro Los Angeles Refinery – Carson Operations (nearby the Facility) during the term of Order R4-2007-0015 (NPDES No. CA0000680) from the Dominguez Channel Estuary was 37 grams/kg (or ppt) (at RSW-005B in Order R4-2007-0015). Therefore the Regional Water Board has determined that the discharge is within estuarine waters and saltwater criteria are applicable. The CTR criteria for saltwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Dominguez Channel Estuary, a water of the United States.

Table F-6 summarizes the applicable water quality criteria/objective for priority pollutants that are limited in Order No. R4-2012-0021.

Table F-6. Applicable Water Quality Criteria

CTR No.	Parameter	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
5b	Chromium (VI)	50	N/A[1]		1,108	50	N/A[1]	--
6	Copper	3.7			5.8	3.7		--
7	Lead	8.5			220	8.5		Narrative
8	Mercury	0.051			--	--		0.051
9	Nickel	8.3			75	8.3		4,600
11	Silver	2.2			2.2	--		--
13	Zinc	86			95	86		--
14	Cyanide	1.0			1.0	1.0		220,000
68	Bis (2-Ethylhexyl) Phthalate	5.9			--	--		5.9
73	Chrysene	0.049			--	--		0.049
88	Hexachlorobenzene	0.00077			--	--		0.00077

[1] "N/A" indicates the receiving water body is not characterized as freshwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.

Harbor Toxics TMDL

Since issuance of Order R4-2012-0021, the Harbor Toxics TMDL became effective. The Harbor Toxics TMDL assigned concentration-based WLAs to irregular dischargers to the Dominguez Channel Estuary. The TMDL states, *"The allocations are set equal to the saltwater targets for metals and equal to the human health targets for the organic compounds in CTR. The averaging period for the concentration-based WLAs shall be consistent with that specified in the regulation establishing the criterion or objective or relevant implementation guidance published by the establishing agency."* Table F-6 summarizes the applicable receiving water column concentration-based WLAs for copper, lead, zinc, benzo(a)anthracene, benzo(a)pyrene, chrysene, pyrene, chlordane, 4,4'-DDT, dieldrin, and total PCBs contained in the Harbor Toxics TMDL. These WLAs are applicable to Discharge Point 001.

Table F-7 summarizes the Harbor Toxics TMDL Receiving Water Column Concentration-based WLAs for discharges to Dominguez Channel Estuary.

Table F-7. Harbor Toxics TMDL Receiving Water Column Concentration-based WLAs Applicable to Discharge Point 001

Parameter	Units	WLA
Copper, Total Recoverable[1]	µg/L	3.73
Lead, Total Recoverable[1]	µg/L	8.52
Zinc, Total Recoverable[1]	µg/L	85.6
PAHs[2]	µg/L	0.049
Chlordane	µg/L	0.00059
4,4-DDT	µg/L	0.00059
Dieldrin	µg/L	0.00014
Total PCBs	µg/L	0.00017

1. WLAs for metals are converted from saltwater dissolved CTR criteria using CTR saltwater default translators.
2. CTR human health criteria were not established for total PAHs. Therefore, the CTR criterion for individual PAHs of 0.049 µg/L is applied individually to benzo(a)anthracene, benzo(a)pyrene, and chrysene. The CTR criterion for pyrene of 11,000 is assigned as an individual WLA to pyrene.

This permit implements the applicable WLAs as required in the TMDL. The WLAs are converted into effluent limitations by applying the CTR-SIP procedures.

3. Determining the Need for WQBELs

a. Reasonable Potential Analysis Methodology

In accordance with section 1.3 of the SIP, the Regional Water Board conducts a Reasonable Potential Analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. If there is a TMDL WLA approved by U.S. EPA, then WQBELs are developed using the WLA. Otherwise, the Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – if MEC ≥ C, a limit is needed.

Trigger 2 – If the background concentration B > C and the pollutant is detected in the effluent, a limit is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, or other applicable factors indicate that a WQBEL is required.

Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data

for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

There were no discharges during the previous permit term, thus, there was insufficient data available to conduct a complete RPA. However, Trigger 3 is determined to be applicable for the pollutants identified in Table F-6. The contributing waste streams consist of boiler condensate and blowdown, and storm water runoff from non-process areas (i.e., tank farms, parking lots, roadways, and other non-process areas). The discharge has the potential to cause or contribute to an exceedance of the applicable water quality criteria. In addition, if there is a TMDL WLA approved by U.S. EPA, then WQBELs are developed using the WLA.

WQBELs were developed for copper, lead, zinc, 4,4'-DDT, and total PCBs that have specified WLAs under the Harbor Toxics TMDL. The effluent limitations for these pollutants were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The Regional Water Board developed WQBELs for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate an RPA. Similarly, the SIP at section 1.3 recognizes that an RPA is not appropriate if a TMDL has been developed.

4. WQBEL Calculations

a. If reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in section 1.4 of the SIP. These procedures include:

   i. If applicable and available, use the WLA established as part of a TMDL.

   ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

   iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.

b. This Order establishes WLAs for copper, lead, zinc, benzo(a)anthracene, benzo(a)pyrene, chrysene, pyrene, chlordane, dieldrin, 4,4'-DDT, and total PCBs. WQBELs are calculated from these waste load allocations based on the Harbor Toxics TMDL, using procedures available in section 1.4 of the SIP.

c. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this Order, no dilution credit is included.

d. Although there is no effluent chromium (VI) data available to conduct an RPA (due to lack of discharge events), a WQBEL is calculated using CTR criteria and SIP methods for comparison to the chromium (VI) technology-based (ELG-based) effluent limitations applicable at Discharge Point 001 (see section IV.B.2). The WQBELs for chromium VI calculated using the CTR-SIP procedures is less stringent than the technology-based effluent limitations calculated using the ELG. Therefore, the more stringent limitation is the technology-based (ELG-based) effluent limitation and is included in this Order.

e. The Table in Attachment J summarizes the development and calculation of the WQBELs in this Order using the procedures described below. The process for

developing these limits is in accordance with the Harbor Toxics TMDL and section 1.4 of the SIP.

f. **WQBELs Calculation Example for CTR Criteria**

In this Order, the performance goal for cadmium and the WQBEL for chromium VI were calculated from CTR aquatic life criteria.

Using chromium (VI) as an example, the following demonstrates these calculations,

Example for Chromium (VI):

Calculation of aquatic life AMEL and MDEL:

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the following steady state equation:

$ECA = C + D(C-B)$ when $C>B$, and

$ECA = C$ when $C \leq B$,

Where: C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. For discharges from the Facility, criteria for saltwater are independent of hardness and pH.
D = The dilution credit, and
B = The ambient background concentration

As discussed above, this Order does not allow dilution; therefore

$ECA = C$

For chromium (VI), the applicable water quality criteria are as follows (reference Table F-6):

$ECA_{acute\ (chromium\ VI)} = 1{,}100\ \mu g/L$

$ECA_{chronic\ (chromium\ VI)} = 50\ \mu g/L$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute99}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic99}$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. It the data set is greater than 10 samples, and at least 20% of the samples in the data set are reported as detected, the CV shall be equal to the standard deviation of the data set divided by the average of the data set.

For chromium (VI), the following data were used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples	CV	ECA Multiplier$_{acute}$	ECA Multiplier$_{chronic}$
0	0.6	0.321	0.527

$LTA_{acute\ (chromium\ VI)} = ECA_{acute} \times Multiplier_{acute99} = 1{,}100\ \mu g/L \times 0.321 = 353\ \mu g/L$

$LTA_{chronic\ (chromium\ VI)} = ECA_{chronic} \times Multiplier_{chronic99} = 50\ \mu g/L \times 0.527 = 26.4\ \mu g/L$

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or $LTA_{chronic}$

For chromium (VI), the most limiting LTA was the $LTA_{chronic\ (chromium\ VI)}$.

$LTA_{chromium\ (VI)} = LTA_{chronic\ (chromium\ VI)} = 26.4\ \mu g/L$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For chromium (VI), the following data were used to develop the AMEL and MDEL using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	Multiplier$_{MDEL99}$	Multiplier$_{AMEL95}$
4	0.6	3.11	1.55

AMEL = 26.4 µg/L x 1.55 = 41 µg/L

MDEL= 26.4 µg/L x 3.11 = 82 µg/L

Calculation of human health AMEL and MDEL for comparison to Aquatic Life AMEL and MDEL

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

There are no numeric human health CTR criteria for chromium (VI).

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples or used a default CV of 0.6.

$$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$$

For Chromium (VI), $MDEL_{human\ health}$ is not applicable.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health criteria as the WQBEL for the Order. Since no MDEL based on human health, the MDEL and AMEL for aquatic life have been selected as WQBELs.

Final WQBELs for Chromium (VI):

AMEL = 41 µg/L

MDEL= 82 µg/L

The lowest (most restrictive) effluent limits are incorporated into this Order. The chromium (VI) final WQBELs are less stringent, when compared to the technology-based effluent limitations **(AMEL = 28 µg/L; MDEL = 62 µg/L)** calculated using the ELG for contaminated runoff. Therefore, the technology-based effluent limitations are applied in this Order. The technology-based effluent limitations implement the ELGs and are protective of water quality objectives.

g. **WQBELs Calculation Example for TMDL WLAs (Aquatic Life Criteria)**

The Harbor Toxic TMDL WLAs for copper, lead, zinc are based on aquatic life criteria. The example below illustrates how effluent limitations for these constituents are calculated.

