**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**
**LOS ANGELES REGION**

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# ORDER R4-2020-0024
# NPDES NO. CA0053651

# WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF VENTURA VENTURA WATER RECLAMATION FACILITY, VENTURA COUNTY DISCHARGE TO THE SANTA CLARA RIVER ESTUARY VIA WILDLIFE PONDS VIA OUTFALL 001

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

**Table 1. Discharger Information**

| | |
|---|---|
| Discharger/Permittee | City of Ventura (Permittee or Discharger) |
| Name of Facility | Ventura Water Reclamation Facility (Ventura WRF or Facility), including its associated wastewater collection system and outfalls |
| Facility Address | 1400 Spinnaker Drive<br>Ventura, CA 93001<br>Ventura County |

**Table 2. Discharge Location**

| Discharge Point | Effluent Description | Discharge Point Latitude (North) | Discharge Point Longitude (West) | Receiving Water |
|---|---|---|---|---|
| 001 | Tertiary treated effluent | 34.23937° | -119.25870° | Santa Clara River Estuary via Wildlife Ponds |

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was adopted on: | February 13, 2020 |
| This Order shall become effective on: | April 1, 2020 |
| This Order shall expire on: | March 31, 2025 |
| 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 United States Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows: | Major |

I, Renee Purdy, 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 the date indicated above.

R. Purdy Digitally signed by R. Purdy Date: 2020.02.28 14:24:59 -08'00'

Water Boards

Renee Purdy, Executive Officer

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## TABLES



## ATTACHMENTS

## I. FACILITY INFORMATION

Information describing the Ventura Water Reclamation Facility (Ventura WRF or 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's 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 waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (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 United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (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 I are also incorporated into this Order.

C. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsection IV.B, IV.C, and V.B are included to implement state law only.

D. **Notification of Interested Persons.** 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 No. R4-2013-0174, 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 past violations of the previous Order.

## III. DISCHARGE PROHIBITIONS

**A.** Discharge of treated wastewater at a location different from that described in this Order is prohibited.

**B.** The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.

**C.** The annual average effluent dry weather discharge flow rate from the facility shall not exceed 9 million gallons per day (MGD).

**D.** The Permittee shall not cause degradation of any water supply, except as consistent with State Water Board Resolution No. 68-16.

**E.** The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivisions (l) and (m), of the Water Code.

**F.** The discharge of any substances in concentrations toxic to animals or plants is prohibited.

**G.** The discharge of any radiological, chemical, or biological warfare agent or high-level radiological waste is prohibited.

## IV. EFFLUENT LIMITATIONS, PERFORMANCE GOALS, AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations – Discharge Point 001[1]

Effluent limitations for Discharge Point 001 are specified below. The discharge of treated wastewater with constituents in excess of the effluent limitations is prohibited.

Performance goals for radioactivity compounds are prescribed in this Order. Performance goals are based upon actual performance data for the Ventura WRF and are specified only as an indication of the treatment efficiency of the plant. They are not considered enforceable effluent limitations or standards for the plant. The Discharger shall maintain, if not improve, the effluent quality at or below the performance goal concentrations. Any two consecutive exceedances of the performance goals shall trigger an investigation into the cause of the exceedance. If the exceedance persists in three successive monitoring periods, the Discharger shall submit a written report to the Regional Water Board on the nature of the exceedance, the results of the investigation including the cause of the exceedance, the corrective actions taken, any proposed corrective measures, and a timetable for implementation, if necessary. The Discharger may submit a request to modify performance goals upon a demonstration that the change is warranted.

#### 1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 into the Santa Clara River Estuary via the Wildlife Ponds, with compliance measured at Monitoring Location EFF-001 (previously identified as Monitoring Location M-001) as described in the MRP, Attachment E.

**Table 4. Effluent Limitations and Performance Goals at EFF-001**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Performance Goals[2] |
|---|---|---|---|---|---|
| Biochemical Oxygen Demand ($BOD_5$20°C) | mg/L | 20 | 30 | 45 | |
| $BOD_5$20°C | lbs/day | 2,340 | 3,500 | 5,250 | |
| Removal Efficiency for BOD | % | ≥85 | -- | -- | |
| Total Suspended Solids (TSS) | mg/L | 15 | 40 | 45 | |
| TSS | lbs/day | 1,750 | 4,670 | 5,250 | |
| Removal Efficiency for TSS | % | ≥85 | -- | -- | |
| Temperature | °F | -- | -- | 86 | |

[1] EFF-001 is the same as M-001 in Order No. R4-2013-0174. Flow shall be measured at an adjacent meter station EFF-001F. It was previously labeled M-001F.

[2] The selection of performance goals for radioactivity is described at Attachment F, section IV.C.2.xvi.

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Performance Goals[2] |
|---|---|---|---|---|---|
| Oil and Grease | mg/L | 10 | -- | 15 | |
| Oil and Grease | lbs/day | 750 | -- | 1,125 | |
| Settleable Solids | ml/L | 0.1 | -- | 0.3 | |
| Radioactivity | | | | | |
| Combined Radium-226 and Radium 228 | pCi/L | -- | -- | -- | 5 |
| Gross Alpha particle activity (excluding radon and uranium) | pCi/L | -- | -- | -- | 15 |
| Uranium | pCi/L | -- | -- | -- | 20 |
| Gross Beta/photon emitters | millirem/year | -- | -- | -- | 4 |
| Strontium-90 | pCi/L | -- | -- | -- | 8 |
| Tritium | pCi/L | -- | -- | -- | 20,000 |
| Total coliform[3] | MPN or CFU/100 mL | 23[3] | 2.2[3] | 240[3] | |
| Fecal coliform | MPN or CFU/100 mL | 200 as Geometric mean[4] | -- | -- | |
| Enterococcus | MPN or CFU/100 mL | 35 as Geometric mean[4] | -- | -- | |
| Total Residual Chlorine | mg/L | -- | -- | 0.1 | |
| Total Residual Chlorine | lbs/day | -- | -- | 7.5 | |
| Methylene Blue Active Substances (MBAS) | mg/L | 0.5 | -- | -- | |
| MBAS | lbs/day | 38 | -- | -- | |
| Total Ammonia | mg/L | 2.7 | -- | 5.5 | |
| Total Ammonia | lbs/day | 203 | | 413 | |
| Nitrate + Nitrite (as N) | mg/L | 10 | -- | -- | |

[3] The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if: (1) the median number of total coliform bacteria in the disinfected effluent does not exceed a 7-day median of 2.2 Most Probable Number (MPN) or Colony Forming Unit (CFU) per 100 milliliters utilizing the bacteriological results of the last seven (7) days for which an analysis has been completed, (2) the number of total coliform bacteria does not exceed 23 MPN or CFU per 100 milliliters in more than one sample within any 30-day period, and (3) no sample shall exceed 240 MPN or CFU of total coliform bacteria per 100 milliliters. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes. Consequently, the total coliform waste load allocation for Ventura WRF per Resolution No. R4-2014-010, is also equivalent to the Title 22, 7-day median of 2.2 MPN/100 mL.

[4] The Santa Clara River Indicator Bacteria Total Maximum Daily Load (TMDL) was adopted by the Regional Water Board on July 8, 2010 (Resolution No. R4-2014-010). The Santa Clara River Bacteria TMDL was approved by the State Water Board, Office of Administrative Law (OAL), and USEPA on October 4, 2011, December 19, 2011, and January 13, 2012, respectively. It became effective on March 21, 2012. Total coliform waste load allocations for Ventura WRF are set equal to a 7-day median of 2.2 MPN/100 mL. Note that this WLA is identical and as stringent as the Title 22 disinfection criteria of 2.2 MPN/100mL (in footnote #3).

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Performance Goals[2] |
|---|---|---|---|---|---|
| Nitrate + Nitrite (as N) | lbs/day | 750 | -- | -- | |
| Nitrate (as N) | mg/L | 10 | -- | -- | |
| Nitrate (as N) | lbs/day | 750 | -- | -- | |
| Nitrite (as N) | mg/L | 1 | -- | -- | |
| Nitrite (as N) | lbs/day | 75 | -- | -- | |
| Copper | µg/L | 6.1 | -- | 14 | |
| Copper | lbs/day | 0.46 | -- | 1.1 | |
| Nickel | µg/L | 6.1 | -- | 18.5 | |
| Nickel | lbs/day | 0.46 | -- | 1.4 | |
| Zinc | µg/L | 55 | -- | 113 | |
| Zinc | lbs/day | 4.1 | -- | 8.5 | |
| Chronic Toxicity[5] | Pass or Fail, % Effect (Test of Significant Toxicity, (TST)) | Pass[6] | -- | Pass or % Effect <50 | -- |

b. The Discharger shall also maintain compliance with total ammonia effluent limitations at Discharge Point 001 into the Santa Clara River Estuary via the Wildlife Ponds, with compliance measured at Monitoring Location EFF-001A (previously identified as Monitoring Location M-001A), as described in the MRP, Attachment E.

**Table 5. Total Ammonia Effluent Limitations at EFF-001A**

| Parameters | Units | Average Monthly | Maximum Daily |
|---|---|---|---|
| Total Ammonia (Summer) | mg/L | 0.42 | 0.98 |
| Total Ammonia (Summer) | lbs/day | 32 | 74 |
| Total Ammonia (Winter) | mg/L | 0.61 | 1.3 |
| Total Ammonia (Winter) | lbs/day | 46 | 98 |

[5] A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. These final effluent limitations will be implemented using the *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)*, current USEPA guidance in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010)* and *EPA Regions 8, 9, and 10 Toxicity Training Tool (January 2010), http://www2.epa.gov/region8/epa-regions-8-9-and-10-toxicity-training-tool-january-2010*.

[6] This is a Median Monthly Effluent Limitation.

c. The effluent values for pH shall be maintained within the limits of 6.5 standard units and 8.5 standard units.

d. For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the treated wastewater does not exceed any of the following: (a) an average of 2 Nephelometric turbidity units (NTU) within a 24-hour period; (b) 5 NTU more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.

e. The mass based effluent limits are based on the plant design flow rate of 14 MGD for technology based effluent limitations (TBELs) such as BOD and TSS. The maximum flow during dry weather is capped at an annual average of 9 MGD for all other constituents, and mass based effluent limits are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day, or Flow (MGD) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations shall be the only applicable effluent limitations.

**2. Interim Effluent Limitations– Not Applicable**

**B. Land Discharge Specifications – Not Applicable**

**C. Recycling Specifications**

Recycling specifications are not established in this Order, but the Discharger produces, and reuses recycled water under Board Order No. 87-045. The Discharger has worked diligently to gain approval from the resource agencies to reduce the effluent flow to the estuary and is in the process of planning an expansion of the recycled water system.

## V. RECEIVING WATER LIMITATIONS

**A. Surface Water Limitations**

Receiving water limitations are based on water quality objectives (WQOs) contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Santa Clara River Estuary:

1. The estuary is subject to the State Water Resource Control Board's Water Quality Control Plan For Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) adopted on January 7, 1971 and revised June 5, 1972. These temperature limitations shall apply throughout the Santa Clara River estuary wherever the waters fit the definition of an "estuary and coastal lagoon" as follows:

   "Waters at the mouths of streams which serve as mixing zones for fresh and ocean water during a major portion of the year. Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and saltwater occurs in the open coastal waters."

   Elevated temperature waste discharges shall comply with the following:

   a) The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

b) Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the wetted cross sectional area of a main river channel at any point.

c) No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

d) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

2. The pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of wastes discharged. At the estuary, the ambient pH levels shall not be changed more than 0.2 units from natural conditions as a result of wastes discharged. Natural conditions shall be determined on a case-by-case basis.

3. The dissolved oxygen (DO) concentration in the receiving water shall not be depressed below 5 mg/L as a result of the wastes discharged, and the mean annual DO concentration of all waters shall be greater than 7 mg/L, except when natural conditions cause lesser concentrations.

4. Total residual chlorine shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in the receiving water at any concentration that causes impairment of beneficial uses.

5. Bacteria concentration in the receiving water shall not exceed the single sample and the geometric mean targets, as a result of waste discharged, presented in the table below:

| Numeric targets | Single Sample | Geometric mean |
|---|---|---|
| Fecal coliform | 400/100 mL | 200/100 mL |
| Enterococcus | 104/100 mL | 35/100 mL |
| Total coliform | 10,000/100 mL* | 1,000/100 mL |

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

6. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits, as a result of wastes discharged:

   a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.

   b. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

7. The wastes discharged shall not produce concentrations of substances in the receiving water that are toxic to or cause detrimental physiological responses in human, animal, or aquatic life.

8. The wastes discharged shall not cause concentrations of contaminants to occur at levels that are harmful to human health in waters which are existing or potential sources of drinking water.

9. The concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses as a result of the wastes discharged.

10. The wastes discharged shall not contain substances that result in increases in BOD, which adversely affect the beneficial uses of the receiving waters.

11. Wastes discharged shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions as a result of wastes discharged.
13. The wastes discharged shall not cause the receiving waters to contain any substance in concentrations that adversely affect any designated beneficial use.
14. The wastes discharged shall not degrade surface water communities and populations, including vertebrate, invertebrate, and plant species.
15. The wastes discharged shall not alter the natural taste, odor, or color of fish, shellfish, or other surface water resources used for human consumption.
16. The wastes discharged shall not result in problems due to breeding of mosquitoes, gnats, black flies, midges, or other pests.
17. The wastes discharged shall not result in visible floating particulates, foams, or oil and grease in the receiving waters.
18. The wastes discharged shall not cause objectionable aquatic growths or degrade indigenous biota.
19. The wastes discharged shall not alter the color of the receiving waters; create a visual contrast with the natural appearance of the water; or cause aesthetically undesirable discoloration of the receiving waters.
20. The wastes discharged shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses of the receiving waters. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life as a result of the wastes discharged.
21. The natural hydrologic conditions necessary to support the physical, chemical, and biological characteristics present in wetlands shall be protected to prevent significant adverse effects as a result of wastes discharged on: (a) natural temperature, pH, dissolved oxygen, and other natural physical and chemical conditions; (b) movement of aquatic fauna; (c) survival and reproduction of aquatic flora and fauna; and (d) water levels.
22. The existing habitats and associated populations of wetlands fauna and flora shall be protected to prevent adverse effects as a result of wastes discharged by (a) maintaining substrate characteristics necessary to support flora and fauna, which would be present naturally; (b) protecting food supplies for fish and wildlife; (c) protecting reproductive and nursery areas; and, (d) protecting wildlife corridors.
23. Ammonia shall not be present at levels that, when oxidized to nitrate, pose a threat to groundwater quality.
24. Chronic Toxicity Narrative Receiving Water Quality Objective
    a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.
    b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.

c. If the chronic toxicity median monthly threshold at the immediate downstream receiving water location is not met and the toxicity cannot be attributed to upstream toxicity, as assessed by the Permittee, then the Permittee shall initiate accelerated monitoring of the effluent according to Attachment E - MRP, Section V.A.7.

d. If the chronic toxicity median monthly threshold of the receiving water at both upstream and downstream stations is not met, but the effluent chronic toxicity median monthly effluent limitation was met, then accelerated monitoring need not be implemented.

25. The wastes discharged shall not cause the ammonia water quality objective in the Basin Plan to be exceeded in the receiving waters. The ammonia water quality objective shall be calculated using the pH, salinity, and temperature of the receiving water at the time of collection of the receiving water ammonia sample, then the calculated objective shall be compared to the receiving water sample result.