Example for Copper:

Calculation of aquatic life AMEL and MDEL for Copper

Step 1. For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the steady state equation as described in Step 1 for nickel above.

When a WLA has been established through a TMDL for a constituent, the WLA is set equal to the ECA. For total recoverable copper the applicable water quality criterion is from the Harbor Toxics TMDL WLA which is based on chronic aquatic life criterion. Thus, for total recoverable copper, the applicable ECA is (reference Table F-7):

$$ECA = WLA_{Harbor\ Toxics\ TMDL\ (chronic\ aquatic\ life,\ copper)} = 3.73\ µg/L$$

Step 2. For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. The calculated multipliers are as follows:

No. of Samples	CV	ECA $Multiplier_{acute\ 99}$	ECA $Multiplier_{chronic\ 99}$
0	0.6	0.321	0.527

The WLA for copper in the Harbor Toxics TMDL was based on chronic aquatic life criteria, therefore, the chronic multipliers are applicable will be used to develop the LTA and effluent limitations.

$LTA_{chronic\ (copper)} = 3.73\ \mu g/L \times 0.527 = 1.97\ \mu g/L$

Step 3. Select the most limiting lowest of the LTA.

For total recoverable copper, since we are limited to using the chronic aquatic life criterion, the most limiting LTA is $LTA_{chronic.}$

$LTA_{copper} = LTA_{chronic} = 1.97\ \mu g/L$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides precalculated values for the multipliers based on the value of the CV and the number of samples.

$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4). For total recoverable copper, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	$Multiplier_{MDEL99}$	$Multiplier_{AMEL95}$
4	0.6	3.11	1.55

Total recoverable copper:

AMEL = 1.97 µg/L x 1.55 = 3.1 µg/L

MDEL= 1.97 µg/L x 3.11 = 6.1 µg/L

Calculation of human health AMEL and MDEL for Copper

Step 5: For the ECA based on human health, set the AMEL equal to the

$ECA_{human\ health}$

$AMEL_{human\ health} = ECA_{human\ health}$

For total recoverable copper, only the aquatic life (TMDL-based) effluent limitations are applicable.

$AMEL_{human\ health\ (copper)} = ECA_{human\ health\ (copper)}$ = Not Available

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$$

For total recoverable copper, $MDEL_{human\ health}$ is not applicable.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBEL for the Order.

There are no applicable WLAs based on human health for copper, therefore, the MDEL and AMEL for aquatic life have been selected as these are the more stringent WQBELs.

Final WQBELs for Copper:

$AMEL_{copper} = 3.1\ \mu g/L$

$MDEL_{copper} = 6.1\ \mu g/L$

h. **WQBELs Calculation Example for TMDL WLAs (Human Health Criteria)**

The Harbor Toxic TMDL WLAs for 4,4-DDT, benzo(a)anthracene, benzo(a)pyrene, chlordane, chrysene, dieldrin, pyrene, and total PCBs, are based on CTR human health criteria. The example below for 4,4-DDT applies to effluent limitations for these constituents.

Example for 4,4-DDT:

Step 1: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$$AMEL_{human\ health} = ECA_{human\ health}$$

The Harbor Toxics TMDL includes a WLA for 4,4-DDT based on human health criteria equal to 0.00059 µg/L.

$$AMEL_{human\ health} = 0.00059\ \mu g/L$$

Step 2: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples. A default CV of 0.6 is used for 4,4-DDT.

$$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$$

For 4,4-DDT, the following data were used to develop the $MDEL_{human\ health}$:

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$	Ratio
4	0.6	3.11	1.55	2.01

For 4,4-DDT:

$$MDEL_{human\ health} = 0.00059\ \mu g/L \times 2.01 = 0.0012\ \mu g/L$$

Final WQBELs for 4,4-DDT:

$AMEL_{4,4\text{-}DDT}$ = 0.00059 µg/L

$MDEL_{4,4\text{-}DDT}$ = 0.0012 µg/L

The lowest (most restrictive) effluent limits are incorporated into this Order. For copper, there are no human health criteria or WLAs established from human health criteria; therefore, the effluent limitations based on aquatic life criteria (or through TMDL WLAs) are selected as the WQBELs. For 4,4-DDT, there are no aquatic life criteria or WLAs established from aquatic life criteria; therefore, the effluent limitations based on human health criteria and TMDL WLAs are applicable.

5. WQBELs based on Basin Plan Objectives

Applicable Basin Plan objectives are summarized in the following table:

Table F-8. Applicable Basin Plan Numeric Water Quality Objectives

Parameter	Units	Water Quality Objective
pH	standard units	The pH of inland surface waters including bays and estuaries must be between 6.5 and 8.5 at all times and ambient pH shall not be changed more than 0.2 units from natural conditions
Ammonia	mg/L	For Waters where Salinity is equal to or greater than 10 parts per thousand (ppt) more than 95% of the time: 4-day average = 0.035 un-ionized NH_3/L 1-hour average = 0.233 un-ionized NH_3/L
Bacteria	MPN/ 100 ml	Marine Waters Designated for Water Contact Recreation (REC-1) <u>Geometric Mean Limits</u> Total coliform density shall not exceed 1,000/100 ml. Fecal coliform density shall not exceed 200/100 ml. Enterococcus density shall not exceed 35/100 ml. <u>Single Sample Limits</u> Total coliform density shall not exceed 10,000/100 ml. Fecal coliform density shall not exceed 400/100 ml. Enterococcus density shall not exceed 104/100 ml. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
Dissolved Oxygen	mg/L	The mean annual dissolved oxygen concentration of all waters shall be greater than 7.0 mg/L, and no single determination shall be less than 5.0 mg/L, except when natural conditions cause lesser concentrations.
Total Residual Chlorine	mg/L	Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses.

a. **pH.** Instantaneous maximum and minimum effluent limitations for pH based on Basin Plan objectives (6.5 – 8.5) are more stringent than pH limitations based on applicable ELGs (6.0 – 9.0; see section IV.B of the Fact Sheet). This Order establishes the more stringent limitations at Discharge Point 001 based on Basin Plan objectives.

b. **Ammonia.** Due to a lack of discharge events, no effluent and receiving water data were available to evaluate ammonia in the discharge. This Order requires the discharger to monitor effluent from EFF-001 for ammonia. In addition, this Order requires receiving water monitoring for pH, temperature, and salinity in order to provide data necessary to calculate ammonia objectives and conduct future RPAs.

c. **Bacteria.** The Dominguez Channel Estuary was identified on the 2010 303(d) list as impaired for coliform bacteria. The Discharger does not engage in activities that are likely to contribute bacteria to the effluent. In lieu of effluent limitations, this Order includes receiving water limitations for total coliform, fecal coliform, and *Enterococcus* based on the Basin Plan Objectives and requires bacteria monitoring in the effluent and the receiving water.

d. **Dissolved Oxygen.** This Order applies the water quality objective for dissolved oxygen as a receiving water limitation.

e. **Temperature.** The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86°F is included in this Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel.

f. **Total Residual Chlorine.** This Order includes an effluent limitation for total residual chlorine (MDEL equal to 0.1 mg/L) to be consistent with the Basin Plan objective.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce detrimental physiological responses in human, plant, animal, or aquatic life. Detrimental responses include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

Order R4-2012-0021 included acute toxicity limitations and monitoring requirements in accordance with the Basin Plan, in which the acute toxicity objective for discharges dictated that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. During the term of the Order R4-2012-0021, no discharges from the Facility occurred. Therefore, no WET monitoring is available from the term of the previous Order to assess compliance with the limitation.

Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. The chronic toxicity limitation in this Order replaces the previous acute toxicity limit and it provides a higher level of protection than the acute toxicity limitation.

In 2010, USEPA endorsed the peer-reviewed Test of Significant Toxicity (TST) approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) as an improved statistical tool to

evaluate data from USEPA's toxicity test methods. The TST statistical approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the no observed effect concentration (NOEC) statistical approach. TST results are also more transparent than the point estimate model approach used for acute toxicity that is not designed to address the question of statistical uncertainty around the modeled toxicity test result in relation to the effect level of concern. The TST is the superior approach for addressing statistical uncertainty when used in combination with U.S. EPA's toxicity test methods and is implemented in federal permits issued by U.S. EPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H_0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ 0.75 mean response (Control).

Results obtained from a chronic toxicity test are analyzed using the TST statistical approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P". Since no dilution credit is allowed for the chronic toxicity testing, the chronic toxicity IWCs for Discharge Point 001 is 100 percent effluent. The MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in "Fail" and the "Percent Effect" is ≥0.50. This Order implements the SIP chronic toxicity requirements, which in Section 4 states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. The nature of the discharge is such that effluent toxicity limitations continue to be appropriate. Process waters are included in the waste stream and the discharge has the potential to cause or contribute to an exceedance of the applicable water quality criteria developed to protect the beneficial uses of the receiving water. Further, fuels stored at the Facility include a multitude of chemicals, which individually may not be present in toxic concentrations, but could exhibit aggregate toxic effects as a whole. A chronic toxicity limitation is necessary to ensure protection of aquatic life.

D. Final Effluent Limitation Considerations

Section 402(o) of the CWA and part 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders. Effluent limitations from Order R4-2012-0021 are retained with the exception of modified limitations for copper, lead, zinc, TSS, oil and grease (AMEL), and total chromium. The WQBELs for copper, lead, and zinc at Discharge Point 001 are calculated based on the Harbor Toxic TMDL WLAs and SIP procedures and are less stringent than the limitations in Order R4-2012-0021. For TSS, oil and grease, and total chromium, effluent limitations were re-calculated to correctly implement the ELGs. The recalculated limitations were less stringent for total chromium (AMEL), and TSS (AMEL and MDEL). The effluent limitation for acute toxicity contained in Order R4-2012-0021 is replaced with the more stringent chronic effluent limitation.

New WQBELs are included in this Order at Discharge Point 001 for benzo(a)anthracene, benzo(a)pyrene, chrysene, pyrene, chlordane, dieldrin, 4,4-DDT, and total PCBs based on the Harbor Toxics TMDL WLAs and SIP procedures. Additionally, this Order includes new technology-based effluent limitations for total petroleum hydrocarbons and turbidity based on BPJ.

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for oil and grease, total chromium, TSS, copper, lead, zinc, and acute toxicity.

This Order includes effluent limitations for oil and grease (MDEL – lbs/day), TSS (AMEL and MDEL), and total chromium (AMEL) that are less stringent than those in Order R4-2012-0021. The MDEL (1367 lbs/day) for oil and grease in Order R4-2012-0021 was a typographical error and is corrected in this Order as "1376 lbs/day". For TSS (AMEL and MDEL), and total chromium (AMEL), effluent limitations were re-calculated to be consistent with the procedures for calculating limitations based on ELGs. In addition, anti-backsliding regulations in 40 CFR 122.44(l)(2)(i)(*2*) allow for a less stringent limitation to correct technical mistakes or mistaken interpretations of law. As described in this Fact Sheet section IV.B.2.b the effluent limitations for oil and grease, TSS, and total chromium in Order R4-2012-0021 reflect an incorrect translation of ELGs into mass limitations. Therefore, the effluent limitations in this Order are consistent with anti-backsliding requirements.

The federal anti-backsliding provisions allow for relaxation of effluent limitations when new information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance which would have justified a less stringent effluent limitation. The effluent limitations for copper, lead, and zinc were calculated based on the WLAs contained in the Harbor Toxics TMDL and the SIP procedures. The newly calculated copper, lead, and zinc limitations are less stringent in this Order than in Order No. R4-2012-0021. The difference in calculated limitations is due to the use of the WLAs contained in the Harbor Toxics TMDL. Therefore, the less stringent effluent limitations calculated for this Order are consistent with the exceptions to the anti-backsliding requirements of the CWA and federal regulations based on new information (i.e., WLAs in Harbor Toxics TMDL).

Order No. R4-2012-0021 established effluent limitations for acute toxicity based on the objectives in the Basin Plan. This Order includes effluent limitations for chronic toxicity. A chemical at a low concentration can have chronic effects but no acute effects. Discharge from the Facility may include a number of chemicals, which individually may not be present in toxic concentrations while exhibiting aggregated toxic effects as a whole. The acute toxicity effluent limitations have been removed. The removal of the acute toxicity effluent limitations for discharges through Discharge Points 001 is consistent with the exceptions to the anti-backsliding requirements of the CWA and federal regulations since it has been replaced with the more stringent chronic toxicity limit which evaluates survival, growth, and reproduction.

2. Antidegradation Policies

Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan and the SIP implement, and incorporate by reference, both the State and federal

antidegradation policies. The permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

As discussed in section IV.D.1 of this Fact Sheet, this Order contains effluent limitations for copper, lead, and zinc that are less stringent than those in Order R4-2012-0021. These limitations are based on a TMDL WLA that was adopted as a means to achieve water quality objectives and ensure the water body supports its beneficial uses. The new effluent limitations are consistent with the TMDL and the cumulative effect of all revised effluent limitations stemming from the TMDL is that the receiving water will attain water quality objectives. As such the relaxed effluent limitations are consistent with Resolution No. 68-16.

The less stringent effluent limitations for oil and grease, TSS, and total chromium are not expected to result in an increase in pollutant loading. The Discharger has not had a discharge since 2001 and does not anticipate discharging except under extreme storm events. In addition, this Order includes effluent limitations for a multitude of constituents such that the Discharger is not expected to decrease the level of treatment. As such, the proposed limitations are not expected to result in a lowering of water quality.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order hold the discharger to performance levels that will not cause or contribute to water quality impairment or degradation of water quality. Therefore, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.

3. Mass-based Effluent Limitations

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 C.F.R. 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production.

For constituents not addressed through ELGs for contaminated storm water runoff, mass-based effluent limitations are established using the following formula:

Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)

where: Mass = mass limitation for a pollutant (lbs/day)

Effluent limitation = concentration limit for a pollutant (mg/L)

Flow rate = discharge flow rate (MGD)

According to the Report of Waste Discharge submitted by the Discharger, the maximum flow is 11 MGD at Discharge Point 001. As such, the mass-based effluent limitations are based on this flow.

Calculation of mass-based limitations for constituents addressed through ELGs are discussed in section IV.B.2 of this Fact Sheet.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, COD, oil and grease, TSS, phenolic compounds, chromium (VI), total chromium, settleable solids, sulfide, TPH, and turbidity at Discharge Point 001. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. For chromium (VI) and pH, both technology-based effluent limitations and water quality-based effluent limitations are applicable. The more stringent of these effluent limitations are implemented by this Order. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations (WQBELs) have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order were approved by U.S. EPA and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

5. Summary of Final Effluent Limitations

Table F-9. Summary of Final Effluent Limitations at Discharge Point 001

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Performance Goals[1]	
Conventional Pollutants							
BOD	mg/L[3]	26	48	--	--	--	E, ELG
	lbs/day[3]	2,420	4,400	--	--	--	
Oil and Grease	mg/L	8.0[3]	15[4]	--	--	--	E, ELG, BPJ
	lbs/day	737[3]	1,376[5]	--	--	--	
pH	standard units	--	--	6.5	8.5	--	E, BP
TSS [6,7]	mg/L[3]	22	34	--	--	--	ELG
	lbs/day[3]	1,980	3,080	--	--	--	
Non-Conventional Pollutants							
COD	mg/L[3]	180	360	--	--	--	E, ELG
	lbs/day[3]	16,500	33,000	--	--	--	
Chronic Toxicity[8]	Pass or Fail, % Effect	Pass[9]	Pass or % Effect <50	--	--	--	BP
Phenolic Compounds[10]	mg/L[3]	0.17	0.35	--	--	--	E, ELG
	lbs/day[3]	15	32	--	--	--	
Settleable Solids	ml/L	0.1	0.3	--	--	--	E, BPJ
Sulfide	mg/L	--	1.0	--	--	--	E, BPJ
	lbs/day[5]	--	92	--	--	--	
Temperature	°F	--	--	--	86	--	E, BP TP, WP
Total Residual Chlorine	mg/L	--	0.1	--	--	--	E, BP
	lbs/day[5]	--	9.2	--	--	--	
Priority Pollutants							
Cadmium, Total Recoverable[6]	µg/L	--	--	--	--	7.7 (Average Monthly) 15 (Daily Maximum)	TMDL
Copper, Total Recoverable[7]	µg/L	3.1	6.1	--	--	--	TMDL
	lbs/day[5]	0.28	0.56	--	--	--	

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Performance Goals[1]	
Chromium (VI)	µg/L[3]	28	62	--	--	--	E, ELG
	lbs/day[3]	2.5	5.7	--	--	--	
Chromium, Total	µg/L[3]	220	600	--	--	--	ELG
	lbs/day[3]	20	55	--	--	--	
Lead, Total Recoverable[7]	µg/L	7.0	14	--	--	--	TMDL
	lbs/day[5]	0.64	1.3	--	--	--	
Mercury, Total Recoverable	µg/L	0.050	0.10	--	--	--	E, CTR/SIP
	lbs/day[5]	0.0046	0.0092	--	--	--	
Nickel, Total Recoverable	µg/L	6.8	14	--	--	--	E, CTR/SIP
	lbs/day[5]	0.62	1.3	--	--	--	
Silver, Total Recoverable	µg/L	1.1	2.2	--	--	--	E, CTR/SIP
	lbs/day[5]	0.10	0.20	--	--	--	
Zinc, Total Recoverable[7]	µg/L	70	141	--	--	--	TMDL
	lbs/day[5]	6.4	13	--	--	--	
Cyanide, Total (as CN)	µg/L	0.5	1	--	--	--	E, CTR/SIP
	lbs/day[5]	0.046	0.092	--	--	--	
4,4-DDT[6, 11]	µg/L	0.00059	0.0012	--	--	--	TMDL
	lbs/day[5]	5.4×10^{-5}	1.1×10^{-4}	--	--	--	
Benzo(a)anthracene[7,11,12]	µg/L	0.049	0.098	--	--	--	TMDL
	lbs/day[5]	0.0045	0.0090	--	--	--	
Benzo(a)pyrene[7,11,12]	µg/L	0.049	0.098	--	--	--	TMDL
	lbs/day[5]	0.0045	0.0090	--	--	--	
Bis (2-Ethylhexyl) Phthalate	µg/L	5.9	12	--	--	--	E, CTR/SIP
	lbs/day[5]	0.54	1.1	--	--	--	
Chlordane[6,11]	µg/L	0.00059	0.0012	--	--	--	TMDL
	lbs/day[5]	5.4×10^{-5}	1.1×10^{-4}	--	--	--	
Chrysene[7,11,12]	µg/L	0.049	0.098	--	--	--	E, TMDL
	lbs/day[5]	0.0045	0.0090	--	--	--	