### B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded except as consistent with State Water Board Resolution No. 68-16. The discharge to groundwater shall not exceed WQOs, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

## VI. PROVISIONS

### A. Standard Provisions

1. The Permittee shall comply with all Standard Provisions included in Attachment D.
2. **Regional Water Board Standard Provisions**. The Permittee 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. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by section 13050 of the Water Code.

    b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Water Board, are prohibited.

    c. All facilities used for collection, transport, treatment, or disposal of wastes shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.

    d. Collection, treatment, and disposal systems shall be operated in a manner that precludes or impedes public contact with wastewater.

    e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Water Board.

    f. 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.

    g. 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.

h. Discharge of wastes to any point other than specifically described in this Order is prohibited.

i. The Permittee 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, 403, and 405 of the federal CWA and amendments thereto.

j. 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.

k. The Facility shall be protected to reduce infrastructure vulnerability to current and future impacts resulting from climate change, including but not limited to extreme wet weather events, flooding, storm surges, and projected sea level rise when the facility is located near the ocean or discharges to the ocean.

l. 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.

m. 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.

n. 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.

o. The Permittee shall file with the Regional Water Board a report of waste discharge at least 120 days before making any proposed change in the character, location or volume of the discharge.

p. In the event of any change in name, ownership, or control of these waste disposal facilities, the Permittee shall notify the Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board, 30 days prior to taking effect. The Permittee shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board. The Permittee shall notify the Regional Water Board, in writing, at least 60 days in advance of ownership change and provide a date on which the transfer of this Order's responsibility and coverage will go from the current Discharger to the new discharger. The notification shall include an agreement between the parties to transfer responsibility for compliance with the Order. The agreement shall include an acknowledgement that the existing Discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date forward. The succeeding owner or operator shall submit a Report of Waste

Discharge that requests an amendment to formally amend the Order to acknowledge the transfer.

q. 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 Order.

r. The Permittee shall notify the Executive Officer in writing no later than 6 months prior to 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. USEPA registration number, if applicable.

s. 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 Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

t. Water Code section 13385(h)(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each serious violation. Pursuant to Water Code section 13385(h)(2), a “serious violation” is defined as any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant by 20 percent or more, or for a Group I pollutant by 40 percent or more. Appendix A of title 40 of the Code of Federal Regulations (40 CFR) section 123.45 specifies the Group I and II pollutants. Pursuant to Water Code section 13385.1(a)(1), a “serious violation” is also defined as “a failure to file a discharge monitoring report required pursuant to section 13383 for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations.”

u. Water Code section 13385(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each violation whenever a person violates a waste discharge requirement effluent limitation in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three non-serious violations within that time period.

v. Pursuant to Water Code section 13385.1(d), for the purposes of section 13385.1 and subdivisions (h), (i), and (j) of section 13385, “effluent limitation” means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location. An effluent limitation may be final or interim and may be expressed as a prohibition. An

effluent limitation, for these purposes, does not include a receiving water limitation, a compliance schedule, or a best management practice.

w. Water Code section 13387(e) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order shall be punished by a fine of not more than twenty-five thousand dollars ($25,000), imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for 16, 20, or 24 months, or by both that fine and imprisonment. For a subsequent conviction, such a person shall be punished by a fine of not more than twenty-five thousand dollars ($25,000) per day of violation, by imprisonment pursuant to subdivision (h) of Section 1170 of the Penal Code for two, three, or four years, or by both that fine and imprisonment.

x. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order that may endanger health or the environment, the Permittee shall notify the Chief of the Watershed Regulatory Section at the Regional Water Board by telephone (213) 620-2083 or by fax at (213) 576-6660 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing to the Regional Water Board 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. The written notification shall also be submitted via email with reference to CI-1822 to losangeles@waterboards.ca.gov. Other noncompliance requires written notification as above at the time of the normal monitoring report.

## B. Monitoring and Reporting Program (MRP) Requirements

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

## C. Special Provisions

### 1. Reopener Provisions

a. This Order may be modified, revoked and reissued, or terminated 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 by failure to disclose fully all relevant facts; or,

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

The filing of a request by the Permittee 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.

b. 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 testing, monitoring of internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. This Order may be modified, in accordance with the provisions set forth in 40 CFR parts 122 and 124 to include requirements for the implementation of a watershed protection management approach.

d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order have or will have a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.

e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR 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, 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 Permittee 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.

f. This Order may be modified, in accordance with the provisions set forth in 40 CFR parts 122 to 124, to include new minimum levels (MLs).

g. If an applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Water Board may institute proceedings under these regulations to modify or revoke and reissue the Orders to conform to the toxic effluent standard or prohibition.

h. The waste discharged shall not cause a violation of any applicable water quality standard for receiving waters. 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 and modify this Order in accordance with such standards.

i. This Order may be reopened and modified to add or revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, or the adoption/revision of any of the Santa Clara River Watershed Total Maximum Daily Loads (TMDLs).

j. This Order may be reopened and modified to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.

k. This Order will be reopened and modified to revise any or all of the chronic toxicity testing provisions and effluent limitations, to the extent necessary, to be consistent with any Toxicity Provisions that are subsequently adopted by the State Water Board promptly after USEPA approval of such Provisions.

l. This Order will be reopened and modified to the extent necessary, to be consistent with new policies, a new state-wide plan, new laws, or new regulations.

**2. Special Studies, Technical Reports and Additional Monitoring Requirements**

a. **Transition Plan**

The Permittee shall submit a detailed Transition Plan to the Executive Officer of the Regional Water Board for approval no later than one year from the adoption of this permit. The Transition Plan shall describe infrastructure designs, permitting, monitoring, studies, consultations, public outreach activities, and schedules sufficient to implement discharge reductions to the levels determined by completed Special Studies and scientific peer reviews to provide enhancement of estuary beneficial uses. The Transition Plan shall incorporate a phased approach to discharge reductions, consistent with the recommendations of the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW) (collectively Resources Agencies), to provide a margin of safety to the SCRE's sensitive species and habitats, including species listed for protection, that may have adapted to some degree to current freshwater discharge levels. The Transition Plan shall include specific infrastructure design, environmental permitting, and operational steps and engineering requirements to transition from the current permitted average annual effluent dry weather flow to the SCRE of 9 MGD, to an average annual Phase 1A continued discharge level (CDL) to the SCRE (measured based on a water year from Oct. 1 to Sept. 30) (collectively, CDL) of 1.9 MGD. The Transition Plan shall also address additional Phase 1b flow reductions to attain a CDL of between 0 MGD and 0.5 MGD. The Transition Plan shall provide for attainment of phased discharge reductions as soon as feasible, but in any event Phase 1a reductions shall be implemented by 2025, and Phase 1b reductions shall be implemented by 2030.

The Transition Plan shall also include a discussion of the steps, monitoring and analysis methods, and reporting requirements necessary to prepare a Post-Construction Monitoring, Assessment and Adaptive Management Plan (MAAMP) that complies with the requirements set forth in subsection (b) below. The MAAMP shall be designed to address scientific uncertainties and concerns associated with reducing discharges from a Phase 1a CDL of 1.9 MGD to a Phase 1b CDL of between 0 to 0.5 MGD. The MAAMP shall describe additional monitoring data and management measures needed by the federal and state resource agencies to confirm that Phase 1a discharge reductions are beneficial, and that further discharge reductions to a CDL of less than 1.9 MGD should be authorized in Phase 1b as recommended by the Scientific Review Panel (SRP), Technical Review Team (TRT) and best available scientific information. The Transition Plan, including plans for preparation of the MAAMP, will be shared with, and analyzed by the Regional Water Board and all interested Resources Agencies, as well as Wishtoyo Foundation Ventura Coastkeeper Program (Wishtoyo), and Heal the Bay prior to Executive Officer approval.

The discharger shall develop and submit to the Regional Water Board the following monitoring and assessment programs:

(a) Pre-Construction Monitoring and Assessment Program. Discharger shall develop a cost effective, 3-year program to update the existing baseline hydrological, chemical and biological conditions of the Santa Clara

River Estuary (SCRE), including estimates of the populations of threatened and endangered species within the SCRE. The discharger shall coordinate preparation of the monitoring and assessment program with the Regional Water Board, USFWS, NMFS, CDFW, Wishtoyo, and Heal the Bay. The plan must be submitted to the Regional Water Board 180 days after the effective date of the permit and shall be implemented upon approval of the Executive Officer. The purpose of the program shall be to collect and use information to identify specific ecological field studies, monitoring data, information, action criteria and management measures that are needed and will be used to inform the development and scope of the MAAMP described above and below. After approval of the Pre-Construction Monitoring and Assessment Program by the Executive Officer, the discharger shall implement the plan and prepare annual reports that summarize all data and monitoring results from the approved program. The annual reports shall be submitted to the Regional Water Board and the Resources Agencies. The first report shall be provided on the date that is one year after program approval and the remaining two reports shall be provided annually thereafter. The discharger is encouraged to coordinate development and implementation of the monitoring and assessment program, and to share monitoring data collected with other stakeholders undertaking environmental restoration efforts within the SCRE watershed to improve efficiency and effectiveness.

(b) The MAAMP. As discussed above, the Transition Plan shall provide for the preparation of a MAAMP to confirm and guide Phase 1b reductions in average annual closed berm discharges from a CDL of 1.9 MGD to a CDL of 0.0 MGD to 0.5 MGD to satisfy future final discharge limitations to the SCRE. The MAAMP shall be based on the SCRE studies and information developed to date, as well as the information obtained from studies identified in the Pre-Construction Assessment and Monitoring Program discussed in subsection (a). The discharger shall coordinate preparation of the MAAMP with the Regional Water Board, USFWS, NMFS, CDFW, Wishtoyo, and Heal the Bay. The MAAMP shall identify specific ecological thresholds and corresponding measures that would be implemented in the event that discharge reductions to the SCRE during Phase 1b would, in the discretion of the Resources Agencies with jurisdiction, result in “take” of those species occupying the SCRE that are listed for protection under the state or federal Endangered Species Acts contrary to current best available scientific predictions. The adaptive management measures identified in the MAAMP may include measures that would limit further Phase 1b discharge reductions, resulting in a final CDL to the SCRE that is greater than 0 to 0.5 MGD. The MAAMP, which shall be implemented upon approval of the Executive Officer, must be submitted to the Regional Water Board after being shared with, and analyzed by the Regional Water Board and all interested Resources Agencies, as well as Wishtoyo and Heal the Bay, as soon as possible, but at the latest as an attachment to the next Report of Waste Discharge, which is due six (6) months prior to the expiration of this NPDES Permit. The MAAMP shall provide for submission of annual reports to the Regional Water Board, USFWS, NMFS and CDFW beginning on the date that is one year after Phase 1a

diversions are first implemented to attain the CDL of 1.9 MGD, and continuing every year for at least five years after implementation of the Phase 1b diversions necessary to attain the final CDL of 0.0 MGD to 0.5 MGD. The discharger is encouraged to share monitoring data and to coordinate development and implementation of the program, including implementation of any management measures necessary to avoid, minimize or mitigate "take" of listed species, with other stakeholders undertaking environmental restoration efforts within the SCRE watershed to improve efficiency and effectiveness.

The Permittee shall submit a Report of Waste Discharge (ROWD) with the MAAMP and a finalized Transition Plan, reflecting any updates that are necessary based on implementation of the Pre-construction Monitoring and Assessment Program, the provisions of the MAAMP, and the input of the Resources Agencies, to the Executive Officer at least six months before the expiration of this Order.

b. **Toxicity Reduction Requirements**

The Permittee shall prepare and submit a copy of the Permittee's initial investigation Toxicity Reduction Evaluation (TRE) workplan in accordance with Monitoring and Reporting Program (Attachment E) section V.A.6.

c. **Treatment Plant Capacity**

The Permittee shall submit a written report to the Executive Officer of the Regional Water Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Permittee's senior administrative officer shall sign a letter, which transmits that report and certifies that the Permittee's policy-making body is adequately informed of the report's contents. The report shall include the following:

i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;

ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,

iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable in the case where the facility has not reached 75 percent of capacity as of the effective date of this Order. If the facility has reached 75 percent of capacity by the effective date of this Order, but has not previously provided such report, such a report shall be filed within 90 days of the issuance of this Order.

**3. Best Management Practices and Pollution Prevention**

a. **Storm Water Pollution Prevention Plan (SWPPP) – Not Applicable**

b. **Spill Clean-up Contingency Plan (SCCP)**

Within 90 days of the effective date of this Order, the Permittee is required to submit an updated SCCP, which describes the activities and protocols to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Permittee's collection system or treatment facilities that reach

water bodies, including dry channels and beach sands. At a minimum, the plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Permittee shall review and amend the plan as appropriate after each spill from the Facility or in the service area of the Facility. The Permittee shall include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. **Pollutant Minimization Program (PMP)**

Reporting protocols in MRP section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a reported ML and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a PMP as follows:

The Permittee shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL; sample results from analytical methods more sensitive than those methods required by this Order; presence of whole effluent toxicity; health advisories for fish consumption; or, results of benthic or aquatic organism tissue sampling) that a pollutant is present in the effluent above an effluent limitation and either of the following is true:

i. The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or,

ii. The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the 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 (PPP), if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

i. An annual review and semi-annual monitoring of potential sources of the reportable pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling.

ii. Quarterly monitoring for the reportable pollutant(s) in the influent to the wastewater treatment system.

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant(s) in the effluent at or below the effluent limitation.

iv. Implementation of appropriate cost-effective control measures for the reportable pollutant(s), consistent with the control strategy.

v. An annual status report that shall be sent to the Regional Water Board including:

a) All PMP monitoring results for the previous year.

b) A list of potential sources of the reportable pollutant(s).

c) A summary of all actions undertaken pursuant to the control strategy.

d) A description of actions to be taken in the following year.

**4. Construction, Operation and Maintenance Specifications, Climate Change and Mitigation**

a. **Certified Wastewater Treatment Plant Operator**: Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to California Code of Regulations (CCR), title 23, division 3, chapter 26 (Water Code sections 13625 – 13633).

b. **Climate Change Effects Vulnerability Assessment and Mitigation Plan**: The Permittee shall consider the impacts of climate change as it affects the operation of the treatment facility due to flooding, or wildfire, or other climate-related changes. The Permittee shall develop a Climate Change Effects Vulnerability Assessment and Mitigation Plan (Climate Change Plan) to assess and manage climate change related effects that may impact the wastewater treatment facility operation, water supplies, its collection system, and water quality, including any projected changes to the influent water temperature and pollutant concentration, and beneficial uses. For facilities that discharge to the ocean including desalination plants, the Climate Change Plan shall also include the impacts from sea level rise. The Climate Change Plan is due 12 months after adoption of this Order.

c. **Alternate Power Source**: The Permittee shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located and secured to minimize failure due to moisture, liquid spray, flooding, wildfires, and other physical phenomena. The alternate power source shall be designed to allow inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power. The Permittee shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

**5. Special Provisions for Publicly-Owned Treatment Works (POTWs)**

a. **Biosolids Disposal Requirements**

i. All biosolids generated at the wastewater treatment plant must be disposed of, treated, or applied to land in accordance with federal regulations contained in 40 CFR part 503. These requirements are enforceable by USEPA.

ii. The Permittee shall ensure compliance with the requirements in State Water Board Order No. 2004-0012-DWQ, *General WDRs for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities* for those sites receiving the

Permittee's biosolids which a Regional Water Board has placed under this general order, and with the requirements in individual WDRs issued by a Regional Water Board for sites receiving the Permittee's biosolids.

b. **Pretreatment Requirements**

i. This Order includes the Permittee's Pretreatment Program as previously submitted to this Regional Water Board. Any change to the program shall be reported to the Regional Water Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR section 403.18.

ii. The City of Ventura has a Pretreatment Program which was approved by the USEPA and the Regional Water Board in accordance with 40 CFR part 403, General Pretreatment Regulation. The Pretreatment Program regulates industries to protect the City's wastewater collection and treatment system, to ensure effluent water quality and the quality of biosolids, and to protect health and safety of the treatment plant workers.

iii. Applications for renewal or modification of this Order must contain information about industrial discharges to the POTW pursuant to 40 CFR section 122.21(j)(6). Pursuant to 40 CFR section 122.42(b) and provision VII.A of Attachment D, Standard Provisions, of this Order, the Discharger shall provide adequate notice of any new introduction of pollutants or substantial change in the volume or character of pollutants from industrial discharges which were not included in the permit application. Pursuant to 40 CFR section 122.44(j)(1), the Permittee shall annually identify and report, in terms of character and volume of pollutants, any Significant Industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR part 403.

iv. In 2017, the City's pretreatment program consists of 476 permitted nondomestic dischargers, 11 of which are Significant Industrial Users (SIUs), including four Categorical Industrial Users (CIUs) subject to federal categorical pretreatment standards. The remaining nondomestic dischargers include restaurants, automotive repair facilities, and photo shops.

v. On May 29, 2018, the Regional Water Board approved a request to allow mass based local limits for total and fixed dissolved solids after Ventura City Ordinance No. 2018-009 was amended to allow this change.

vi. A re-evaluation of local limits is required when the addition of pollutants into a POTW by an Industrial User or combination of Industrial Users presents a substantial hazard to the functioning of the treatment works, quality of the receiving waters, human health, or the environment. The Permittee shall comply with requirements contained in Attachment I – Pretreatment Reporting Requirements.

c. **Collection System Requirements**

The Permittee's collection system is part of the system that is subject to this Order. As such, the Permittee must properly operate and maintain its collection system (40 CFR section 122.41(e)). The Permittee must report any non-compliance (40 CFR section 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 CFR section 122.41(d)). See

the Order at Attachment D, subsections I.D, V.E, V.H, and I.C., and the following section of this Order.

d. **Filter Bypass**

Conditions pertaining to bypass are contained in Attachment D, Section I. Standard Provisions – Permit Compliance, subsection G. The bypass or overflow of untreated or partially treated wastewater to waters of the State is prohibited, except as allowed under conditions stated in 40 CFR section 122.41(m) and (n). During periods of elevated, wet weather flows, an overflow basin is used to store the excess flow before returning it to the Primary Flow Equalization Basin. In the event that the overflow basin is not able to accommodate any additional wet weather flow, the excess secondary treated wastewater is diverted around the tertiary filters. These anticipated discharges are approved under the bypass conditions when the resulting combined discharge of fully treated (tertiary) and partially treated (secondary) wastewater complies with the effluent and receiving water limitations in this Order. (Refer to Standard Provisions I.G 3).