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Performance Goals[1]	
Dieldrin[6,11]	µg/L	0.00014	0.00028	--	--	--	TMDL
	lbs/day[5]	1.3×10^{-5}	2.6×10^{-5}	--	--	--	
Hexachlorobenzene	µg/L	0.00077	0.0015	--	--	--	E, CTR/SIP
	lbs/day[5]	7×10^{-5}	1.4×10^{-4}	--	--	--	
Pyrene[7,11,12]	µg/L	11,000	22,068	--	--	--	TMDL
	lbs/day[5]	1,009	2,025	--	--	--	
PCBs (sum)[7,11,13]	µg/L	0.00017	0.00034	--	--	--	TMDL
	lbs/day[5]	1.6×10^{-5}	3.1×10^{-5}	--	--	--	

1. Performance goals are intended to ensure that effluent concentrations and mass discharges do not exceed levels currently achieved by the permitted facility. These performance goals are not considered as limitations or standards for the regulation of the Facility. They act as triggers to determine when sediment monitoring is required for this category of pollutants.
2. E = Existing Order No. R4-2012-0021; ELG= Effluent Limitations Guidelines and Standards; BP = Basin Plan; TMDL = Total Maximum Daily Load (Harbor Toxics TMDL); CTR = California Toxic Rule; SIP = State Implementation Policy; TP = Thermal Plan, and White Paper..

   BPJ = Best Professional Judgment is the method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data. BPJ limitations are established in cases in which effluent limitation guidelines are not available for a particular pollutant of concern. Authorization for using BPJ limitations is found under section 401(a)(1) of the Clean Water Act and under 40 CFR section 125.3.
3. The mass-based (lbs/day) effluent limitations are calculated based on mass loading factors contained in 40 CFR part 419 and a maximum design flow of 11 MGD (11,000,000 gpd). It is calculated as follows

   Mass-based (lbs/day) = Flow (gpd) x ELG Limit/1000 gallon of flow (Table F-4)

   The equivalent concentration-based (mg/L or µg/L) effluent limitations are calculated based on the mass loading factors and a conversion factor as follows:

   Mass limitation (lbs/1,000 gallons per day) / 0.00834 (conversion factor)] = mg/L.

   For reporting, the actual mass for a pollutant shall be calculated based on the actual measured flow of the discharge.
4. The BPJ technology-based limit from Order No. R4-2012-0021 is included in this Order as it is more stringent than the MDEL calculated based on ELGs.
5. Based on a maximum flow of 11 MGD and is calculated as follows:

   Mass (lbs/day = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor).

   For reporting, the actual mass for a pollutant shall be calculated based on the actual measured flow of the discharge.
6. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit or performance goal for cadmium, chlordane, or dieldrin as specified in Table 4 of this Order or the above table, then the Discharger has not demonstrated attainment with the sediment limitations (final concentration-based sediment WLAs) as specified in Table 5 of this Order, implementation of the effluent sediment monitoring program is required for that priority pollutant. An effluent sediment monitoring result at or below the sediment limitations (final concentration-

based sediment WLAs) in Table 5 of this Order demonstrates attainment with the sediment limitations and additional effluent sediment monitoring for those pollutants is not required. An effluent sediment monitoring result that is above the sediment limitations (Table 5) of cadmium, chlordane, or dieldrin constitutes an exceedance of sediment limitations. Annual effluent sediment monitoring is required for the pollutant until the data demonstrates compliance.

7. During each reporting period, if effluent monitoring results exceed both a TSS effluent limit and a CTR TMDL-based effluent limit for copper, lead, zinc, 4,4-DDT, benzo(a)anthracene, benzo(a)pyrene, chrysene, pyrene, or total PCBs as specified in Table 4 of this Order or the above table, then the Discharger has not demonstrated attainment with the interim sediment allocations (Monitoring Thresholds, Table 6, of this Order) stipulated by the Harbor Toxics TMDL, Resolution No. R11-008, page 11; implementation of the effluent sediment monitoring program is required for that priority pollutant. The effluent sediment monitoring shall begin during the first discharge event following the effluent exceedance. An effluent sediment monitoring result at or below the interim sediment allocation (Monitoring Thresholds) in Table 6 of this Order demonstrates attainment with the interim sediment allocation and additional effluent sediment monitoring for those pollutants is not required. An effluent sediment monitoring result that exceeds the interim sediment allocations requires additional effluent sediment monitoring during discharge but not more frequently than once per year until the three-year average concentration for effluent sediment monitoring results is at or below the interim sediment allocation
8. The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail”. The maximum daily effluent limitation (MDEL) shall be reported as “Pass” or “Fail” and the percent effect. The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in “Fail”. The MDEL is exceeded when a toxicity test results in a “Fail,” and the percent effect is greater than or equal to 0.50. The MMEL is exceeded when the median result (i.e. two out of three) is a “Fail”.
9. This limitation is applied as an MMEL.
10. Phenolic compounds include the sum of the following individual chlorinated and non-chlorinated phenolic compounds: 2-chlorophenol; 2-nitrophenol; phenol; 2,4-dimethylphenol; 2,4-dichlorophenol; 2,4,6-trichlorophenol; 4-chloro-3-methylphenol; 2,4-dinitrophenol; 2-methyl-4,6-dinitrophenol; pentachlorophenol; and 4-nitrophenol.
11. Samples analyzed must be unfiltered.
12. CTR human health criteria were not established for total PAHs. Therefore, the limits are based on the CTR human health criteria for the individual PAHs; benzo(a)pyrene, benzo(a)anthracene, pyrene, and chrysene. The State’s 2010 303(d) List classifies the Dominguez Channel Estuary as impaired for these PAH compounds.
13. Total PCBs (polychlorinated biphenyls) means the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in the proposed Order are based upon the water quality objectives contained in the Basin Plan. As such, they are a required part of the proposed Order.

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water and are based on the water quality objectives contained in the Basin Plan. The receiving water limitation for dissolved oxygen in section V.A.4 of Order R4-2012-0021 has been modified to reflect the current Basin Plan objectives.

B. Bed Sediment Monitoring

The final concentration based sediment WLAs for cadmium, chlordane, and dieldrin were included in the Harbor Toxics TMDL for the Dominguez Channel Estuary. The bed sediment monitoring will provide data for the direct determination of compliance with these WLAs.

C. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

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

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R. part 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, or submittal of a request for modification by the Discharger.

2. Special Studies and Additional Monitoring Requirements

a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.

b. **Monitoring Thresholds Based on Sediment Interim and Final Concentration-based Allocations in the Harbor Toxics TMDL for Sediment Monitoring of Effluent.** This Order implements the Harbor Toxics TMDL's interim sediment allocations for copper, lead, zinc, DDT, PAHs, and PCBs as monitoring thresholds. Compliance with these thresholds shall be demonstrated in accordance with Footnote 3 to Table 4 of this Order which includes effluent limitations for TSS and the targeted pollutants. If there is a discharge, the Discharger is required to collect a sufficient sample at least once during the permit term to analyze the sediment in the effluent volume directly. Regardless of these monitoring thresholds, the Discharger shall ensure that effluent concentrations and mass discharges do not exceed levels that can be attained by performance of the Facility's treatment technologies or controls existing at the time of permit issuance, reissuance, or modification.

c. **Harbor Toxics TMDL Water Column, Sediment, and Fish Tissue Monitoring for the Greater Los Angeles and Long Beach Harbor Waters Compliance Monitoring Program.** This provision implements the Compliance Monitoring Program as required in the Harbor Toxics TMDL. The Compliance Monitoring Program includes water column monitoring, sediment monitoring and fish tissue monitoring at monitoring stations in the Dominguez Channel Estuary. The Discharger may join a collaboration group or develop a site specific plan to comply with this requirement.

3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention, Best Management Practices, and Spill Contingency Plans**

i. **Storm Water Pollution Prevention Plan (SWPPP).** This Order requires the Discharger to update, as necessary, and continue to implement a SWPPP. The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing trash and contaminated storm water runoff from being discharged directly into the receiving water. At a minimum, the management practices 1) ensure that raw materials and chemicals do not come into contact with storm water runoff and should prevent the entrainment of trash in storm water that is discharged through Discharge Point 001. SWPPP requirements are included as Attachment G, based on 40 CFR 122.44(k).

ii. **Best Management Practices Plan (BMPP).** This Order requires the Discharger to develop and implement the BMPP. The BMPP may be included as a component of the SWPPP. The purpose of the BMPP is to establish site-specific procedures that ensure proper operation and maintenance of equipment, to ensure that unauthorized non-storm water discharges (i.e., spills) do not occur at the Facility. The BMPP shall incorporate the requirements contained in Attachment G. Attachment G requires a discussion on the effectiveness of each

BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

iii. **Spill Contingency Plan (SCP).** This Order requires the Discharger to develop and implement a SCP to control the discharge of pollutants. The SCP shall include a technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events at the site. This provision is included in this Order to minimize and control the amount of pollutants discharged in case of a spill. The SCP shall be site specific and shall cover all areas of the Facility. A Spill Prevention, Control, and Countermeasure (SPCC) Plan may satisfy this requirement.