**6. Spill Reporting Requirements**

**a. Initial Notification**

Although State and Regional Water Board staff do not have duties as first responders, this requirement is an appropriate mechanism to ensure that the agencies that do have first responder duties are notified in a timely manner in order to protect public health and beneficial uses. For certain spills, overflows and bypasses, the Permittee shall make notifications as required below:

i. In accordance with the requirements of Health and Safety Code section 5411.5, the Permittee shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but no later than **two hours** after becoming aware of the release.

ii. In accordance with the requirements of Water Code section 13271, the Permittee shall provide notification to the California Office of Emergency Services (OES) of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but not later than two hours after becoming aware of the release. The CCR, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the OES is (800) 852-7550. In addition, the Permittee shall notify other interested persons of any such sewage spill by maintaining an email list of those interested persons that have requested such notification.

iii. The Permittee shall notify the Regional Water Board of any unauthorized release of sewage from its POTW that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than **two hours** after becoming aware of the release. This initial notification does not need to be made if the Permittee has notified OES and the local health officer or the director of environmental health with jurisdiction over the affected waterbody. The phone number for reporting these releases of

sewage to the Regional Water Board is (213) 576-6657. The phone numbers for after hours and weekend reporting of releases of sewage to the Regional Water Board are (213) 305-2284 and (213) 305-2253.

At a minimum, the following information shall be provided to the Regional Water Board:

a) The location, date, and time of the release.

b) The water body that received or will receive the discharge.

c) An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.

d) If ongoing, the estimated flow rate of the release at the time of the notification.

e) The name, organization, phone number and email address of the reporting representative.

**b. Monitoring**

For spills, overflows and bypasses reported under section VI.C.6.a, the Permittee shall monitor as required below:

i. To define the geographical extent of the spill's impact, the Permittee shall obtain grab samples (if feasible, accessible, and safe) for all spills, overflows or bypasses of any volume that reach any waters of the state (including surface and ground waters). For spills that reach freshwaters, the Permittee shall monitor for E. coli density. For spills that reach marine waters, the permittee shall monitor for total coliform, fecal coliform, and enterococcus density. For spills that reach fresh or marine waters, the permittee shall also monitor for relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible, and safe). This monitoring shall be done on a daily basis from the time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the Ventura County Health Care Agency authorizes cessation of monitoring.

**c. Reporting**

The initial notification required under section VI.C.6.a shall be followed by:

i. As soon as possible, **but not later than twenty-four hours** after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the Permittee shall submit a statement to the Regional Water Board by email at augustine.anijielo@waterboards.ca.gov. If the discharge is 1,000 gallons or more, this statement shall certify that OES has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:

a) Agency, NPDES No., Order No., and MRP CI No., if applicable.

b) The location, date, and time of the discharge.

c) The water body that received the discharge.

d) A description of the level of treatment of the sewage or other waste discharged.

e) An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.

f) The OES control number and the date and time that notification of the incident was provided to OES.

g) The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).

ii. A written preliminary report five working days after disclosure of the incident is required. Submission to the Regional Water Board of the California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow event number shall satisfy this requirement. Within 30 days after submitting the preliminary report, the Permittee shall submit the final written report to this Regional Water Board. (A copy of the final written report, for a given incident, already submitted pursuant to a statewide General WDRs for Wastewater Collection System Agencies, may be submitted to the Regional Water Board to satisfy this requirement.) The written report shall document the information required in paragraph d below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences. The Executive Officer, for just cause, can grant an extension for submittal of the final written report.

iii. The Permittee shall include a certification in the annual summary report (due according to the schedule in the MRP) that states that the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Permittee's preventive maintenance plan. Any deviations from or modifications to the plan shall be discussed.

**d. Records**

The Permittee shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:

i. The date and time of each spill, overflow, or bypass.

ii. The location of each spill, overflow, or bypass.

iii. The estimated volume of each spill, overflow, and bypass including gross volume, amount recovered, and amount not recovered, monitoring results as required by section VI.C.6.b.

iv. The cause of each spill, overflow, or bypass.

v. Whether each spill, overflow, or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances.

vi. Any mitigation measures implemented.

vii. Any corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.

viii. The mandatory information included in SSO online reporting for finalizing and certifying the SSO report for each spill, overflow, or bypass under the SSO WDR.

e. **Activities Coordination**

Although not required by this Order, Regional Water Board expects that the POTW's owners/operators will coordinate their compliance activities for consistency and efficiency with other entities that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a Municipal Separate Storm Sewer Systems (MS4) NPDES permit that may contain spill prevention, sewer maintenance, reporting requirements and (iii) the SSO WDR.

f. **Consistency with Sanitary Sewer Systems WDRs**

The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 United States Code sections 1311, 1342). The Permittee must comply with State Water Board No. 2006-0003-DWQ, Statewide *General Waste Discharge Requirements for Sanitary Sewer Systems*, (SSS WDR) as amended by State Water Board Order No. WQ 2013-0058-exec and any subsequent order updating these requirements. These statewide WDRs require public agencies that own or operate sanitary sewer systems with greater than one mile of sewer lines to enroll for coverage and comply with requirements, comply with requirements to develop and implement sewer system management plans, and report all sanitary sewer overflows (SSOs) to the State Water Board's online SSOs database. The Permittee enrolled in the SSS WDRs in 2006, and the collection systems of the Permittee are covered under the SSS WDRs. This NPDES permit also contains requirements pertaining to the Permittee's collection system. The Permittee must properly operate and maintain its collection system (40 CFR section 122.41 (e)), report any non-compliance (40 CFR section 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR section 122.41(d)).

The requirements contained in this Order in sections VI.C.3.b (SCCP Plan section), VI.C.4 (Construction, Operation and Maintenance Specifications section), and VI.C.6 (Spill Reporting Requirements section) are intended to be consistent with the requirements of the SSS WDR. The Regional Water Board recognizes that there may be some overlap between these NPDES permit provisions and the SSS WDR requirements, related to the collection systems. The requirements of the SSS WDR are considered the minimum thresholds (see finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board will accept the documentation prepared by the Permittees under the SSS WDR for compliance purposes as satisfying the requirements in sections

VI.C.3.b, VI.C.4, and VI.C.6 provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to SSS WDR, section D, provision 2(iii) and (iv), the provisions of this NPDES permit supersede the SSS WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative.

**7. 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. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be 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).

### B. Multiple Sample Data

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Permittee 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.

### C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation for the purpose of calculating mandatory minimum penalties; though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month) for the purpose of calculating discretionary administrative civil liabilities. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee may be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month with respect to the AMEL.

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Permittee will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Permittee may collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" section above, will be used for compliance determination.

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

**D. Average Weekly Effluent Limitation (AWEL)**

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week with respect to the AWEL.

A calendar week will begin on Sunday and end on Saturday. Partial calendar weeks at the end of calendar month will be carried forward to the next month in order to calculate and report a consecutive seven-day average value on Saturday.

**E. Maximum Daily Effluent Limitation (MDEL)**

If a daily discharge on a calendar day exceeds the MDEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for that day for that parameter. If no sample (daily discharge) is taken over a calendar day, no compliance determination can be made for that day with respect to effluent violation determination, but compliance determination can be made for that day with respect to reporting violation determination.

**F. Instantaneous Minimum Effluent Limitation**

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for that parameter 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).

**G. Instantaneous Maximum Effluent Limitation**

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for that parameter 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).

**H. Six-month Median Effluent Limitation**

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the Permittee will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median effluent limitation.

**I. Median Monthly Effluent Limitation (MMEL)**

If the median of daily discharges over a calendar month exceeds the MMEL for a given parameter, a potential violation will be flagged and the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). However, a potential 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**

The discharger is subject to determination of “Pass” or “Fail” and “Percent Effect” from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document,* Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1 (EPA 833-R-10-003, 2010). The null hypothesis (Ho) for the TST statistical approach is: Mean discharge In-stream Waste Concentration (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. This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations - in the case of Whole Effluent Toxicity (WET), only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is “Pass” or “Fail”)). The Welch’s t-test employed by the TST statistical approach is an adaptation of Student’s t-test and is used with two samples having unequal variances.

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.

The 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 and analyzed using the TST statistical approach, results in “Fail.” The MMEL for chronic toxicity shall only apply when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.”

The chronic toxicity MDEL and MMEL are set at the IWC for the discharge (100% effluent) and expressed in units of the TST statistical approach ("Pass" or "Fail", "Percent Effect"). All NPDES effluent compliance monitoring for the chronic toxicity MDEL and MMEL shall be reported using only the 100% effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (Ho) (see above) is statistically analyzed using the IWC and a negative control. Effluent toxicity tests shall be run using a multi-concentration test design when required by *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*). The Regional Water Board's review of reported toxicity test results will include review of concentration-response patterns as appropriate (see Fact Sheet discussion at IV.C.5). As described in the bioassay laboratory audit correspondence from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the No Observable Effect Concentration (NOEC) and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results. Standard Operating Procedures used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that incorporate a consideration of concentration-response patterns, must be submitted to the Regional Water Board (40 CFR section 122.41(h)). The Regional Water Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Permittee, the USEPA, the State Water Board's Quality Assurance Officer, or the State Water Board's Environmental Laboratory Accreditation Program (ELAP) as needed. The Board may consider the results of any TIE/TRE studies in an enforcement action.

**K. Percent Removal**

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

$$\text{Percent Removal (\%)} = [1-(C_{Effluent}/C_{Influent})] \times 100\%$$

When preferred, the Permittee may substitute mass loadings and mass emissions for the concentrations.

**L. Mass and Concentration Limitations**

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

**M. Compliance with Single Constituent Effluent limitations**

Permittees may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see section B "Multiple Sample Data Reduction" above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

**N. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents**

Permittees are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is

greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

**O. Compliance with 2,3,7,8-TCDD Equivalents**

TCDD equivalents shall be calculated using the following formula, where the MLs, and toxicity equivalency factors (TEFs) are as provided in the table below. The Permittee shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Permittee shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$Dioxin\ Concentration = \sum_{1}^{17}(TEQi) = \sum_{1}^{17}(Ci)(TEFi)$$

where:

Ci = individual concentration of a dioxin or furan congener

TEFi = individual TEF for a congener

**MLs and TEFs**

| Congeners | MLs (pg/L) | TEFs |
|---|---|---|
| 2,3,7,8-TetraCDD | 10 | 1.0 |
| 1,2,3,7,8-PentaCDD | 50 | 1.0 |
| 1,2,3,4,7,8-HexaCDD | 50 | 0.1 |
| 1,2,3,6,7,8-HexaCDD | 50 | 0.1 |
| 1,2,3,7,8,9-HexaCDD | 50 | 0.1 |
| 1,2,3,4,6,7,8-HeptaCDD | 50 | 0.01 |
| OctaCDD | 100 | 0.0001 |
| 2,3,7,8-TetraCDF | 10 | 0.1 |
| 1,2,3,7,8-PentaCDF | 50 | 0.05 |
| 2,3,4,7,8-PentaCDF | 50 | 0.5 |
| 1,2,3,4,7,8-HexaCDF | 50 | 0.1 |
| 1,2,3,6,7,8-HexaCDF | 50 | 0.1 |
| 1,2,3,7,8,9-HexaCDF | 50 | 0.1 |
| 2,3,4,6,7,8-HexaCDF | 50 | 0.1 |
| 1,2,3,4,6,7,8-HeptaCDFs | 50 | 0.01 |
| 1,2,3,4,7,8,9-HeptaCDFs | 50 | 0.01 |
| OctaCDF | 100 | 0.0001 |

**P. Compliance with Gross Beta/photon-Emitters**

The annual average performance goal for gross beta/photon is equal to 4 millirem/year with a screening level of 50 picoCuries per liter (pCi/L). Due to naturally occurring Potassium-40, the results of the gross beta from the Potassium-40 may be subtracted from the total gross beta activity to determine if the screening level is exceeded. The Potassium-40 beta particle activity must be calculated by multiplying elemental potassium concentration (in mg/L) by a factor of 0.82 to determine activity from Potassium-40. The Potassium-40 must be analyzed from the same or equivalent sample used for the gross beta analysis. If the gross beta particle activity minus the naturally occurring Potassium-40 beta particle activity is less than or equal to 50 picoCuries per liter (pCi/L), the facility meets the performance goal and the

value shall be reported as <4 millirem/year. If the gross beta particle activity minus the naturally occurring Potasium-40 beta particle activity exceeds the screening level, the Permittee must have the samples further analyzed for the individual nuclides. The calculation for the sum of the fractions is presented below.

The maximum contaminant level (MCL) for gross beta/photon emitters is equal to 4 millirem per year. A millirem is a dose of energy to the body or any internal organ. USEPA regulates 179 man-made nuclides, and each of them has a concentration of radiation measured in pCi/L, which produces the 4 millirem dose. These concentrations are listed on table, Derived Concentrations of (pCi/L) of Beta and Photon Emitters in Drinking Water, which shall be used to determine if performance goals are met.