4. Construction, Operation, and Maintenance Specifications

a. This provision is based on the requirements of section 122.41(e).

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

1. Discharge Points 001 (Monitoring Location EFF-001)

Monitoring for pollutants expected to be present in the discharge will be required as established in the MRP (Attachment E) and as required in the SIP. To demonstrate compliance with established effluent limitations, the Order includes monitoring requirements for pollutants with effluent limitations. New monitoring requirements are established for TOC for future evaluations of ELG limitations. This Order includes new monitoring for turbidity to determine reasonable potential.

New effluent monitoring at EFF-001 for cadmium is required to evaluate compliance with sediment WLAs for cadmium. This Order includes new monitoring requirements for chlordane, dieldrin, and 4,4-DDT to determine compliance with new effluent limitations based on TMDL.

The SIP states that the Regional Water Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires the Discharger to conduct annual monitoring for the remaining CTR priority pollutants and TCDD Equivalents. The Regional Water Board will use the additional data to conduct an RPA and determine if additional WQBELs are required. The Regional Water Board may reopen the permit to incorporate additional effluent limitations and requirements, if necessary.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. A chronic toxicity test may measure mortality, reproduction, and growth. A chemical at a low concentration can have chronic effects but no acute effects. For this Order, chronic toxicity monitoring of the discharge is required once per year. The chronic toxicity testing will be analyzed using U.S. EPA's 2010 TST statistical approach.

D. Receiving Water Monitoring

1. Surface Water

Order R4-2012-0021 included three separate receiving water monitoring stations at locations upstream, near discharge, and downstream of the discharge point. These requirements had been retained from the Facilities' previous permits dating back to Order 01-074, issued in 2001. At the time Order 01-074 was issued, the Facility was discharging additional non-storm water flows with multiple discharge events each year. Since March 2001, the Facility has not discharged and does not anticipate a discharge in the future. As a result, the near discharge receiving water monitoring station, RSW-001, is removed from this Order. The upstream and downstream receiving water monitoring locations RSW-003 and RSW-002, respectively, are retained in this Order and are designated as follows:

Location Designation in Order R4-2012-0021	Location Relative to Discharge	New Designation
RSW-003	Upstream	RSW-001
RSW-002	Downstream	RSW-002

RSW-001. According to the SIP, the Discharger is required to monitor the upstream receiving water for the CTR priority pollutants, to determine reasonable potential. Accordingly, the Discharger is required to conduct upstream receiving water monitoring for the CTR priority pollutants, and TCDD equivalents at Monitoring Location RSW-001. Similarly, upstream monitoring requirements for total ammonia are retained for future determinations of reasonable potential. The Discharger must analyze pH of the upstream receiving water at the same time as the samples are collected for priority pollutant analysis.

RSW-002. Monitoring at downstream location RSW-002 is required for pH, temperature, and salinity in order to obtain data necessary to calculate the ammonia water quality objective at the Discharge location. Downstream monitoring requirements for total ammonia and nitrate at RSW-002 are retained to provide additional information related to nutrient impairment.

RSW-001 and RSW-002. Monitoring requirements for bacteria and dissolved oxygen at both upstream (RSW-001) and downstream (RSW-002) monitoring locations are included in order to assess compliance with receiving water limitations and Basin Plan objectives.

Monitoring Requirements for some constituents from Order R4-2012-002 are removed at **both** the upstream Monitoring Location RSW-001 and the downstream Monitoring Location RSW-002 as described below.

Unionized Ammonia. The Basin Plan objective for ammonia is translated to total ammonia using downstream pH, temperature, and salinity. As such, upstream and downstream unionized ammonia was removed.

Hardness. The receiving water has been established in previous Orders as saltwater and therefore CTR saltwater criteria apply. Saltwater criteria are independent of hardness. Therefore, monitoring for hardness was removed.

Sulfide. There are currently no CTR criteria or numeric Basin Plan objectives for sulfide. As such, receiving water analysis was removed.

Total Residual Chlorine. Total residual chlorine is included as an effluent limitation and monitoring is required in the effluent.

Upstream monitoring for nitrate at RSW-001 is discontinued in this Order. However, monitoring for nitrate is required at the downstream location which will provide sufficient data.

Order R4-2012-0021 specified a bi-annual monitoring frequency at upstream and downstream monitoring locations. This requirement had been retained from previous Orders, originating with Order 01-074. The monitoring frequency in this Order is reduced to once per year to reflect the infrequent discharges from the Facility, as discussed in the Fact Sheet section VII.D.1.a.

2. Bed Sediment

Order R4-2012-0021 included receiving water sediment monitoring at Stations SED-001 through SED-007 to determine the sediment quality and benthic effects of the discharge to the Dominguez Channel, within the Estuary. This requirement was established in Order No. 01-074 and was carried over in Order R4-2012-0021. The sediment monitoring included annual sediment monitoring during dry weather for chronic toxicity, sediment grain size, total organic carbon, total petroleum hydrocarbons, cadmium, chromium, copper, lead, nickel, zinc, PCBs, PAHs, DDT, odor, and color. There have been no discharges from the Facility since March 2001, hence, no sediment monitoring data are available.

The Harbor Toxics TMDL requires attainment with the TMDLs interim sediment allocations. This Order implements this requirement in a framework of effluent limits, sediment monitoring thresholds, and effluent monitoring requirements. Attainment with the interim sediment allocations shall be demonstrated, as specified in Footnote 3 to Table 4, of this Order. These requirements will ensure that discharges from the Facility do not contribute significantly to contaminant sediment concentrations in the Dominguez Channel Estuary. The effluent sediment monitoring is also required to demonstrate the attainment with sediment limitations (final concentration-based sediment WLAs) as specified in Table 5 and interim sediment WLAs in Table 6 of this Order.

3. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Storm Water Monitoring Requirements

Because the discharges through Discharge Point 001 are comprised primarily of storm water runoff that occurs only during rainfall events, the Discharger is required to measure and record the rainfall each day of the month. The Discharger is also required to conduct visual observations in the vicinity of all discharge locations to observe the presence of trash, floating and suspended materials, oil and grease, discoloration, turbidity, and odor.

2. Regional Monitoring

Monitoring is required to determine compliance with the assigned WLAs and LAs specified in the Harbor Toxics TMDL. The Discharger may join a group of stakeholders in the

development of Regional Monitoring program(s) to address pollutants as specified in the Harbor Toxics TMDL.

3. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Phillips 66 Company, Phillips 66 Los Angeles Refinery, Carson Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through a local newspaper

The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/losangeles:

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process electronically at losangeles@waterboards.ca.gov with a copy to Rosario.Aston@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by **5:00 p.m**. on **April 28, 2017.** Comments submitted after that date will not be included in the record.

C. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **June 1, 2017**
Time: **9:00 AM**
Location: **Metropolitan Water District of Southern California, Board Room**
700 North Alameda Street
Los Angeles, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions will be provided upon request or may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

For instructions on how to file a petition for review, see:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 213-576-6600.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to **Rosario Aston** at Rosario.Aston@waterboards.ca.gov or at **(213) 576-6653**.

ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. IMPLEMENTATION SCHEDULE

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or no later than 90 days from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. OBJECTIVES

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, overhead coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. PLANNING AND ORGANIZATION

B. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify Permit-related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

C. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of this permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to federal Spill Prevention Control and Countermeasures' requirements should already

have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. SITE MAP

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION
Form Pollution Prevention Team Review other plans

ASSESSMENT PHASE
Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE
Non-structural BMPs Structural BMPs Select activity and site-specific BMPs

IMPLEMENTATION PHASE
Train employees Implement BMPs Conduct recordkeeping and reporting

EVALUATION / MONITORING
Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP

The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in section VI.A.4 below have occurred.

E. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. LIST OF SIGNIFICANT MATERIALS

The SWPPP shall include a list of significant materials[1] handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in section IV.E above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

[1] "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

2. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3. **Dust and Particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or authorized non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 Code of Federal Regulations (C.F.R.) part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 C.F.R., parts 110, 117, and 302).

   The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

5. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

   All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the authorized non-storm water discharges and associated drainage area.

   Non-storm water discharges that are not authorized by this Permit, other waste discharge requirements, or other NPDES permits are prohibited. The SWPPP must include BMPs to prevent or reduce contact of authorized non-storm water discharges with significant materials (as defined in Footnote 1 of section V above) or equipment.

6. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

7. **Trash.** Describe the facility locations where trash may be generated as a result of facility operations and on-site activities.

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with section VIII below.

VII. ASSESSMENT OF POTENTIAL POLLUTANT SOURCES

A. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in section VI above to determine:

1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

B. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in section VIII below.

VIII. STORM WATER BEST MANAGEMENT PRACTICES

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (sections VI and VII above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B

EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND

CORRESPONDING BEST MANAGEMENT PRACTICES

SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility**:**

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-

structural BMPs options before considering additional structural BMPs (see section VIII.B. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.
2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.
9. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.
10. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs

Where non-structural BMPs as identified in section VIII.A above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1. **Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
3. **Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.
5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. Evaluations shall include the following:

A. A review of all visual observation records, inspection records, and sampling and analysis results.

B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in section X.E., for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.B.5 of Attachment D.

X. SWPPP GENERAL REQUIREMENTS

A. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

B. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

C. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

D. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.

E. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

F. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under section 308(b) of the Clean Water Act.

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS (MICROGRAM/LITER (µG/L))

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR – Colorimetric

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
1	Antimony	7440360	[1]
2	Arsenic	7440382	[1]
3	Beryllium	7440417	[1]
4	Cadmium	7440439	[1]
5a	Chromium (III)	16065831	[1]
5a	Chromium (VI)	18540299	[1]
6	Copper	7440508	[1]
7	Lead	7439921	[1]
8	Mercury	7439976	[1]
9	Nickel	7440020	[1]
11	Selenium	7782492	[1]
11	Silver	7440224	[1]
12	Thallium	7440280	[1]
13	Zinc	7440666	[1]
14	Cyanide	57125	[1]
15	Asbestos	1332214	[1]
16	2,3,7,8-TCDD	1746016	[1]
17	Acrolein	117028	[1]
18	Acrylonitrile	117131	[1]
19	Benzene	71432	[1]
20	Bromoform	75252	[1]
21	Carbon Tetrachloride	56235	[1]
22	Chlorobenzene	118907	[1]
23	Chlorodibromomethane	124481	[1]
24	Chloroethane	75003	[1]
25	2-Chloroethylvinyl Ether	111758	[1]
26	Chloroform	67663	[1]
27	Dichlorobromomethane	75274	[1]
28	1,1-Dichloroethane	75343	[1]
29	1,2-Dichloroethane	117062	[1]
30	1,1-Dichloroethylene	75354	[1]
31	1,2-Dichloropropane	78875	[1]
32	1,3-Dichloropropylene	542756	[1]
33	Ethylbenzene	110414	[1]
34	Methyl Bromide	74839	[1]
35	Methyl Chloride	74873	[1]
36	Methylene Chloride	75092	[1]
37	1,1,2,2-Tetrachloroethane	79345	[1]
38	Tetrachloroethylene	127184	[1]
39	Toluene	118883	[1]
40	1,2-Trans-Dichloroethylene	156605	[1]
41	1,1,1-Trichloroethane	71556	[1]
42	1,12-Trichloroethane	79005	[1]
43	Trichloroethylene	79016	[1]
44	Vinyl Chloride	75014	[1]

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
45	2-Chlorophenol	95578	[1]
46	2,4-Dichlorophenol	120832	[1]
47	2,4-Dimethylphenol	115679	[1]
48	2-Methyl-4,6-Dinitrophenol	534521	[1]
49	2,4-Dinitrophenol	51285	[1]
50	2-Nitrophenol	88755	[1]
51	4-Nitrophenol	110027	[1]
52	3-Methyl-4-Chlorophenol	59507	[1]
53	Pentachlorophenol	87865	[1]
54	Phenol	118952	[1]
55	2,4,6-Trichlorophenol	88062	[1]
56	Acenaphthene	83329	[1]
57	Acenaphthylene	208968	[1]
58	Anthracene	120127	[1]
59	Benzidine	92875	[1]
60	Benzo(a)Anthracene	56553	[1]
61	Benzo(a)Pyrene	50328	[1]
62	Benzo(b)Fluoranthene	205992	[1]
63	Benzo(ghi)Perylene	191242	[1]
64	Benzo(k)Fluoranthene	207089	[1]
65	Bis(2-Chloroethoxy)Methane	111911	[1]
66	Bis(2-Chloroethyl)Ether	111444	[1]
67	Bis(2-Chloroisopropyl)Ether	118601	[1]
68	Bis(2-Ethylhexyl)Phthalate	117817	[1]
69	4-Bromophenyl Phenyl Ether	111553	[1]
70	Butylbenzyl Phthalate	85687	[1]
71	2-Chloronaphthalene	91587	[1]
72	4-Chlorophenyl Phenyl Ether	7005723	[1]
73	Chrysene	218019	[1]
74	Dibenzo(a,h)Anthracene	53703	[1]
75	1,2-Dichlorobenzene	95501	[1]
76	1,3-Dichlorobenzene	541731	[1]
77	1,4-Dichlorobenzene	116467	[1]
78	3,3'-Dichlorobenzidine	91941	[1]
79	Diethyl Phthalate	84662	[1]
80	Dimethyl Phthalate	131113	[1]
81	Di-n-Butyl Phthalate	84742	[1]
82	2,4-Dinitrotoluene	121142	[1]
83	2,6-Dinitrotoluene	606202	[1]
84	Di-n-Octyl Phthalate	117840	[1]
85	1,2-Diphenylhydrazine	122667	[1]
86	Fluoranthene	206440	[1]
87	Fluorene	86737	[1]
88	Hexachlorobenzene	118741	[1]
89	Hexachlorobutadiene	87863	[1]
90	Hexachlorocyclopentadiene	77474	[1]
91	Hexachloroethane	67721	[1]
92	Indeno(1,2,3-cd)Pyrene	193395	[1]
93	Isophorone	78591	[1]
94	Naphthalene	91203	[1]

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
95	Nitrobenzene	98953	[1]
96	N-Nitrosodimethylamine	62759	[1]
97	N-Nitrosodi-n-Propylamine	621647	[1]
98	N-Nitrosodiphenylamine	86306	[1]
99	Phenanthrene	85018	[1]
110	Pyrene	129000	[1]
111	1,2,4-Trichlorobenzene	120821	[1]
112	Aldrin	309002	[1]
113	alpha-BHC	319846	[1]
114	beta-BHC	319857	[1]
115	gamma-BHC	58899	[1]
116	delta-BHC	319868	[1]
117	Chlordane	57749	[1]
118	4,4'-DDT	50293	[1]
119	4,4'-DDE	72559	[1]
111	4,4'-DDD	72548	[1]
111	Dieldrin	60571	[1]
112	alpha-Endosulfan	959988	[1]
113	beta-Endosulfan	33213659	[1]
114	Endosulfan Sulfate	1131178	[1]
115	Endrin	72208	[1]
116	Endrin Aldehyde	7421934	[1]
117	Heptachlor	76448	[1]
118	Heptachlor Epoxide	1124573	[1]
119	PCB-1116	12674112	[1]
120	PCB-1221	11114282	[1]
121	PCB-1232	11141165	[1]
122	PCB-1242	53469219	[1]
123	PCB-1248	12672296	[1]
124	PCB-1254	11197691	[1]
125	PCB-1260	11196825	[1]
126	Toxaphene	8001352	[1]

[1] Pollutants shall be analyzed using the methods described in 40 C.F.R Part 136.

ATTACHMENT J – SUMMARY OF WQBEL CALCULATIONS

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Phillips 66 Company, Carson Refinery (CA0063185), Discharge Point No. 001