## Derived Concentrations (pCi/l) of Beta and Photon Emitters in Drinking Water

Yielding a Dose of 4 mrem/yr to the Total Body or to any Critical Organ as defined in NBS Handbook 69

| Nuclide | pCi/l | Nuclide | pCi/l | Nuclide | pCi/l | Nuclide | pCi/l | Nuclide | pCi/l | Nuclide | pCi/l |
|---|---|---|---|---|---|---|---|---|---|---|---|
| H-3 | 20,000 | Ni-65 | 300 | Nb-95 | 300 | Sb-124 | 60 | Nd-147 | 200 | Os-191 | 600 |
| Be-7 | 6,000 | Cu-64 | 900 | Nb-97 | 3,000 | Sb-125 | 300 | Nd-149 | 900 | Os-191m | 9,000 |
| C-14 | 2,000 | Zn-65 | 300 | Mo-99 | 600 | Te-125m | 600 | Pm-147 | 600 | Os-193 | 200 |
| F-18 | 2,000 | Zn-69 | 6,000 | Tc-96 | 300 | Te-127 | 900 | Pm-149 | 100 | Ir-190 | 600 |
| Na-22 | 400 | Zn-69m | 200 | Tc-96m | 30,000 | Te-127m | 200 | Sm-151 | 1,000 | Ir-192 | 100 |
| Na-24 | 600 | Ga-72 | 100 | Tc-97 | 6,000 | Te-129 | 2,000 | Sm-153 | 200 | Ir-194 | 90 |
| Si-31 | 3,000 | Ge-71 | 6,000 | Tc-97m | 1,000 | Te-129m | 90 | Eu-152 | 200 | Pt-191 | 300 |
| P-32 | 30 | As-73 | 1,000 | Tc-99 | 900 | Te-131m | 200 | Eu-154 | 60 | Pt-193 | 3,000 |
| S-35 inorg | 500 | As-74 | 100 | Tc-99m | 20,000 | Te-132 | 90 | Eu-155 | 600 | Pt-193m | 3,000 |
| Cl-36 | 700 | As-76 | 60 | Ru-97 | 1,000 | I-126 | 3 | Gd-153 | 600 | Pt-197 | 300 |
| Cl-38 | 1,000 | As-77 | 200 | Ru-103 | 200 | I-129 | 1 | Gd-159 | 200 | Pt-197m | 3,000 |
| K-42 | 900 | Se-75 | 900 | Ru-105 | 200 | I-131 | 3 | Tb-160 | 100 | Au-196 | 600 |
| Ca-45 | 10 | Br-82 | 100 | Ru-106 | 30 | I-132 | 90 | Dy-165 | 1,000 | Au-198 | 100 |
| Ca-47 | 80 | Rb-86 | 600 | Rh-103m | 30,000 | I-133 | 10 | Dy-166 | 100 | Au-199 | 600 |
| Sc-46 | 100 | Rb-87 | 300 | Rh-105 | 300 | I-134 | 100 | Ho-166 | 90 | Hg-197 | 900 |
| Sc-47 | 300 | Sr-85m | 20,000 | Pd-103 | 900 | I-135 | 30 | Er-169 | 300 | Hg-197m | 600 |
| Sc-48 | 80 | Sr-85 | 900 | Pd-109 | 300 | Cs-131 | 20,000 | Er-171 | 300 | Hg-203 | 60 |
| V-48 | 90 | Sr-89 | 20 | Ag-105 | 300 | Cs-134 | 80 | Tm-170 | 100 | Tl-200 | 1,000 |
| Cr-51 | 6,000 | Sr-90 | 8 | Ag-110m | 90 | Cs-134m | 20,000 | Tm-171 | 1,000 | Tl-201 | 900 |
| Mn-52 | 90 | Sr-91 | 200 | Ag-111 | 100 | Cs-135 | 900 | Yb-175 | 300 | Tl-202 | 300 |
| Mn-54 | 300 | Sr-92 | 200 | Cd-109 | 600 | Cs-136 | 800 | Lu-177 | 300 | Tl-204 | 300 |
| Mn-56 | 300 | Y-90 | 60 | Cd-115 | 90 | Cs-137 | 200 | Hf-181 | 200 | Pb-203 | 1,000 |
| Fe-55 | 2,000 | Y-91 | 90 | Cd-115m | 90 | Ba-131 | 600 | Ta-182 | 100 | Bi-206 | 100 |
| Fe-59 | 200 | Y-91m | 9,000 | In-113m | 3,000 | Ba-140 | 90 | W-181 | 1,000 | Bi-207 | 200 |
| Co-57 | 1,000 | Y-92 | 200 | In-114m | 60 | La-140 | 60 | W-185 | 300 | Pa-230 | 600 |
| Co-58 | 300 | Y-93 | 90 | In-115 | 300 | Ce-141 | 300 | W-187 | 200 | Pa-233 | 300 |
| Co-58m | 9000 | Zr-93 | 2,000 | In-115m | 1,000 | Ce-143 | 100 | Re-186 | 300 | Np-239 | 300 |
| Co-60 | 100 | Zr-95 | 200 | Sn-113 | 300 | Ce-144 | 30 | Re-187 | 9,000 | Pu-241 | 300 |
| Ni-59 | 300 | Zr-97 | 60 | Sn-125 | 60 | Pr-142 | 90 | Re-188 | 200 | Bk-249 | 2,000 |
| Ni-63 | 50 | Nb-93m | 1,000 | Sb-122 | 90 | Pr-143 | 100 | Os-185 | 200 | | |

The sum of the fraction method is used because each photon emitter targets a different organ of the body, which results in a different magnitude of risk. The sum of the beta and photon emitters shall not exceed 4 millirem/year (40 CFR section 141.66(d)(2)).

Each nuclide has a different concentration that produces 4 millirem dose because different radionuclides have different energy levels. Some nuclides need to be in a higher concentration to give the same 4 millirem dose.

The laboratory shall measure the nuclide concentration in the water and compare this result to the concentration allowed for that particular nuclide (see table below). The comparison results in a fraction. This is shown in the calculation below:

Fraction of the maximum

$$\text{4 millirem/year exposure limit} = \frac{pCi/L\ found\ in\ sample\ (from\ laboratory\ results)}{pCi/L\ equivalent\ from\ 4\ millirem\ of\ exposure\ (from\ conversion\ table)}$$

Each fraction must then be converted to a dose equivalent of 4 millirem/year by multiplying the fraction by 4. The results for each emitter must be summed to determine compliance.

A sample calculation is presented in the table below:

| Emitter | X | Y | X/Y | 4(X/Y) |
|---|---|---|---|---|
| | Lab Analysis (pCi/L) | Conversion from table (pCi/4millirem) | Calculate Fraction | Calculate Total (millirem) |
| Cs-134m | 5,023 | 20,000 | 0.25115 | 1.0 |
| Cs-137 | 30 | 200 | 0.150 | 0.6 |
| Sr-90 | 4 | 8 | 0.5 | 2.0 |
| I-131 | 2 | 3 | 0.7 | 2.8 |
| Sum of the Fractions | | | 1.60115 | 6.4 |

The discharge would be considered in exceedance of the gross beta/photon performance goals if the “sum-of-the-fractions” is 6.4 millirem, which means that the sum of the annual dose equivalent to the total body, or to any internal organ, exceeds 4 millirem/year. If any two consecutive samples have exceeded the performance goals, the Permittee shall investigate the cause of the exceedance. If the exceedance persists in three successive monitoring periods, the Permittee shall submit a written report to the Regional Water Board.

**Q. Mass Emission Rate**

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N}\sum_{i=1}^{N} Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N}\sum_{i=1}^{N} Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

## R. Bacterial Standards and Analysis

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

   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. The geometric mean values should be calculated during a calendar year as a six-week rolling average GM, calculated weekly.

2. 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 methods used for each analysis shall be reported with the results of the analyses.

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

   Detection methods used for enterococcus shall be those presented in Table 1A of 40 CFR part 136 or in the USEPA publication EPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

## S. Single Operational Upset (SOU)

A SOU that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Permittee's liability in accordance with the following conditions:

1. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

2. A Permittee may assert SOU to limit liability only for those violations which the Permittee submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.

3. For purpose outside of Water Code section 13385 subdivisions (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

4. For purpose of Water Code section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Permittees to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with Water Code section 13385 (f)(2).

# ATTACHMENT A – DEFINITIONS

**Arithmetic Mean ($\mu$)**
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: $\Sigma x$ 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.

**Biosolids**
Biosolids refer to sewage sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 CFR part 503.

**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 (WQBEL), 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 USEPA 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 California Water Code (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 Monthly Effluent Limitation (MMEL)**
For the purposes of chronic aquatic toxicity, MMEL is an effluent limitation based on a maximum of three independent toxicity tests, analyzed using the TST.

**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 defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results, as defined in in 40 CFR part 136, Attachment B, revised as of January 6, 2020.

**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 WQBEL. 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 its 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 Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (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 ($\sigma$)**
Standard Deviation is a measure of variability that is calculated as follows:

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

where:

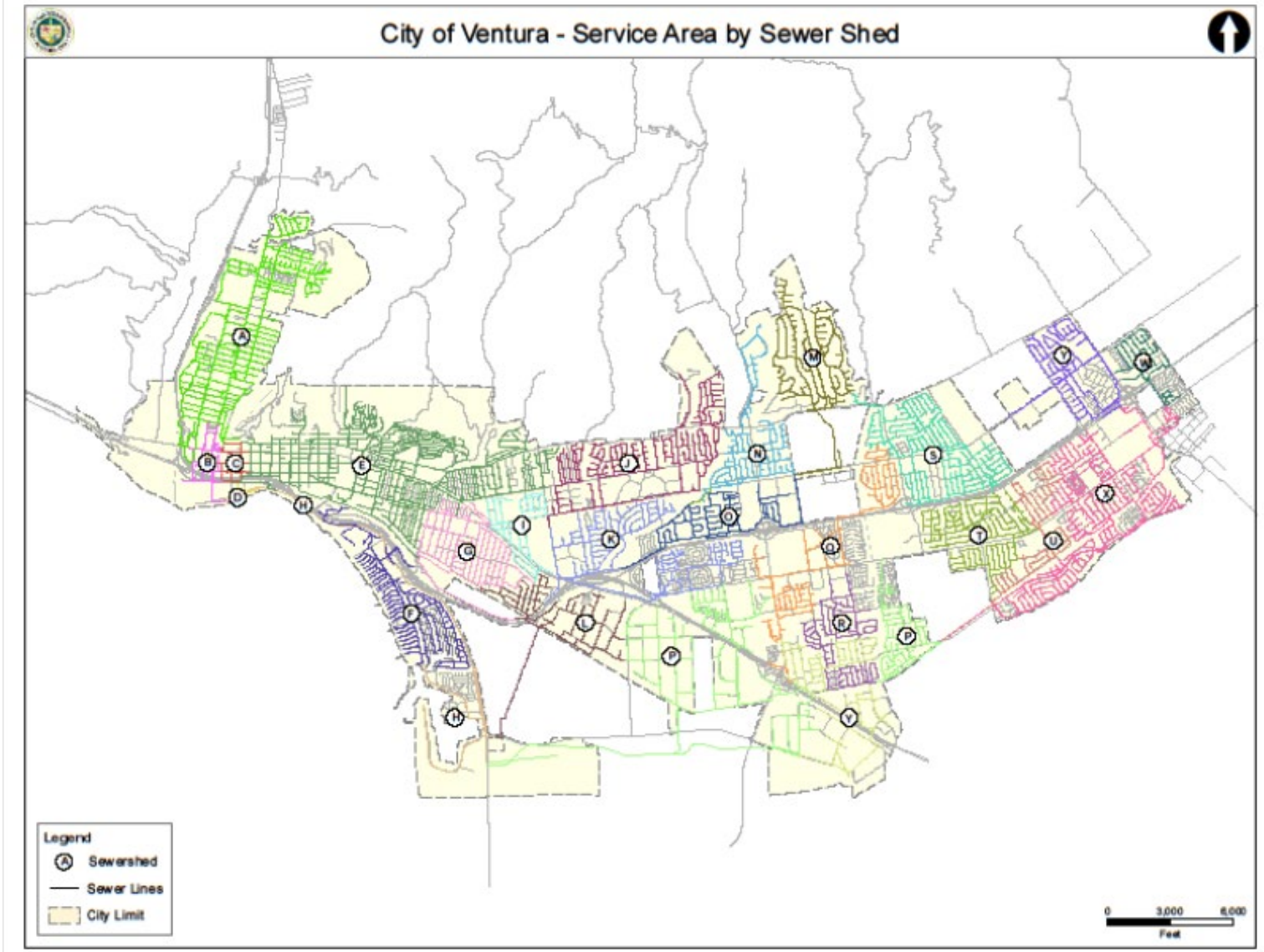
x is the observed value;
$\mu$ is the arithmetic mean of the observed values; and
n is the number of samples.

**Statistical Threshold Value (STV)**
The STV for the bacteria water quality objective is a set value that approximates the 90$^{th}$ percentile of the water quality distribution of a bacteria population.

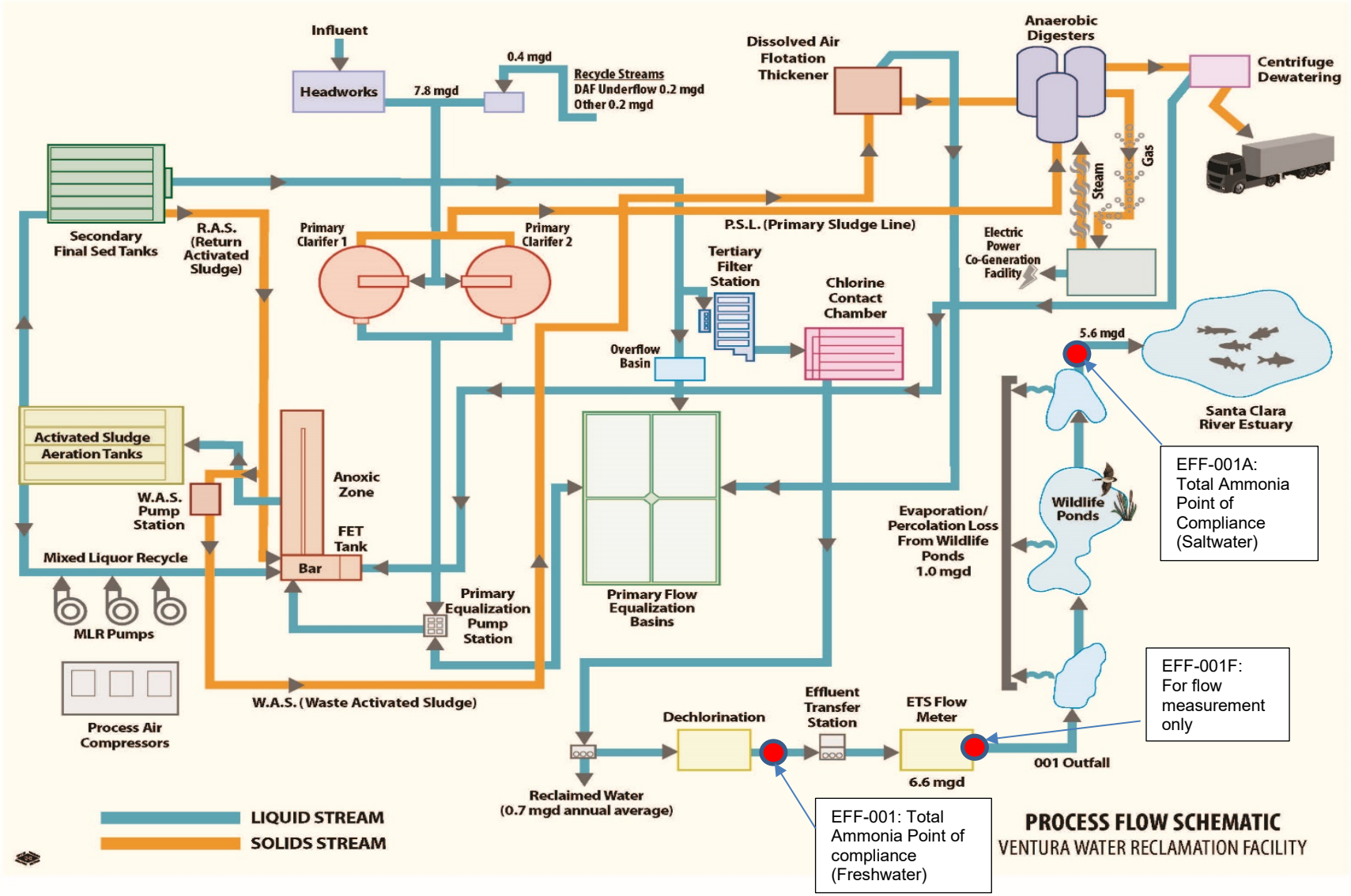
**Toxicity Reduction Evaluation (TRE)**
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first 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.)

## ATTACHMENT B-1 – MAP OF VENTURA WRF

## ATTACHMENT B-2 – MAP OF VENTURA SERVICE AREA



## ATTACHMENT C – VENTURA WRP FLOW SCHEMATIC



# 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 (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 CFR section 122.41(a); Water Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under Part 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA 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. (Title 40 of the Code of Federal Regulations (40 CFR) section 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 CFR section 122.41(c).)

### C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use of disposal in violation of this order that has a reasonable likelihood of adversely affecting human health or the environment (40 CFR section 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 include 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 CFR section 122.41(e).)

### E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)

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 CFR section 122.5(c).)

### F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, USEPA, 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. section 1318(a)(B); 40 CFR section 122.41(i); Water Code, sections 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. section 1318(a)(4)(B)(i); 40 CFR section 122.41(i)(1); Water Code, sections13267, 13383);

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

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. section 1318(a)(4)(B)(ii); 40 CFR section 122.41(i)(3); Water Code, sections 13267, 13383); and

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 parameters at any location. (33 U.S.C. section 1318(a)(4)(B); 40 CFR section 122.41(i)(4); Water Code, sections 13267, 13383.)

**G. Bypass**

1. Definitions

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 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 CFR section 122.41(m)(1)(ii).)

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 CFR section 122.41(m)(2).)

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

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 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 CFR section 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 CFR section 122.41(m)(4)(i)(C).)

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 CFR section 122.41(m)(4)(ii).)

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 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 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 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 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 CFR section 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 CFR section 122.41(n)(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 CFR section 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 CFR section 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 CFR section 122.41(n)(3)(iii)); and

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

Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR section 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 CFR section 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 CFR section 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 CFR sections122.41(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 CFR section 122.41(j)(1).)

**B.** Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter 1, subchapter N or O. 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 parameter, 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 parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or otherwise required under 40 CFR chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 CFR section 122.21(e)(3).

## IV. STANDARD PROVISIONS – RECORDS

**A.** Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));

The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));

The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));

The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));

The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and

The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)

**B.** Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and

Permit applications and attachments, permits and effluent data. (40 CFR section 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 USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 USEPA copies of records required to be kept by this Order. (40 CFR section 122.41(h); Water Code, sections 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, V.B.5, and V.B.6 below. (40 CFR section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR section 122.22(a)(3).).

All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA 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 CFR section 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 CFR section 122.22(b)(2)); and

c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR section 122.22(b)(3).)

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 CFR section 122.22(c).)

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 CFR section 122.22(d).)

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 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 CFR section 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 CFR section 122.41(l)(4).)

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board Name or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. 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 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127.

If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR chapter 1, subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board.

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

### 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 CFR section 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 electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR

part 3, 40 CFR section 122.22, and 40 CFR 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 CFR section 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 CFR section 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 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 CFR section 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 CFR section 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 CFR section 122.41(l)(1)(i)); or

The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR section 122.41(l)(1)(ii).)

The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR section 122.41(l)(1)(iii).)

### 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 CFR section 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 CFR 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 CFR section 122.41(l)(7).)

### 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 USEPA, the Discharger shall promptly submit such facts or information. (40 CFR section 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 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). USEPA 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 CFR section 127.2(c)]. U.S. EPA will update and maintain this listing.
(40 CFR section 122.41(l)(9).)

## VI. STANDARD PROVISIONS – ENFORCEMENT

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

**B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both. Any person who *knowingly* violates such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who *knowingly* violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions (40 CFR section 122.41(a)(2); Water Code section 13385 and 13387).

**C.** Any person may be assessed an administrative penalty by the Administrator of USEPA, the Regional Water Board, or State Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000. (40 CFR section 122.41(a)(3)).

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

**E.** The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both. (40 CFR section 122.41(k)(2)).

## VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

### A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR section 122.42(b)):

**1.** Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR section 122.42(b)(1)); and

Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR section 122.42(b)(2).)

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR section 122.42(b)(3).)

# ATTACHMENT E – MONITORING AND REPORTING PROGRAM

## CONTENTS



## TABLES

# ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP), CI-1822

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 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (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.** All samples shall be representative of the waste discharge under conditions of peak load. Quarterly analyses and sampling shall be performed during the 1st quarter (January, February, and March) the 2nd quarter (April, May, and June), the 3rd quarter (July, August, and September), and the 4th quarter (October, November, and December). Semiannual analyses and sampling shall be performed during the 1st quarter (January, February, and March) and the 3rd quarter (July, August, and September). Annual analyses shall be performed during the 3rd quarter (July, August, and September) with the exception of bioassessment per MRP section IX.A. Should there be instances when monitoring could not be done during these specified months, the Permittee must notify the Regional Water Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of monthly, quarterly, semiannual, and annual analyses shall be reported by the due date specified in Table E-8 of the MRP.

**B.** Pollutants shall be analyzed using the analytical methods described in 40 CFR sections136.3, 136.4, and 136.5; or where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

**C.** Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board), 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 in the Annual Report due to the Regional Water Board each time a new certification and/or renewal of the certification is obtained.

**D.** Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR section 136.3. All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Permittee shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Water Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.

**E.** The Permittee shall calibrate and perform maintenance procedures on all monitoring instruments to ensure accuracy of measurements or shall ensure that both equipment activities will be conducted.

**F.** For any analyses performed for which no procedure is specified in the United States Environmental Protection Agency (USEPA) guidelines, or in the MRP, the constituent or parameter analyzed, and the method or procedure used must be specified in the monitoring report.

**G.** Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the State Water Resources Control Board Division of Drinking

Water's (DDWs) Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this Monitoring and Reporting Program."

**H.** The monitoring report shall specify the analytical method used, the Method Detection Limit (MDL), and the Reporting Level (RL) [the applicable minimum level (ML) or reported Minimum Level (RML)] for each pollutant. The MLs are those published by the State Water Resources Control Board (State Water Board) in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, (State Implementation Policy or SIP),* February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the RL.

**I.** The Permittee shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section K, below. If the effluent limitation is lower than all the MLs in Appendix 4 of the SIP, the Permittee must select the method with the lowest ML for compliance purposes. The Permittee shall include in the Annual Summary Report a list of the analytical methods employed for each test.

**J.** The Permittee shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section K, below, the Permittee's laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.

**K.** In accordance with section 2.4.3 of the SIP, the Regional Water Board Executive Officer, in consultation with the State Water Board's Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the Permittee's permit in any of the following situations:

1. When the pollutant under consideration is not included in Appendix 4, SIP;
2. When the Permittee and the Regional Water Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR part 136;
3. When the Permittee agrees to use an ML that is lower than those listed in Appendix 4;
4. When the Permittee demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,
5. When the Permittee uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-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 Permittee, 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.

If there is any conflict between foregoing provisions and the SIP, the provisions stated in the SIP (section 2.4) shall prevail.

**L.** If the Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with limitations set forth in this Order.

**M.** The Permittee shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Water Board upon request and a spill summary shall be included in the annual summary report.

**N.** For all bacteriological 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 methods used for each analysis shall be reported with the results of the analyses.

1. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR part 136, unless alternate methods have been approved in advance by the USEPA pursuant to 40 CFR part 136.
2. Detection methods used for E.coli shall be those presented in Table 1A of 40 CFR part 136 or in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure*, or any improved method determined by the Regional Water Board to be appropriate.
3. USEPA recommends using U.S. EPA Method 1600 or other equivalent method to measure cultural enterococci as geometric means and statistical threshold values in colony forming units per 100 milliliters as described in *Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California-Bacteria Provisions and a Water Quality Standards Variance Policy,* August 7, 2018.

**O.** The Permittee 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 LOCATIONS

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 |
|---|---|---|
| -- | INF-001 | Influent Monitoring Station: Influent pump stations located in the main stream of the influent channel prior to the headworks and any process stream addbacks, adjacent to Harbor Boulevard. Latitude: 34.24040°, Longitude: -119.25709° |
| 001 | EFF-001 | Effluent Monitoring Station: Located at the effluent transfer station, downstream of all treated effluent processes, including the final disinfection, and above the wildlife ponds. (Previously designated as M-001) Latitude: 34.23937°, Longitude: -119.25870° |
| 001 | EFF-001F | Effluent Monitoring Station: At the flow meter located downstream from EFF-001 and is used for flow measurement only. (Previously designated as M-001F) Latitude: 34.23981°, Longitude: -119.26075° |
| 001 | EFF-001A | Effluent Monitoring Station: Located below the wildlife ponds and northeast of the Parshall flume at Latitude: 34.23686°, Longitude: -119.25946°. (Previously designated as M-001A) |
| -- | RSW-001 | Receiving Water Monitoring Station: Located on the southeast shoreline of the Santa Clara River Estuary. Location may move as shoreline changes, within 200 feet from Latitude: 34.23211°, Longitude: -119.25766° with actual latitude and longitude to be reported with results. (Previously designated as R-001) |
| -- | RSW-002 | Receiving Water Monitoring Station: Located at the south shoreline of the Santa Clara River Estuary. Location may move as shoreline changes, within 200 feet from Latitude: 34.22982°, Longitude: -119.26199° with actual latitude and longitude to be reported with results. (Previously designated as R-002) |
| -- | RSW-003 | Receiving Water Monitoring Station: Located at the west shoreline of the Santa Clara River Estuary at the mouth of the outlet, where breaching has most recently occurred with the exact latitude and longitude to be reported with results. Approximately Latitude: 34.23081°, Longitude: -119.26443°. (Previously designated as R-003) |
| -- | RSW-004 | Receiving Water Monitoring Station: Located at the northwest shoreline of the Santa Clara River Estuary, immediately downstream of the discharge point to the Estuary, may move as shoreline changes, within 200 feet from Latitude: 34.23449°, Longitude: -119.26505° with actual latitude and longitude to be reported with results. (Previously designated as R-004) |

| Discharge Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| -- | RSW-005 | Receiving Water Monitoring Station: Located at the Harbor Boulevard Bridge crossing of the Santa Clara River at the Estuary boundary. This sampling location is where the greatest volume of river water enters the Estuary, with the exact latitude and longitude to be reported with results.<br>But when the Estuary is flooded the location is at Latitude: 34.23379°, Longitude: -119.25661°. (Previously designated as R-005) |

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

## III. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to:

1. Determine compliance with NPDES permit conditions.
2. Assess treatment plant performance.
3. Assess effectiveness of the Pretreatment Program

### A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the facility at INF-001 as follows:

**Table E-2. Influent Monitoring**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Flow | MGD | recorder | continuous[1] | [1] |
| pH | pH unit | grab | weekly | [2] |
| Total Suspended Solids | mg/L | 24-hour composite | weekly | [2] |
| $BOD_5$ 20°C | mg/L | 24-hour composite | weekly | [2] |
| Total Nitrogen | mg/L | calculation | monthly | [2] |
| Copper | µg/L | 24-hour composite | monthly | [2] |
| Zinc | µg/L | 24-hour composite | monthly | [2] |
| Nickel | µg/L | 24-hour composite | monthly | [2] |

[1] Total daily flow, monthly average flow, and instantaneous peak daily flow (24-hr basis) shall be reported. Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; where no methods are specified for a given pollutant, those methods shall be approved by this Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Remaining Priority Pollutants[3] excluding asbestos | µg/L | 24-hour composite/grab for VOCs, Cyanide, bis(2-ethylhexyl)phthalate, and Chromium VI | semiannually | [2] |
| Pesticides[4] | µg/L | 24-hour composite | semiannually | [2] |

## IV. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

1. Determine compliance with NPDES permit conditions and water quality standards.
2. Assess plant performance, identify operational problems and improve plant performance.
3. Provide information on wastewater characteristics and flows for use in interpreting water quality and biological data.
4. Perform reasonable potential analysis for toxic pollutants.
5. Determine TMDL effectiveness in WLA compliance.

### A. Minimum Level (ML) and Analytical Method Selection

1. Minimum Level (ML) and Sufficiently Sensitive Methods (SSM)

   USEPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. For the purposes of the NPDES program, when more than one test procedure is approved under 40 CFR part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv). Both 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv) apply to the selection of a sufficiently sensitive analytical method for the purposes of monitoring and reporting under NPDES permits, including review of permit applications. A USEPA-approved analytical method is sufficiently sensitive where:

   a. The ML is at or below both the level of the applicable water quality criterion/objective and the permit limitation for the measured pollutant or pollutant parameter; or

   b. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

   c. The method has the lowest ML of the USEPA-approved analytical methods where none of the USEPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.

[3] Priority pollutants are those constituents referred to in 40 CFR section 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

[4] Pesticides are, for purpose of this Order, shall mean the six (6) constituents referred to in 40 CFR section 125.58(p) (methoxychlor, demeton, guthion, malathion, mirex, and parathion).

The MLs in SIP Appendix 4 remain applicable. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the SIP. For instance, USEPA Method 1631E for mercury is not currently listed in SIP Appendix 4, but it is published with an ML of 0.5 ng/L that makes it a sufficiently sensitive analytical method, and should be applied for measuring Mercury under this Order.

### B. Monitoring Location EFF-001 and EFF-001F

1. The Discharger shall monitor the discharge of tertiary-treated effluent at EFF-001. Only the total waste flow is measured at EFF-001F. Total ammonia shall be monitored at both EFF-001 and EFF-001A. At EFF-001A, total ammonia shall be collected using a grab sample. 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-3. Effluent Monitoring**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and (Minimum Level, units), respectively |
|---|---|---|---|---|
| Total waste flow | MGD | recorder | continuous[5] | [5] |
| Turbidity | NTU | recorder | continuous[5] | [6] |
| Total residual chlorine | mg/L | recorder | continuous[7] | [6] |
| Total residual chlorine | mg/L | grab | daily[8] | [6] |
| Total coliform | MPN/100mL or CFU/100mL | grab | daily[9] | [6] |
| Fecal coliform | MPN/100mL or CFU/100mL | grab | daily[9] | [6] |
| Enterococci | MPN/100mL or CFU/100mL | grab | weekly[9] | [6] |
| Temperature | °F | grab | weekly | [6] |
| pH | pH units | grab | weekly | [6] |

[5] Where continuous monitoring of a constituent is required, the following shall be reported:

Total waste flow – Total daily and peak daily flow (24-hr basis);

Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded 5 NTU, flow proportioned average daily value. Grab sample can be used to determine compliance with the 5 NTU limit. A flow-weighted 24-hour composite sample may be used in place of the recorder to determine the flow-proportioned average daily value.

[6] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; where no methods are specified for a given pollutant, pollutants shall be analyzed using methods approved by this Regional Water Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Appendix 4 of the SIP, the analytical method with the lowest ML must be selected.

[7] Total residual chlorine shall be recorded continuously. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak and average daily from the recorded media and shall be reported on the monthly monitoring reports. The continuous monitoring data are not intended to be used for compliance determination purposes. In addition, calibration records for the TRC analyzer shall be submitted quarterly.

[8] Daily grab samples shall be collected at monitoring location EFF-001. Analytical results of daily grab samples will be used to determine compliance with total residual chlorine effluent limitation.

[9] Daily grab samples shall be collected at the end of the contact chlorine chamber, adjacent to monitoring location EFF-001.

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and (Minimum Level, units), respectively |
|---|---|---|---|---|
| Settleable Solids | ml/L | grab | daily | [6] |
| Total Suspended Solids (TSS) | mg/L | 24-hour composite | daily | [6] |
| $BOD_5$ 20°C | mg/L | 24-hour composite | daily | [6] |
| Oil and grease | mg/L | grab | weekly | [6] |
| Dissolved oxygen | mg/L | grab | daily | [6] |
| Total Ammonia | mg/L | 24-hour composite | monthly | [6] |
| Nitrite nitrogen | mg/L | 24-hour composite | monthly | [6] |
| Nitrate nitrogen | mg/L | 24-hour composite | monthly | [6] |
| Organic nitrogen | mg/L | calculation | monthly | [6] |
| Total Kjeldahl nitrogen | mg/L | 24-hour composite | monthly | [6] |
| Total nitrogen | mg/L | calculation | monthly | [6] |
| Phosphate | mg/L | 24-hour composite | monthly | [6] |
| Total phosphorus | mg/L | 24-hour composite | monthly | [6] |
| Surfactants (MBAS) | mg/L | 24-hour composite | monthly | [6] |
| Surfactants (CTAS) | mg/L | 24-hour composite | monthly | [6] |
| Total dissolved solids | mg/L | 24-hour composite | quarterly | [6] |
| Total hardness ($CaCO_3$) | mg/L | 24-hour composite | monthly | [6] |
| Chlorophyll *a* | mg/L | grab | monthly | [6] |
| Chronic toxicity | Pass or Fail, % Effect (TST) | 24-hour composite | monthly | [10] |
| Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium) | pCi/L (millirem/year for gross beta) | 24-hour composite | semiannually | [11] |
| Copper | µg/L | 24-hour composite | monthly | [6] |
| Nickel | µg/L | 24-hour composite | monthly | [6] |
| Zinc | µg/L | 24-hour composite | monthly | [6] |
| Selenium | µg/L | 24-hour composite | semiannually | [6] |
| Bis(2-ethylhexyl)phthalate | µg/L | grab | semiannually | [6] |
| 2,3,7,8-TCDD[12] | pg/L | 24-hour composite | semiannually | [6] |

[10] The Permittee shall conduct whole effluent toxicity monitoring as outlined in section V. Please 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 a discharge on more than one day in a calendar month period, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail."