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	REASONABLE POTENTIAL ANALYSIS (RPA)									
					Freshwater		Saltwater		Human Health for consumption of:			MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only											
1	Antimony	ug/L								4300.00	4300.00			N					No detected value of B, Step 7		Ud
2	Arsenic	ug/L					69.00	36.00			36.00			N					No detected value of B, Step 7		Ud
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
4	Cadmium	ug/L	0.6				42.25	9.36		Narrative	9.36			N					No detected value of B, Step 7		Ud
5a	Chromium (III)	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
5b	Chromium (VI)	ug/L	0.6				1100.00	50.00		Narrative	50.00			N					No detected value of B, Step 7		Ud
6	Copper	ug/L	0.6				5.80	3.73			**3.73**			N					No detected value of B, Step 7		Ud
7	Lead	ug/L	0.6				220.00	8.52		Narrative	**8.52**			N					No detected value of B, Step 7		Ud
8	Mercury	ug/L	0.60000				Reserved	Reserved		0.05100	0.05100			N					No detected value of B, Step 7		Ud
9	Nickel	ug/L					74.75	8.28		4600.00	8.28			N					No detected value of B, Step 7		Ud
10	Selenium	ug/L					290.58	71.14		Narrative	71.14			N					No detected value of B, Step 7		Ud
11	Silver	ug/L					2.24				2.24			N					No detected value of B, Step 7		Ud
12	Thallium	ug/L								6.30	6.30			N					No detected value of B, Step 7		Ud
13	Zinc	ug/L	0.6				95.00	85.60			**85.6**			N					No detected value of B, Step 7		Ud
14	Cyanide	ug/L					1.00	1.00		220000.0	1.00			N					No detected value of B, Step 7		Ud
15	Asbestos	Fibers/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
16	2,3,7,8 TCDD	ug/L								1.4E-08	1.40E-08			N					No detected value of B, Step 7		Ud
	TCDD Equivalents	ug/L	0							1.4E-08	1.40E-08			N					No detected value of B, Step 7		Ud
17	Acrolein	ug/L								780.0	780			N					No detected value of B, Step 7		Ud
18	Acrylonitrile	ug/L								0.66	0.660			N					No detected value of B, Step 7		Ud
19	Benzene	ug/L								71	71.0			N					No detected value of B, Step 7		Ud
20	Bromoform	ug/L								360	360.0			N					No detected value of B, Step 7		Ud
21	Carbon Tetrachloride	ug/L								4.4	4.40			N					No detected value of B, Step 7		Ud
22	Chlorobenzene	ug/L								21000	21000			N					No detected value of B, Step 7		Ud
23	Chlorodibromomethane	ug/L								34	34.00			N					No detected value of B, Step 7		Ud
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
27	Dichlorobromomethane	ug/L								46	46.00			N					No detected value of B, Step 7		Ud
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
29	1,2-Dichloroethane	ug/L								99	99.00			N					No detected value of B, Step 7		Ud
30	1,1-Dichloroethylene	ug/L								3.2	3.200			N					No detected value of B, Step 7		Ud
31	1,2-Dichloropropane	ug/L								39	39.00			N					No detected value of B, Step 7		Ud
32	1,3-Dichloropropylene	ug/L								1700	1700			N					No detected value of B, Step 7		Ud
33	Ethylbenzene	ug/L								29000	29000			N					No detected value of B, Step 7		Ud
34	Methyl Bromide	ug/L								4000	4000			N					No detected value of B, Step 7		Ud
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
36	Methylene Chloride	ug/L								1600	1600.0			N					No detected value of B, Step 7		Ud
37	1,1,2,2-Tetrachloroethane	ug/L								11	11.00			N					No detected value of B, Step 7		Ud
38	Tetrachloroethylene	ug/L								8.85	8.9			N					No detected value of B, Step 7		Ud
39	Toluene	ug/L								200000	200000			N					No detected value of B, Step 7		Ud
40	1,2-Trans-Dichloroethylene	ug/L								140000	140000			N					No detected value of B, Step 7		Ud
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
42	1,1,2-Trichloroethane	ug/L								42	42.0			N					No detected value of B, Step 7		Ud
43	Trichloroethylene	ug/L								81	81.0			N					No detected value of B, Step 7		Ud
44	Vinyl Chloride	ug/L								525	525			N					No detected value of B, Step 7		Ud
45	2-Chlorophenol	ug/L								400	400			N					No detected value of B, Step 7		Ud
46	2,4-Dichlorophenol	ug/L								790	790			N					No detected value of B, Step 7		Ud
47	2,4-Dimethylphenol	ug/L								2300	2300			N					No detected value of B, Step 7		Ud
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L								765	765.0			N					No detected value of B, Step 7		Ud
49	2,4-Dinitrophenol	ug/L								14000	14000			N					No detected value of B, Step 7		Ud
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
53	Pentachlorophenol	ug/L					13.00	7.90		8.2	7.90			N					No detected value of B, Step 7		Ud
54	Phenol	ug/L								4600000	4600000			N					No detected value of B, Step 7		Ud
55	2,4,6-Trichlorophenol	ug/L								6.5	6.5			N					No detected value of B, Step 7		Ud
56	Acenaphthene	ug/L								2700	2700			N					No detected value of B, Step 7		Ud
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
58	Anthracene	ug/L								110000	110000			N					No detected value of B, Step 7		Ud
59	Benzidine	ug/L								0.00054	0.00054			N					No detected value of B, Step 7		Ud
60	Benzo(a)Anthracene	ug/L	0.6							0.049	**0.049**			N					No detected value of B, Step 7		Ud
61	Benzo(a)Pyrene	ug/L	0.6							0.049	**0.049**			N					No detected value of B, Step 7		Ud
62	Benzo(b)Fluoranthene	ug/L								0.049	0.0490			N					No detected value of B, Step 7		Ud
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
64	Benzo(k)Fluoranthene	ug/L								0.049	0.0490			N					No detected value of B, Step 7		Ud
65	Bis(2-Chloroethoxy)Methan	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
66	Bis(2-Chloroethyl)Ether	ug/L								1.4	1.400			N					No detected value of B, Step 7		Ud
67	Bis(2-Chloroisopropyl)Ethe	ug/L								170000	170000			N					No detected value of B, Step 7		Ud
68	Bis(2-Ethylhexyl)Phthalate	ug/L								5.9	5.9			N					No detected value of B, Step 7		Ud
69	4-Bromophenyl Phenyl Eth	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
70	Butylbenzyl Phthalate	ug/L								5200	5200			N					No detected value of B, Step 7		Ud
71	2-Chloronaphthalene	ug/L								4300	4300			N					No detected value of B, Step 7		Ud
72	4-Chlorophenyl Phenyl Eth	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
73	Chrysene	ug/L	0.6							0.049	**0.049**			N					No detected value of B, Step 7		Ud
74	Dibenzo(a,h)Anthracene	ug/L								0.049	0.0490			N					No detected value of B, Step 7		Ud
75	1,2-Dichlorobenzene	ug/L								17000	17000			N					No detected value of B, Step 7		Ud

			HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS									LIMITS			
			Organisms only			Saltwater / Freshwater / Basin Plan												
CTR#	Parameters	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	Recommendation	Comment
1	Antimony	No effluent data & no B															No Limit	
2	Arsenic	No effluent data & no B															No Limit	
3	Beryllium	No Criteria															No Limit	
4	Cadmium	No effluent data & no B		2.01		0.32	13.57	0.53	4.93	4.93	1.55	7.66	3.11	15.36904	7.7	15		Apply as Performance Goal
5a	Chromium (III)	No Criteria															No Limit	
5b	Chromium (VI)	No effluent data & no B		2.01		0.321	353.19	0.527	26.37	26.37	1.55	40.94	3.11	82.13	41	82		Apply more stringent ELG limit
6	Copper	No effluent data & no B		2.01		0.32		0.527	1.97	1.97	1.552	3.06	3.114	6.13527	3.1	6.1		TMDL Limit
7	Lead	No effluent data & no B		2.01		0.32		0.53	4.49	4.49	1.55	6.97	3.11	13.99119	7.0	14		TMDL Limit
8	Mercury	No effluent data & no B															No Limit	
9	Nickel	No effluent data & no B															No Limit	
10	Selenium	No effluent data & no B															No Limit	
11	Silver	No effluent data & no B															No Limit	
12	Thallium	No effluent data & no B															No Limit	
13	Zinc	No effluent data & no B		2.01		0.32		0.53	45.15	45.15	1.55	70.09	3.11	140.6125	70	141		TMDL Limit
14	Cyanide	No effluent data & no B															No Limit	
15	Asbestos	No Criteria															No Limit	
16	2,3,7,8 TCDD	No effluent data & no B															No Limit	
	TCDD Equivalents	No effluent data & no B															No Limit	
17	Acrolein	No effluent data & no B															No Limit	
18	Acrylonitrile	No effluent data & no B															No Limit	
19	Benzene	No effluent data & no B															No Limit	
20	Bromoform	No effluent data & no B															No Limit	
21	Carbon Tetrachloride	No effluent data & no B															No Limit	
22	Chlorobenzene	No effluent data & no B															No Limit	
23	Chlorodibromomethane	No effluent data & no B															No Limit	
24	Chloroethane	No Criteria															No Limit	
25	2-Chloroethylvinyl ether	No Criteria															No Limit	
26	Chloroform	No Criteria															No Limit	
27	Dichlorobromomethane	No effluent data & no B															No Limit	
28	1,1-Dichloroethane	No Criteria															No Limit	
29	1,2-Dichloroethane	No effluent data & no B															No Limit	
30	1,1-Dichloroethylene	No effluent data & no B															No Limit	
31	1,2-Dichloropropane	No effluent data & no B															No Limit	
32	1,3-Dichloropropylene	No effluent data & no B															No Limit	
33	Ethylbenzene	No effluent data & no B															No Limit	
34	Methyl Bromide	No effluent data & no B															No Limit	
35	Methyl Chloride	No Criteria															No Limit	
36	Methylene Chloride	No effluent data & no B															No Limit	
37	1,1,2,2-Tetrachloroethane	No effluent data & no B															No Limit	
38	Tetrachloroethylene	No effluent data & no B															No Limit	
39	Toluene	No effluent data & no B															No Limit	
40	1,2-Trans-Dichloroethylene	No effluent data & no B															No Limit	
41	1,1,1-Trichloroethane	No Criteria															No Limit	
42	1,1,2-Trichloroethane	No effluent data & no B															No Limit	
43	Trichloroethylene	No effluent data & no B															No Limit	
44	Vinyl Chloride	No effluent data & no B															No Limit	
45	2-Chlorophenol	No effluent data & no B															No Limit	
46	2,4-Dichlorophenol	No effluent data & no B															No Limit	
47	2,4-Dimethylphenol	No effluent data & no B															No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	No effluent data & no B															No Limit	
49	2,4-Dinitrophenol	No effluent data & no B															No Limit	
50	2-Nitrophenol	No Criteria															No Limit	
51	4-Nitrophenol	No Criteria															No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	No Criteria															No Limit	
53	Pentachlorophenol	No effluent data & no B															No Limit	
54	Phenol	No effluent data & no B															No Limit	
55	2,4,6-Trichlorophenol	No effluent data & no B															No Limit	
56	Acenaphthene	No effluent data & no B															No Limit	
57	Acenaphthylene	No Criteria															No Limit	
58	Anthracene	No effluent data & no B															No Limit	
59	Benzidine	No effluent data & no B															No Limit	
60	Benzo(a)Anthracene	No effluent data & no B	0.049	2.01	0.09830						1.55		3.11		0.049	0.098		TMDL Limit
61	Benzo(a)Pyrene	No effluent data & no B	0.049	2.01	0.09830						1.55		3.11		0.049	0.098		TMDL Limit
62	Benzo(b)Fluoranthene	No effluent data & no B															No Limit	
63	Benzo(ghi)Perylene	No Criteria															No Limit	
64	Benzo(k)Fluoranthene	No effluent data & no B															No Limit	
65	Bis(2-Chloroethoxy)Methan	No Criteria															No Limit	
66	Bis(2-Chloroethyl)Ether	No effluent data & no B															No Limit	
67	Bis(2-Chloroisopropyl)Ethe	No effluent data & no B															No Limit	
68	Bis(2-Ethylhexyl)Phthalate	No effluent data & no B															No Limit	
69	4-Bromophenyl Phenyl Eth	No Criteria															No Limit	
70	Butylbenzyl Phthalate	No effluent data & no B															No Limit	
71	2-Chloronaphthalene	No effluent data & no B															No Limit	
72	4-Chlorophenyl Phenyl Eth	No Criteria															No Limit	
73	Chrysene	No effluent data & no B	0.049	2.01	0.09830						1.55		3.11		0.049	0.098		TMDL Limit
74	Dibenzo(a,h)Anthracene	No effluent data & no B															No Limit	
75	1,2-Dichlorobenzene	No effluent data & no B															No Limit	