[11] Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for tritium, strontium-90 and uranium.

[12] In accordance with the SIP, the Discharger shall conduct monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and (Minimum Level, units), respectively |
|---|---|---|---|---|
| Perchlorate | µg/L | grab | semiannually | [13] |
| 1,4-Dioxane | µg/L | grab | semiannually | [13] |
| 1,2,3-Trichloropropane | µg/L | grab | semiannually | [13] |
| Methyl tert-butyl-ether (MTBE) | µg/L | grab | semiannually | [13] |
| Iron | µg/L | 24-hour composite | semiannually | [6] |
| PCBs as aroclors[14] | µg/L | 24-hour composite | annually | [6] |
| PCBs as congeners[15] | pg/L | 24-hour composite | annually | [6] |
| Remaining priority pollutants (excluding asbestos and PCBs) | µg/L | 24-hour composite; grab for VOCs, cyanide and chromium VI | semiannually | [6] |
| Mercury[16] | ng/L | grab | monthly | [6] |

Total Residual Chlorine Additional Monitoring

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Station RSW-005, located upstream of discharge point 001. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result ($C_i$) and their corresponding Toxicity Equivalence Factor ($TEF_i$), (i.e., $TEQ_i = C_i \times TEF_i$). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{1}^{17}(TEQ_i) = \sum_{1}^{17}(C_i)(TEF_i)$$

[13] Emerging chemicals include 1,4-dioxane (USEPA 8270M test method), perchlorate (USEPA 314 test method, or USEPA method 331 if a detection limit of less than 6 µg/L is achieved ), 1,2,3-trichloropropane (USEPA 504.1, 8260B test method, or USEPA 524.2 in SIM mode), and methyl tert-butyl ether (USEPA 8260B test method or USEPA method 624.1 if a detection level of less than 5 µg/L is achieved, and if the Permittee received ELAP certification to run USEPA method 624.1).

[14] PCBs as Aroclors is the sum of PCB 1016, PCB 1221, PCB 1232, PCB 1242, PCB 1248, PCB 1254, and PCB 1260 when monitoring using USEPA method 608.3.

[15] PCBs as congeners shall mean the sum of 41 congeners when monitoring using USEPA proposed method 1668c. PCB-18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105,110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 201, and 206 shall be individually quantified, or quantified as co-elutions as appropriate. PCBs as congeners shall be analyzed using method EPA 1668C for three years and may be discontinued for the remaining life of this Order if none of the PCB congeners are detected using method EPA 1668C.

USEPA recommends that until USEPA proposed method 1668C for PCBs is incorporated into 40 CFR 136, Permittees should use for discharge monitoring reports/State monitoring reports: (1) USEPA method 608.3 for monitoring data, reported as aroclor results, that will be used for assessing compliance with WQBELs (if applicable) and (2) USEPA proposed method 1668C for monitoring data, reported as 41 congener results, that will be used for informational purposes.

[16] USEPA Method 1631E, per 40 CFR part 136, with a quantification level of 0.5 ng/L, shall be used to analyze total mercury. If an alternative method with an equivalent or more sensitive method detection limit is approved in 40 CFR part 136, the Discharger may use that method in lieu of USEPA Method 1631E.

Continuous monitoring of total residual chlorine at the current location shall serve as an internal trigger for the increased grab sampling at EFF-001 if either of the following occurs, except as noted in item c:

a. Total residual chlorine concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or

b. Total residual chlorine concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.

c. Additional grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Chronic Toxicity Testing

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

The chronic toxicity IWC for this discharge 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 receiving water, sufficient sample volume shall also be collected during accelerated monitoring for subsequent Toxicity Identification Evaluation (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 between 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 parts per thousand (ppth), the Permittee 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 West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. 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 1006.0).

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 beginning the first month the permit is in effect. The Permittee shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis,* a second and third sample may be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass," then 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. If only one species fails, then that species shall be used for routine monitoring during the permit cycle. If two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time as a rescreening is required (24 months later).

Species sensitivity rescreening is required every 24 months if there has been discharge during dry weather conditions. If the intermittent discharge is only during wet weather, rescreening is not required. If rescreening is necessary, the Permittee shall rescreen with the marine vertebrate species, a marine invertebrate species, and alga species previously referenced 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 suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Permittee shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

**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) statistical approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A, Figure A-1, Table A-1 and Appendix B, Table B-1 (EPA 833-R-10-003, 2010). The null hypothesis ($H_o$) 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. This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations - in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail")). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

b. The MMEL for chronic toxicity only applies when there is a discharge on more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests may be conducted when one toxicity test results in "Fail."

c. If the receiving water chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995*) (see Table E-4, below), then the Permittee must re-sample and re-test within 14 days.

**Table E-4. USEPA Test Methods and Test Acceptability Criteria for West Coast Marine and**

| Species & USEPA Test Method Number | Test Acceptability Criteria (TAC) |
|---|---|
| Topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0, Table 3 of the test method, above). | ≥80% survival in controls; 0.85 mg average weight of control larvae (9 day old), LC50 with copper must be ≤205 µg/L, <25% Minimum Significant Difference (MSD) for survival and <50% MSD for growth. |
| Purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0, Table 7 of the test method, above) | ≥70% egg fertilization in controls; %MSD of <25%; and appropriate sperm counts. |
| Red abalone, *Haliotis rufescens* (Larval Shell Development Test Method, Table 3 of the test method, above). | ≥80% normal shell development in the controls; must have statistical significant effect at 56 µg/L zinc; must achieve a %MSD of <20%. |
| Giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0 (Table 3 of the test method, above). | ≥70% germination in the controls; ≥10 µm germ-tube length in the controls and the NOEC must be below 35 µg/L in the reference toxicant test; must achieve a %MSD of <20 for both germination and germ-tube length in the reference toxicant. |

d. Dilution water and control water, including brine controls, shall be 1-µm-filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or 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. When preparing samples for toxicity testing, in addition to the required monitoring for conductivity, etc., it is recommended that total alkalinity and total hardness be measured in the undiluted effluent, receiving water, dilution water, and culture water (following the WET methods manual), as well as the major geochemical ions (see Mount et al., 2018).

f. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using EC2517.

[17] EC25 is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g., death, immobilization, or serious incapacitation) in 25 percent of the test organisms.

g. The Permittee 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 rational is explained in the Fact Sheet (Attachment F).

**6. Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan**

The Permittee shall prepare and submit a copy of the Permittee's initial investigation TRE work plan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The Permittee shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Work Plan must contain the provisions in Attachment G. This work plan shall describe the steps that the Permittee intends to follow if toxicity is detected. At minimum, the work plan shall include:

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

b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility.

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

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

When there is discharge on more than one day in a calendar month, the Median Monthly summary result shall be used to determine if accelerated testing needs to be conducted. When there is discharge on only one day in a calendar month, the Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Permittee becomes aware of this result, the Permittee shall implement an accelerated monitoring schedule within five calendar days of the receipt of the results. However, if the sample is contracted out to a commercial laboratory, the Permittee shall ensure that the first of four accelerated monitoring tests is initiated within seven calendar days of the Permittee becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including IWC), conducted at approximately two-week intervals, over an eight- week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass", the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail," the Permittee shall immediately implement the TRE Process conditions set forth below.

**8. TRE Process**

During the TRE Process, monthly effluent monitoring shall resume and TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

a. **Preparation and Implementation of Detailed TRE Work Plan**. The Permittee shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/833/B-99/002, 1999) and, within 30 days, submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:

   i. Further actions by the Permittee to investigate, identify, and correct the causes of toxicity.

   ii. Actions the Permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.

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

b. **TIE Implementation**. The Permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003, 1991); Chronic TIE Manual: Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F, 1992); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

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 Permittee 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 Permittee shall continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE process is taking place. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.

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.

f. The Board may consider the results of any TIE/TRE studies in an enforcement action.

**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 valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-8.

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

c. The statistical analysis used in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1.

d. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TIE/TRE report, the Permittee shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.

e. Statistical program (e.g., TST calculator, CETIS (Comprehensive Environmental Toxicity Information System), etc.) output results, including graphical plots, for each toxicity test.

f. Tabular data and graphical plots clearly showing the laboratory’s performance for the reference toxicant for the previous 20 tests and the laboratory’s performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.

g. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon request from the Regional Water Board Executive Officer.

**B. Ammonia Removal**

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

    a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.

    b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.

    c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

    d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent.

Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

### C. Chlorine Removal

1. Except with prior approval from the Executive Office of the Regional Water Board, chlorine shall not be removed from bioassay samples.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – Not Applicable

## VII. RECYCLING MONITORING REQUIREMENTS – Not Applicable

## VIII. RECEIVING WATER MONITORING REQUIREMENTS

### A. Monitoring Location RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005

1. The Discharger shall monitor the receiving water stations at RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005 as follows:

**Table E-5. Receiving Water Monitoring Requirements**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Turbidity | NTU | grab | quarterly | [18] |
| Total residual chlorine | mg/L | grab | monthly | [18] |
| Total Coliform | MPN/100mL or CFU/100mL | grab | monthly | [18] |
| Fecal coliform | MPN/100mL or CFU/100mL | grab | monthly | [18] |
| Enterococci | CFU/100mL | grab | weekly | [18] |
| Temperature | °F | grab | monthly | [18] |
| pH | pH units | grab | monthly | [18] |
| $BOD_5$ 20°C | mg/L | grab | quarterly | [18] |
| Total Organic Carbon | mg/L | grab | quarterly | [18] |
| Oil and grease | mg/L | grab | quarterly | [18] |
| Dissolved oxygen | mg/L | grab | monthly | [18] |
| Conductivity | µmhos/cm | grab | quarterly | [18] |
| Total Ammonia | mg/L | grab | monthly | [18] |
| Nitrate nitrogen | mg/L | grab | monthly | [18] |
| Nitrite nitrogen | mg/L | grab | monthly | [18] |

[18] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; where no methods are specified for a given pollutant, pollutants shall be analyzed using methods approved by this Regional Water Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Appendix 4 of the SIP, the analytical method with the lowest ML must be selected.

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Organic nitrogen | mg/L | calculation | monthly | [18] |
| Total Kjeldahl nitrogen (TKN) | mg/L | grab | monthly | [18] |
| Total nitrogen | mg/L | calculation /grab | monthly | [18] |
| Total phosphorus as P | mg/L | grab | monthly | [18] |
| Orthophosphate-P | mg/L | grab | monthly | [18] |
| Algal biomass (Chlorophyll a)[19] | mg/L | grab | semiannually | [18] |
| Salinity | ppt | field | monthly | [18] |
| Surfactants (MBAS) | mg/L | grab | quarterly | [18] |
| Total hardness ($CaCO_3$) | mg/L | grab | monthly | [18] |
| Chronic toxicity[20] | Pass or Fail, % Effect (TST) | grab | quarterly | [18] |
| Copper | µg/L | grab | monthly | [18] |
| Zinc | µg/L | grab | monthly | [18] |
| Nickel | µg/L | grab | monthly | [18] |
| Selenium | µg/L | grab | semiannually | [18] |
| Perchlorate | µg/L | grab | annually | [21] |
| 1-4 Dioxane | µg/L | grab | annually | [21] |
| 1,2,3-Trichloropropane | µg/L | grab | annually | [21] |
| MTBE | µg/L | grab | annually | [21] |
| 2,3,7,8-TCDD[22] | pg/L | grab | semiannually | [18] |

[19] Chlorophyll *a* samples shall be collected using water column grab samples, concurrently with pH, dissolved oxygen, and (macro)invertebrate monitoring. Algal biomass percent cover shall also be reported. Chlorophyll a samples shall be collected on days in the spring and fall when algal biomass is well developed and low dissolved oxygen conditions may exist.

[20] The Permittee shall conduct whole effluent toxicity monitoring at stations RSW-005 (upstream) and RSW-004 (downstream), only as outlined in section V. Please refer to section V.A.7 of this MRP for the accelerated monitoring schedule. Please note the section V.A.4. Species Sensitivity Screening does not apply to receiving water. The median monthly summary result is a threshold value for a determination of meeting the narrative receiving water objective and shall be reported as “Pass” or “Fail.” The maximum daily single result is a threshold value for a determination of meeting the narrative receiving water objective and shall be reported as “Pass or Fail” and “% Effect.” Up to three independent toxicity tests may be conducted when one toxicity test results in “Fail.” If the chronic toxicity median monthly threshold at the immediate downstream receiving water location is not met and the toxicity cannot be attributed to upstream toxicity, as assessed by the Permittee, then the Permittee shall initiate accelerated monitoring. For example, if the chronic toxicity median monthly threshold of the receiving water at both upstream and downstream stations is not met, but the effluent chronic toxicity median monthly effluent limitation was met, then accelerated monitoring need not be implemented.

[21] Emerging chemicals include 1,4-dioxane (USEPA 8270M test method), perchlorate (USEPA 314 test method, or USEPA method 331 if a detection limit of less than 6 µg/L is achieved ), 1,2,3-trichloropropane (USEPA 504.1, 8260B test method, or USEPA 524.2 in SIM mode), and methyl tert-butyl ether (USEPA 8260B test method or USEPA method 624.1 if a detection level of less than 5 µg/L is achieved, and if the Permittee received ELAP certification to run USEPA method 624.1).

[22] In accordance with the SIP, the Discharger shall conduct monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent and in the receiving water Station RSW-005, located upstream of discharge point 001. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| PCBs as aroclors[14] | µg/L | grab | annually | [18] |
| PCBs as congeners[15] | µg/L | grab | annually | [18] |
| Remaining USEPA priority pollutants[23] excluding asbestos and PCBs | µg/L | grab | semiannually | [18] |

Receiving water samples may not be taken during or within 72-hours following a major rain event. For small storm event that creates minimal increase in flow to the river, the 72-hour waiting period to collect a sample may not be necessary. Whenever it is safe, receiving water sampling shall resume immediately. Sampling may be rescheduled at receiving water stations if weather and/or flow conditions would endanger personnel collecting receiving water samples, or if accessing monitoring sites would adversely impact species listed for protection under the state or federal Endangered Species Acts. If rescheduled for one of the aforementioned reasons, sampling shall be conducted as soon as possible to achieve the requirements of the MRP. The monthly monitoring report shall note such occasions.

**B. Monitoring Points for Surface Water Conditions at Locations RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005.**

1. The Discharger shall estimate quantitative water and habitat characteristics identified in Table E-6 at RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005 and maintain in a log hereof. Additional sampling is required to ensure stabilization or improvement of endangered fish species.