					CTR Water Quality Criteria (ug/L)							REASONABLE POTENTIAL ANALYSIS (RPA)									
					Freshwater		Saltwater		Human Health for consumption of:												
CTR#	Parameters	Units	CV	MEC	C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only	Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
76	1,3-Dichlorobenzene	ug/L								2600	2600			N					No detected value of B, Step 7		Ud
77	1,4-Dichlorobenzene	ug/L								2600	2600			N					No detected value of B, Step 7		Ud
78	3,3 Dichlorobenzidine	ug/L								0.077	0.08			N					No detected value of B, Step 7		Ud
79	Diethyl Phthalate	ug/L								120000	120000			N					No detected value of B, Step 7		Ud
80	Dimethyl Phthalate	ug/L								2900000	2900000			N					No detected value of B, Step 7		Ud
81	Di-n-Butyl Phthalate	ug/L								12000	12000			N					No detected value of B, Step 7		Ud
82	2,4-Dinitrotoluene	ug/L								9.10	9.10			N					No detected value of B, Step 7		Ud
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
85	1,2-Diphenylhydrazine	ug/L								0.54	0.540			N					No detected value of B, Step 7		Ud
86	Fluoranthene	ug/L								370	370			N					No detected value of B, Step 7		Ud
87	Fluorene	ug/L								14000	14000			N					No detected value of B, Step 7		Ud
88	Hexachlorobenzene	ug/L								0.00077	0.00077			N					No detected value of B, Step 7		Ud
89	Hexachlorobutadiene	ug/L								50	50.00			N					No detected value of B, Step 7		Ud
90	Hexachlorocyclopentadiene	ug/L								17000	17000			N					No detected value of B, Step 7		Ud
91	Hexachloroethane	ug/L								8.9	8.9			N					No detected value of B, Step 7		Ud
92	Indeno(1,2,3-cd)Pyrene	ug/L								0.049	0.0490			N					No detected value of B, Step 7		Ud
93	Isophorone	ug/L								600	600.0			N					No detected value of B, Step 7		Ud
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
95	Nitrobenzene	ug/L								1900	1900			N					No detected value of B, Step 7		Ud
96	N-Nitrosodimethylamine	ug/L								8.10	8.10000			N					No detected value of B, Step 7		Ud
97	N-Nitrosodi-n-Propylamine	ug/L								1.40	1.400			N					No detected value of B, Step 7		Ud
98	N-Nitrosodiphenylamine	ug/L								16	16.0			N					No detected value of B, Step 7		Ud
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
100	Pyrene	ug/L	0.6							11000	11000			N					No detected value of B, Step 7		Ud
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
102	Aldrin	ug/L					1.30			0.00014	0.00014			N					No detected value of B, Step 7		Ud
103	alpha-BHC	ug/L								0.013	0.0130			N					No detected value of B, Step 7		Ud
104	beta-BHC	ug/L								0.046	0.046			N					No detected value of B, Step 7		Ud
105	gamma-BHC	ug/L					0.16			0.063	0.063			N					No detected value of B, Step 7		Ud
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	N					No Criteria	No Criteria	Uc
107	Chlordane	ug/L	0.6							0.00059	0.00059			N					No detected value of B, Step 7		Ud
108	4,4'-DDT	ug/L	0.6							0.00059	0.00059			N					No detected value of B, Step 7		Ud
109	4,4'-DDE (linked to DDT)	ug/L								0.00059	0.00059			N					No detected value of B, Step 7		Ud
110	4,4'-DDD	ug/L								0.00084	0.00084			N					No detected value of B, Step 7		Ud
111	Dieldrin	ug/L	0.6							0.00014	0.00014			N					No detected value of B, Step 7		Ud
112	alpha-Endosulfan	ug/L					0.034	0.0087		240	0.0087			N					No detected value of B, Step 7		Ud
113	beta-Endolsulfan	ug/L					0.034	0.0087		240	0.0087			N					No detected value of B, Step 7		Ud
114	Endosulfan Sulfate	ug/L								240	240			N					No detected value of B, Step 7		Ud
115	Endrin	ug/L					0.037	0.0023		0.81	0.0023			N					No detected value of B, Step 7		Ud
116	Endrin Aldehyde	ug/L								0.81	0.81			N					No detected value of B, Step 7		Ud
117	Heptachlor	ug/L					0.053	0.0036		0.00021	0.00021			N					No detected value of B, Step 7		Ud
118	Heptachlor Epoxide	ug/L					0.053	0.0036		0.00011	0.00011			N					No detected value of B, Step 7		Ud
119-125	PCBs sum (2)	ug/L	0.6							0.00017	0.00017			N					No detected value of B, Step 7		Ud
126	Toxaphene	ug/L					0.21	0.0002		0.00075	0.0002			N					No detected value of B, Step 7		Ud

			HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS									LIMITS			
CTR#			Organisms only			Saltwater / Freshwater / Basin Plan												
	Parameters	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	Recommendation	Comment
76	1,3-Dichlorobenzene	No effluent data & no B															No Limit	
77	1,4-Dichlorobenzene	No effluent data & no B															No Limit	
78	3,3 Dichlorobenzidine	No effluent data & no B															No Limit	
79	Diethyl Phthalate	No effluent data & no B															No Limit	
80	Dimethyl Phthalate	No effluent data & no B															No Limit	
81	Di-n-Butyl Phthalate	No effluent data & no B															No Limit	
82	2,4-Dinitrotoluene	No effluent data & no B															No Limit	
83	2,6-Dinitrotoluene	No Criteria															No Limit	
84	Di-n-Octyl Phthalate	No Criteria															No Limit	
85	1,2-Diphenylhydrazine	No effluent data & no B															No Limit	
86	Fluoranthene	No effluent data & no B															No Limit	
87	Fluorene	No effluent data & no B															No Limit	
88	Hexachlorobenzene	No effluent data & no B															No Limit	
89	Hexachlorobutadiene	No effluent data & no B															No Limit	
90	Hexachlorocyclopentadiene	No effluent data & no B															No Limit	
91	Hexachloroethane	No effluent data & no B															No Limit	
92	Indeno(1,2,3-cd)Pyrene	No effluent data & no B															No Limit	
93	Isophorone	No effluent data & no B															No Limit	
94	Naphthalene	No Criteria															No Limit	
95	Nitrobenzene	No effluent data & no B															No Limit	
96	N-Nitrosodimethylamine	No effluent data & no B															No Limit	
97	N-Nitrosodi-n-Propylamine	No effluent data & no B															No Limit	
98	N-Nitrosodiphenylamine	No effluent data & no B															No Limit	
99	Phenanthrene	No Criteria															No Limit	
100	Pyrene	No effluent data & no B	11000	2.01	22068						1.55		3.11		11000	22068		TMDL Limit
101	1,2,4-Trichlorobenzene	No Criteria															No Limit	
102	Aldrin	No effluent data & no B															No Limit	
103	alpha-BHC	No effluent data & no B															No Limit	
104	beta-BHC	No effluent data & no B															No Limit	
105	gamma-BHC	No effluent data & no B															No Limit	
106	delta-BHC	No Criteria															No Limit	
107	Chlordane	No effluent data & no B	0.00059	2.01	0.00118						1.55		3.11		0.00059	0.0012		TMDL Limit
108	4,4'-DDT	No effluent data & no B	0.00059	2.01	0.00118						1.55		3.11		0.00059	0.0012		TMDL Limit
109	4,4'-DDE (linked to DDT)	No effluent data & no B															No Limit	
110	4,4'-DDD	No effluent data & no B															No Limit	
111	Dieldrin	No effluent data & no B	0.00014	2.01	0.00028						1.55		3.11		0.00014	0.00028		TMDL Limit
112	alpha-Endosulfan	No effluent data & no B															No Limit	
113	beta-Endolsulfan	No effluent data & no B															No Limit	
114	Endosulfan Sulfate	No effluent data & no B															No Limit	
115	Endrin	No effluent data & no B															No Limit	
116	Endrin Aldehyde	No effluent data & no B															No Limit	
117	Heptachlor	No effluent data & no B															No Limit	
118	Heptachlor Epoxide	No effluent data & no B															No Limit	
119-125	PCBs sum (2)	No effluent data & no B	0.00017	2.01	0.00034						1.55		3.11		0.00017	0.00034		TMDL Limit
126	Toxaphene	No effluent data & no B															No Limit	

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR Water Quality Criteria
C = Water Quality Criteria
B = Background receiving water data