**Table E-6. Surface Water Conditions Monitoring Requirements**

| Parameter | Units | Minimum Sampling Frequency |
|---|---|---|
| Sludge banks or deposits | Volume, area, location description | weekly |
| Oil, grease, or slicks | Volume, area, location description | weekly |
| Foam | Volume, area, location description | weekly |
| Solids of waste origin | Volume, area, location description | weekly |
| Breaching (Flow from Estuary to Ocean) | Time, width and depth and latitude and longitude | weekly |
| Habitat | Number of species observed, diversity and refugio quality measure | quarterly |
| Sieve Net Fish Species Count | Number of species, size, and diversity measure | annually |

2. At the time of sampling, the following additional qualitative and quantitative observations (estimates) shall be made at all stations and a log shall be maintained thereof.
   a. The time, date, and weather conditions,
   b. Odor of water,

each of the 17 individual congeners' (i) concentration analytical result ($C_i$) and their corresponding Toxicity Equivalence Factor ($TEF_i$), (i.e., $TEQ_i = C_i \times TEF_i$). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{1}^{17}(TEQ_i) = \sum_{1}^{17}(C_i)(TEF_i)$$

[23] Priority pollutants are those constituents referred to in 40 CFR section 401.15; a list of these pollutants is provided as Appendix A to 40 CFR part 423.

c. Color of water,

d. The color of the effluent shall be contrasted with that of the receiving water and reported descriptively,

e. Occurrence of significant storm runoff,

f. Description of floating solids (type),

g. Description of any sludge banks or deposits, grease, oil, foam, or visible solids of waste origin,

h. Description of any aquatic plant growth, sessile or floating,

i. Description of any unusual occurrence,

j. Users of water in river (i.e. people washing, swimming, and playing in the river),

k. Non-contact users (i.e. bikers, joggers, etc),

l. Evidence of camping/encampments, with a description of activities observed, materials present (propane tanks, cooking and stored food),

m. Wildlife (i.e. fish, birds, mammals, reptiles),

n. Adjacent terrestrial plant growth (amount and type), and

o. Shoreline refugio gradient (depth change over distance) at estuary margin.

**C. Sediment Monitoring at Locations RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005**

1. The Discharger shall monitor sediment conditions at RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005, as follows:

**Table E-7. Sediment Monitoring Requirements**

| Location | Parameter | Minimum Sampling Frequency |
|---|---|---|
| Benthic Community | Where appropriate: identification of all organisms to lowest possible taxon; community structure analysis for each station; mean, range standard deviation, and 95 percent confidence limits, if appropriate, for value determined in the community analysis. | annually |
| Upper 5 cm of Sediment | Arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds (chlorinated), phenolic compounds (non-chlorinated), total halogenated organic compounds, aldrin and dieldrin, endrin, HCH, chlordane, total DDT, DDT derivatives, total PCB, PCB derivatives, toxaphene, total PAH, PAH derivatives, detected priority pollutants, compounds on the local 303(d) list, dissolved sulfides (pore water), TOC and grain size (sufficiently detailed to calculate percent weight in relation to phi size) | annually |
| Sediment Toxicity | Sediment toxicity monitoring following protocol described in the *Evaluation of Methods for Measuring Sediment Toxicity in California Bays and Estuaries, March 2007*. | annually |

a. Local Benthic Trends Survey

This survey addresses the question whether benthic conditions under the influence of the discharge are changing over time. The data collected are used for regular

assessment of trends in sediment contamination and biological response along a fixed grid of sites within the influence of the discharge.

i. At a minimum, 5 monitoring stations (RSW-001, RSW-002, RSW-003, RSW-004 and RSW-005) shall be sampled annually for benthic conditions. The sampling method shall be approved by the Executive Officer.

ii. The following determinations shall be made for each station, where appropriate: identification of all organisms to lowest possible taxon; community structure analysis for each station; mean, range standard deviation, and 95 percent confidence limits, if appropriate, for value determined in the community analysis. The Discharger may be required to conduct additional "statistical analyses" to determine temporal and spatial trends.

b. Sediment/Chemical Monitoring

The Discharger shall collect grab samples for sediment and chemical monitoring. One grab sample (upper 5 centimeters) shall be collected annually at 5 monitoring stations (RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005) and analyzed for the following parameters:

Arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds (chlorinated), phenolic compounds (non-chlorinated), total halogenated organic compounds, aldrin and dieldrin, endrin, HCH, chlordane, total DDT, DDT derivatives, total PCB, PCB derivatives, toxaphene, total PAH, PAH derivatives, priority pollutants detected in the effluent, compounds on the local 303(d) list, dissolved sulfides (pore water), TOC and grain size (sufficiently detailed to calculate percent weight in relation to phi size).

c. Sediment Toxicity

At a minimum, 5 monitoring stations (RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005, Attachment B) shall be sampled annually for sediment toxicity monitoring following protocol described in the *Evaluation of Methods for Measuring Sediment Toxicity in California Bays and Estuaries*, March 2007. The most sensitive species have to be used. All sediment samples must be collected on the same day.

**D.** Portions of sections VIII.B. and C, above, may become duplicative requirements of the Pre-Construction Monitoring and Assessment Program (in section VI.C.2. of the Order). Upon approval of the Pre-Construction Monitoring and Assessment Program by the Executive Officer, any monitoring and reporting requirements of sections VIII.B. and C, including, without limitation, those of Tables E-6 and E-7, that are deemed duplicative, shall be superseded and replaced by monitoring and reporting requirements of the approved Pre-Construction Monitoring and Assessment Program.

## IX. OTHER MONITORING REQUIREMENTS

### A. Regional Watershed-Wide Monitoring Program for the Santa Clara River Watershed

The Santa Clarita Valley Sanitation District of Los Angeles County submitted the SCRWMP to the Regional Water Board on December 15, 2011. This plan presents a design for an integrated regional monitoring program for the Santa Clara River Watershed. This program design was developed by a multi-stakeholder workgroup. The SCRWMP requires that to achieve the goals set forth in this section, dischargers within the plan area shall undertake the responsibilities delineated under the watershed-wide monitoring plan developed for implementation of the Watershed-wide Monitoring Program for the Santa Clara River, which

was approved by the Regional Water Board on July 3, 2012. The Permittee shall participate in efforts to
implement the plan within this permit cycle.

In coordination with interested stakeholders in the Santa Clara River Watershed, the Discharger shall conduct instream bioassessment monitoring once a year, during the spring/summer period (unless an alternate sampling period is approved by the Executive Officer) and include an analysis of the community structure of the instream macroinvertebrate assemblages, the community structure of the instream algal assemblages (benthic diatoms and soft-bodied algae), chlorophyll a and biomass for instream algae, and physical habitat assessment at the receiving water monitoring stations designated in this permit. The Executive Officer of the Regional Water Board may revise these and/or other monitoring requirements in this permit to provide resources to fulfill components of the watershed-wide monitoring program, including collection of biological data at randomly selected locations within the watershed. Over time, bioassessment monitoring will provide a measure of the physical condition of the waterbody and the integrity of its biological communities.

a. The bioassessment program shall include an analysis of the community structure of the instream macroinvertebrate, algal assemblages, algal biomass, and physical habitat assessment at the receiving water monitoring stations.

   This program shall be implemented by appropriately trained staff. Alternatively, a professional subcontractor qualified to conduct bioassessments may be selected to perform the bioassessment work for the Permittee. Analyses of the results of the bioassessment monitoring program, along with photographs of the monitoring site locations taken during sample collection, shall be submitted in the corresponding annual report. If another stakeholder, or interested party in the watershed subcontracts a qualified professional to conduct bioassessment monitoring during the same season and at the same location as specified in the MRP, then the Discharger may, in lieu of duplicative sampling, submit the data, a report interpreting the data, photographs of the site, and related QA/QC documentation in the corresponding annual report.

b. The Permittee must provide a copy of their Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program to the Regional Water Board upon request. The document must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. The SOP must also include specific information about each bioassessment program including:
   assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received.

c. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) or more recently established sampling protocols, such as used by the Surface Water Ambient Monitoring Program (SWAMP). Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors. Field inspections shall be planned with random visits and shall be performed by the Discharger or an independent auditor. These visits shall report on all aspects of the field procedure with corrective action occurring immediately.

d. A taxonomic identification laboratory shall process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. The Regional Water Board may require QA/QC documents from the taxonomic laboratories and examine their records regularly. Intra-laboratory QA/QC for subsampling, taxonomic validation and corrective actions shall be conducted and documented. Biological laboratories shall also maintain reference collections, vouchered specimens (the Discharger may request the return of their sample voucher collections) and remnant collections. The laboratory should participate in an (external) laboratory taxonomic validation program at a recommended level of 10% or 20%. External QA/QC may be arranged through the California Department of Fish and Wildlife's Aquatic Bioassessment Laboratory located in Rancho Cordova, California.

The Executive Officer of the Regional Water Board may modify Monitoring and Reporting Program to accommodate the watershed-wide monitoring.

### B. Tertiary Filter Treatment Bypasses

1. During any day that filters are bypassed, the Permittee shall monitor the effluent for BOD, suspended solids, settleable solids, and oil and grease, on daily basis, until it is demonstrated that the filter "bypass" has not caused an adverse impact on the receiving water.
2. The Permittee shall maintain chronological log of tertiary filter treatment process bypasses, to include the following:
    a. Date and time of bypass start and end;
    b. Total duration time; and,
    c. Estimated total volume bypassed
3. The Permittee shall submit a written report to the Regional Water Board, according to the corresponding monthly self-monitoring report schedule. The report shall include, at a minimum, the information from the chronological log. Results from the daily effluent monitoring, required by B.1. above, shall be verbally reported to the Regional Water Board as the results become available and submitted as part of the monthly SMR.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

1. The Permittee 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. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.
4. The Permittee shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

### 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 website

http://www.waterboards.ca.gov/water_issues/programs/ciwqs/. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

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, quarterly, semiannual, annual SMRs including the results of all required monitoring using USEPA-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 Permittee samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this MRP using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with limitations set forth in this Order.

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

**Table E-8. 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 |
| Daily | Permit effective date | (Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling. | Submit with monthly SMR |
| Weekly | Sunday following permit effective date or on permit effective date if on a Sunday | Sunday through Saturday | Submit with monthly SMR |
| Monthly | First day of calendar month following permit effective date or on permit effective date if that date is first day of the month | 1st day of calendar month through last day of calendar month | By the 15th day of the third month after the month of sampling |
| Quarterly | Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date | January 1 through March 31<br>April 1 through June 30<br>July 1 through September 30<br>October 1 through December 31 | June 15<br>September 15<br>December 15<br>March 15 |
| Semiannually | Closest of January 1 or July 1 following (or on) permit effective date | January 1 through June 30<br>July 1 through December 31 | September 15<br>March 15 |
| Annually | January 1 following (or on) permit effective date | January 1 through December 31 | April 15 |

Reporting Protocols. The Discharger shall report with each sample result the applicable RL and the current MDL, as determined by the procedure in 40 CFR part 136.

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.

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.

Multiple Sample Data. When determining compliance with an AMEL, AWEL, or MDEL 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 DNQ or 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.

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 USEPA 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. The Transition Plan, Pre-Construction Monitoring and Assessment Program, and MAAMP shall be submitted in the time prescribed in this Order.

The Discharger shall report the results of any special studies, chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – V.C. The Permittee shall submit reports in compliance with SMR reporting requirements described in subsection X.B. above.

Annual Summary Report

By April 15 of each year, the Permittee shall submit an annual report containing a discussion of the previous year's influent/effluent analytical results, receiving water monitoring data, bioassessment data, and the recycled water feasibility report as well as a recycled water progress report describing any updates to the development of increased recycled water production and/or distribution. The annual report shall contain an overview of any plans for upgrades to the treatment plant's collection system, the treatment processes, or the outfall system. The Permittee shall submit annual report to the Regional Water Board in accordance with the requirements described in subsection X.B.7 above.

Each annual monitoring report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement: "The analytical results for this sampling period did/ did not trigger reasonable potential." If reasonable potential was triggered, then the following information should also be provided

a. A list of the pollutant(s) that triggered reasonable potential.
b. The Basin Plan or California Toxic Rule (CTR) criteria that was exceeded for each given pollutant.
c. The concentration of the pollutant(s).
d. The test method used to analyze the sample.
e. The date and time of sample collection.

The Permittee shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

The Regional Water Board requires the Permittee to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste

treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.

b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.

c. Describe facilities and procedures needed for effective preventive and contingency plans.

d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

# 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 | 4A560107001 |
| Discharger/Permittee | City of Ventura |
| Name of Facility | Ventura Water Reclamation Facility including its associated wastewater collection system and outfall |
| Facility Address | 1400 Spinnaker Drive<br>Ventura, CA 93001<br>Ventura County |
| Facility Contact, Title and Phone | Gina Dorrington, Assistant General Manager of Operations – Ventura Water, (805) 677-4131 |
| Authorized Person to Sign and Submit Reports | Same |
| Mailing Address | 1400 Spinnaker Drive, Ventura, CA 93001 |
| Billing Address | 1400 Spinnaker Drive, Ventura, CA 93001 |
| Type of Facility | Publicly Owned Treatment Works (POTW) |
| Major or Minor Facility | Major |
| Threat to Water Quality | 1 |
| Complexity | A |
| Pretreatment Program | Yes |
| Recycling Requirements | Producer |
| Facility Permitted Flow (annual average) | 9 million gallons per day (MGD) |
| Facility Design Flow | 14 MGD |
| Watershed | Santa Clara River Watershed |
| Receiving Water | Santa Clara River Estuary via Wildlife Ponds |
| Receiving Water Type | Estuary |

**A.** The City of Ventura (hereinafter City, Discharger or Permittee) is the owner and operator of Ventura Water Reclamation Facility (hereinafter Facility or Ventura WRF), a Publicly Owned Treatment Works (POTW) including its associated wastewater collection system and outfall.

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 Santa Clara River Estuary (SCRE), a water of the United States, tributary to the Pacific Ocean within the Santa Clara River Watershed. The Discharger was previously regulated by Order No. R4-2013-0174 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053651 adopted on November 7, 2013. This Order expired on December 31, 2018, but was administratively extended. 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 (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on July 5, 2018. On August 3, 2018, Regional Water Board staff requested additional information, and the City of Ventura submitted an addendum to the ROWD on September 4, 2018 and October 15, 2018. Regional Water Board staff reviewed the submitted information and determined that the ROWD was complete on October 23, 2018. A site visit was conducted on December 5, 2018 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

**D.** Regulations at 40 Code of Federal Regulations (CFR) 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 (CCR), 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.

**E.** Should there be an anticipated change in place of use and purpose of use of treated wastewater, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

## II. FACILITY DESCRIPTION

The Discharger owns and operates the Ventura WRF, a tertiary wastewater treatment plant, with a design capacity of 14 MGD, located at 1400 Spinnaker Road, Ventura, California. The Facility receives domestic, commercial, and industrial wastewater generated in the city of Ventura by an estimated population of 109,600. Treatment at the Facility consists of wastewater processing, biosolids processing, and a pilot test producing potable recycled water.

The design flow of the treatment facility is 14 MGD. However, the effluent discharge is limited to a dry weather 9 MGD annual average. This is based on the 2008 average flow rate when the Regional Water Board mandated studies to determine if the estuary water quality and beneficial uses were enhanced by the discharge of the effluent. A discussion of the studies conducted to date to determine the minimum discharge is provided in II.E-Planned Changes.

### A. Description of Wastewater Treatment and Controls

1. **Primary Treatment:** The primary treatment consists of screening, grit removal, primary sedimentation and flow equalization. Ferric chloride is injected into the primary sedimentation sludge to control hydrogen sulfide production and to aid in primary settling. Settled solids are removed from the primary clarifier for biosolids processing.

2. **Biological Nutrient Removal (BNR):** Biological treatment consists of bio-augmentation at a biologically activated reaeration (BAR) tank, feeding into two parallel anoxic tanks and

four parallel aeration tanks for full nitrification and denitrification (NDN). Activated sludge and mixed liquor recycling is utilized to balance load demands within the system.

3. **Secondary & Tertiary Treatment:** Mixed liquor is transferred to six parallel rectangular secondary final sedimentation tanks for secondary settling. Return activated sludge (RAS) is collected from the clarifiers and returned to the BAR process, while waste activated sludge (WAS) is sent to the biosolids treatment processes. The secondary treated effluent is sent to the horizontal pressurized mixed media filtration process.

4. **Disinfection:** The tertiary treated effluent is disinfected using gaseous chlorine with ammonia addition to create chloramines with contact time through the chlorine contact chambers. Most of the disinfected tertiary treated effluent is dechlorinated using gaseous sulfur dioxide and sent through the effluent transfer stations (ETS) to a series of 'wildlife' ponds, which are unlined ponds that allow percolation and contain standing water year-round. A portion of the disinfected effluent, averaging 0.7 MGD annually, is distributed using the recycled water system for landscape irrigation or dust control.

5. **Biosolids Handling:** The biosolids system consists of dissolved air flotation (DAF) thickener, anaerobic digestion, and centrifuge dewatering. The primary settled sludge is sent directly to anaerobic digesters for thickening. Secondary settled sludge is removed from the secondary final sedimentation tanks and thickened in the DAF unit. Thickened sludge is sent to anaerobic digesters for stabilization.

   Thickened primary and secondary sludge is sent to three anaerobic digesters operated in parallel to achieve Class B biosolids. Utilizing the methane gas produced by the anaerobic digestion, a co-generation system fuels an engine that keeps the digester heated through a series of heat exchangers. Anaerobically digested sludge is dewatered through one of two centrifuges to produce a cake of 18 to 23 percent solids. Sludge cake is conveyed to tractor trailers and hauled offsite for disposal. Centrate waste streams are sent back to the facility for treatment. All of the Class B anaerobically digested sludge is dewatered and sent to an offsite contracted composting facility.

### B. Discharge Points and Receiving Waters

1. The Ventura WRF discharges tertiary-treated municipal wastewater to the SCRE via unlined wildlife ponds. Treated effluent is discharged from the plant to surface waters at the following discharge point:

   Discharge Point 001: Discharge to SCRE via Wildlife Ponds: Latitude: 34.23937º, Longitude: -119.25870º

2. The treatment plant discharges to the lowest point in the Santa Clara River Watershed, the estuary where the freshwater enters the Pacific Ocean. Treated wastewater is discharged from the chlorine contact chambers to the wildlife ponds. After transit time in the ponds, the water flows across a weir at location EFF-001A and through channels in riparian habitat into the SCRE at monitoring location RSW-004.

3. The estuary is created when the mouth of the Santa Clara River is closed off by a sand bar so that a shallow lagoon is created. At times when the sand bar is breached, either by Santa Clara River flows of sufficient volume and velocity, floodwaters or by mechanical means, the lagoon empties directly into the Pacific Ocean. Monitoring Points RSW-001 and RSW-002 are at the southeast and southern shorelines of the open water in the lagoon, respectively (refer to Figure B-1). When the estuary is breached, the effluent flows to join the Santa Clara River near the breach point, located at Monitoring Point RSW-003. Monitoring Point RSW-005 is where the Harbor Boulevard Bridge crosses the Santa Clara River as it flows into the estuary. The channel and berm locations may shift, so the

sample point is over the point with the largest flow, or at the historical location of RSW-005 if the estuary floods under the bridge. Because the sampling locations are associated with moving locations in a natural system, the actual latitude and longitude of the actual shoreline or discharge point are reported with the results.

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

Effluent limitations contained in the previous Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order, as submitted in either the ROWD or annual summary reports, are as follows:

**Table F-2. Historic Effluent Limitations and Monitoring Data**

| Parameters | Units | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|---|---|
| $BOD_5 20^oC$ | mg/L | 20 | 30 | 45 | 9.2 | 12.3 | 19.1 |
| Suspended Solids | mg/L | 15 | 40 | 45 | 2.31 | 5.72 | 10.88 |
| Oil and Grease | mg/L | 10 | -- | 15 | 8.4 | -- | 10.5 |
| Settleable Solids | ml/L | 0.1 | -- | 0.3 | <0.1 | -- | <0.1 |
| Residual Chlorine | mg/L | -- | -- | 0.1 | 0.7 | -- | 0.71 |
| MBAS | mg/L | 0.5 | -- | -- | 0.1 | -- | 0.1 |
| Nitrate-N (as N) | mg/L | 10 | -- | -- | 11.7 | -- | 11.7 |
| Nitrite-N (as N) | mg/L | 1 | -- | -- | 0.4 | -- | 0.4 |
| Nitrate + Nitrite as N | mg/L | 10 | -- | -- | 11.7 | -- | 11.7 |
| Total Ammonia (May to Oct) | mg/L | 1.07 | -- | 1.17 | 0.9 | -- | 0.9 |
| Total Ammonia (Nov to April) | mg/L | 1.3 | -- | 1.4 | 0.9 | -- | 0.9 |
| Antimony | µg/L | -- | -- | -- | <1 | -- | <1 |
| Arsenic | µg/L | -- | -- | -- | 16.5 | -- | 16.5 |
| Beryllium | µg/L | -- | -- | -- | <2 | -- | <2 |
| Cadmium | µg/L | -- | -- | -- | <4 | -- | <4 |
| Chromium III | µg/L | -- | -- | -- | <7 | -- | <7 |
| Chromium VI | µg/L | -- | -- | -- | <1 | -- | <1 |
| Copper | µg/L | 6.1 | -- | 14 | 4.98 | -- | 4.98 |
| Lead | µg/L | 7 | -- | 14 | <5 | -- | <5 |
| Mercury | µg/L | -- | -- | -- | <0.02 | -- | <0.02 |
| Nickel | µg/L | 7.2 | -- | 18.8 | 69.8 | -- | 69.8 |
| Selenium | µg/L | 2.9 | -- | 8.2 | <2 | -- | <2 |
| Silver | µg/L | -- | -- | -- | <2 | -- | <2 |
| Thallium | µg/L | -- | -- | -- | <1 | -- | <1 |
| Zinc | µg/L | -- | -- | -- | 175 | -- | 175 |
| Cyanide | µg/L | -- | -- | -- | <5 | -- | <5 |
| Asbestos | µg/L | -- | -- | -- | -- | -- | -- |
| 2,3,7,8-TCDD (Dioxin) | µg/L | -- | -- | -- | <9.5 | -- | <9.5 |
| Acrolein | µg/L | -- | -- | -- | <0.6 | -- | <0.6 |
| Acrylonitrile | µg/L | -- | -- | -- | <4.9 | -- | <4.9 |

| Parameters | Units | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|---|---|
| Benzene | µg/L | -- | -- | -- | <0.2 | -- | <0.2 |
| Bromoform | µg/L | -- | -- | -- | 3.01 | -- | 3.01 |
| Carbon Tetrachloride | µg/L | -- | -- | -- | <0.12 | -- | <0.12 |
| Chlorobenzene | µg/L | -- | -- | -- | <0.2 | -- | <0.2 |
| Dibromochloro-methane | µg/L | -- | -- | -- | 5.82 | -- | 5.82 |
| Chloroethane | µg/L | -- | -- | -- | <0.52 | -- | <0.52 |
| 2-chloroethyl vinyl ether | µg/L | -- | -- | -- | <0.13 | -- | <0.13 |
| Chloroform | µg/L | -- | -- | -- | 9.2 | -- | 9.2 |
| Dichlorobromo-methane | µg/L | -- | -- | -- | 9.28 | -- | 9.28 |
| 1,1-dichloroethane | µg/L | -- | -- | -- | <0.07 | -- | <0.07 |
| 1,2-dichloroethane | µg/L | -- | -- | -- | <0.03 | -- | <0.03 |
| 1,1-dichloroethylene | µg/L | -- | -- | -- | <0.13 | -- | <0.13 |
| 1,2-dichloropropane | µg/L | -- | -- | -- | <0.04 | -- | <0.04 |
| 1,3-dichloropropylene | µg/L | -- | -- | -- | <0.68 | -- | <0.68 |
| Ethylbenzene | µg/L | -- | -- | -- | <0.34 | -- | <0.34 |
| Methyl bromide | µg/L | -- | -- | -- | <0.5 | -- | <0.5 |
| Methyl chloride | µg/L | -- | -- | -- | <0.25 | -- | <0.25 |
| Methylene chloride | µg/L | -- | -- | -- | <0.25 | -- | <0.25 |
| 1,1,2,2-tetrachloroethane | µg/L | -- | -- | -- | <0.25 | -- | <0.25 |
| Tetrachloroethylene | µg/L | -- | -- | -- | <0.03 | -- | <0.03 |
| Toluene | µg/L | -- | -- | -- | <0.2 | -- | <0.2 |
| Trans 1,2-Dichloroethylene | µg/L | -- | -- | -- | <0.1 | -- | <0.1 |
| 1,1,1-Trichloroethane | µg/L | -- | -- | -- | <0.03 | -- | <0.03 |
| 1,1,2-Trichloroethane | µg/L | -- | -- | -- | <0.02 | -- | <0.02 |
| Trichloroethylene | µg/L | -- | -- | -- | <0.12 | -- | <0.12 |
| Vinyl Chloride | µg/L | -- | -- | -- | <0.18 | -- | <0.18 |
| 2-chlorophenol | µg/L | -- | -- | -- | <3.3 | -- | <3.3 |
| 2,4-dichlorophenol | µg/L | -- | -- | -- | <2.7 | -- | <2.7 |
| 2,4-dimethylphenol | µg/L | -- | -- | -- | <2.7 | -- | <2.7 |
| 4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol) | µg/L | -- | -- | -- | <10 | -- | <10 |
| 2,4-dinitrophenol | µg/L | -- | -- | -- | <42 | -- | <42 |
| 2-nitrophenol | µg/L | -- | -- | -- | <3.6 | -- | <3.6 |
| 4-nitrophenol | µg/L | -- | -- | -- | <2.4 | -- | <2.4 |
| 3-Methyl-4-Chlorophenol (aka P-chloro-m-cresol) | µg/L | -- | -- | -- | <3 | -- | <3 |
| Pentachlorophenol | µg/L | -- | -- | -- | <3.6 | -- | <3.6 |

| Parameters | Units | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|---|---|
| Phenol | µg/L | -- | -- | -- | <0.16 | -- | <0.16 |
| 2,4,6-trichlorophenol | µg/L | -- | -- | -- | <2.7 | -- | <2.7 |
| Acenaphthene | µg/L | -- | -- | -- | <2 | -- | <2 |
| Acenaphthylene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Anthracene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Benzidine | µg/L | -- | -- | -- | <4 | -- | <4 |
| Benzo(a)Anthra-cene | µg/L | -- | -- | -- | <7.8 | -- | <7.8 |
| Benzo(a)Pyrene | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| Benzo(b)Fluoran-thene | µg/L | -- | -- | -- | <4.8 | -- | <4.8 |
| Benzo(ghi)Perylene | µg/L | -- | -- | -- | <4.1 | -- | <4.1 |
| Benzo(k)Fluoran-thene | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| Bis(2-Chloroethoxy) methane | µg/L | -- | -- | -- | <5.3 | -- | <5.3 |
| Bis(2-Chloroethyl)Ether | µg/L | -- | -- | -- | <5.7 | -- | <5.7 |
| Bis(2-Chloroisopropyl) Ether | µg/L | -- | -- | -- | <5.7 | -- | <5.7 |
| Bis(2-Ethylhexyl)Phtha-late | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| 4-Bromophenyl Phenyl Ether | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Butylbenzyl Phthalate | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| 2-Chloronaphthalene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| 4-Chlorophenyl Phenyl Ether | µg/L | -- | -- | -- | <4.2 | -- | <4.2 |
| Chrysene | µg/L | -- | -- | -- | <2 | -- | <2 |
| Dibenzo(a,h) Anthracene | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| 1,2-Dichlorobenzene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| 1,3-Dichlorobenzene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| 1,4-Dichlorobenzene | µg/L | -- | -- | -- | <4.4 | -- | <4.4 |
| 3-3'-Dichlorobenzidine | µg/L | -- | -- | -- | <16.5 | -- | <16.5 |
| Diethyl Phthalate | µg/L | -- | -- | -- | <2.2 | -- | <2.2 |
| Dimethyl Phthalate | µg/L | -- | -- | -- | <1.6 | -- | <1.6 |
| Di-n-Butyl Phthalate | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| 2-4-Dinitrotoluene | µg/L | -- | -- | -- | <5.7 | -- | <5.7 |
| 2-6-Dinitrotoluene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Di-n-Octyl Phthalate | µg/L | -- | -- | -- | <2.5 | -- | <2.5 |
| 1,2-Diphenylhydrazine | µg/L | -- | -- | -- | <10 | -- | <10 |
| Fluoranthene | µg/L | -- | -- | -- | <2.2 | -- | <2.2 |

| Parameters | Units | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|---|---|
| Fluorene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Hexachloro-benzene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Hexachloro-butadiene | µg/L | -- | -- | -- | <0.9 | -- | <0.9 |
| Hexachloro-cyclopentadiene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Hexachloroethane | µg/L | -- | -- | -- | <1.6 | -- | <1.6 |
| Indeno(1,2,3-cd)Pyrene | µg/L | -- | -- | -- | <3.7 | -- | <3.7 |
| Isophorone | µg/L | -- | -- | -- | <2.2 | -- | <2.2 |
| Naphthalene | µg/L | -- | -- | -- | <10 | -- | <10 |
| Nitrobenzene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| N-Nitrosodi-methylamine | µg/L | -- | -- | -- | <0.15 | -- | <0.15 |
| N-Nitrosodi-n-Propylamine | µg/L | -- | -- | -- | <10 | -- | <10 |
| N-Nitrosodi-phenylamine | µg/L | -- | -- | -- | <10 | -- | <10 |
| Phenanthrene | µg/L | -- | -- | -- | <5.4 | -- | <5.4 |
| Pyrene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| 1,2,4-Trichlorobenzene | µg/L | -- | -- | -- | <1.9 | -- | <1.9 |
| Aldrin | µg/L | -- | -- | -- | <0.004 | -- | <0.004 |
| Alpha-BHC | µg/L | -- | -- | -- | <0.003 | -- | <0.003 |
| Beta-BHC | µg/L | -- | -- | -- | <0.008 | -- | <0.008 |
| Gamma-BHC (aka Lindane) | µg/L | -- | -- | -- | <0.006 | -- | <0.006 |
| delta-BHC | µg/L | -- | -- | -- | <0.009 | -- | <0.009 |
| Chlordane | µg/L | -- | -- | -- | <0.014 | -- | <0.014 |
| 4,4'-DDT | µg/L | -- | -- | -- | <4.7 | -- | <4.7 |
| 4,4'-DDE | µg/L | -- | -- | -- | <5.6 | -- | <5.6 |
| 4,4'-DDD | µg/L | -- | -- | -- | <2.8 | -- | <2.8 |
| Dieldrin | µg/L | -- | -- | -- | <0.002 | -- | <0.002 |
| Alpha-Endosulfan | µg/L | -- | -- | -- | <0.014 | -- | <0.014 |
| Beta-Endosulfan | µg/L | -- | -- | -- | <0.004 | -- | <0.004 |
| Endosulfan Sulfate | µg/L | -- | -- | -- | <0.066 | -- | <0.066 |
| Endrin | µg/L | -- | -- | -- | <0.006 | -- | <0.006 |
| Endrin Aldehyde | µg/L | -- | -- | -- | <0.023 | -- | <0.023 |
| Heptachlor | µg/L | -- | -- | -- | <0.003 | -- | 0.003 |
| Heptachlor Epoxide | µg/L | -- | -- | -- | <0.0083 | -- | <0.0083 |
| PCB 1016 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| PCB 1221 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| PCB 1232 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| PCB 1242 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |

| Parameters | Units | Average Monthly Limit | Average Weekly Limit | Maximum Daily Limit | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
|---|---|---|---|---|---|---|---|
| PCB 1248 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| PCB 1254 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| PCB 1260 | µg/L | -- | -- | -- | <0.065 | -- | <0.065 |
| Toxaphene | µg/L | | -- | -- | <10 | -- | <10 |

## D. Compliance Summary

The following table lists the Facility's exceedances that occurred during the period from January 2014 to December 2018.

On December 23, 2015, the Executive Officer issued a Stipulated Order on Settlement Offer No. R4-2015-0148 for alleged violations of Regional Water Board Order Nos. R4-2008-0011 and R4-2013-0174, NPDES Permit No. CA0053651 for the Ventura WRF for $75,000. The City of Ventura signed the Acceptance of Conditional Resolution and Waiver of Right to Hearing and paid the assessed penalties. The Settlement Offer addressed violations that occurred from September 2013 to July 2015. Enforcement action is being assessed for violations which took place after February 2016.

**Table F-3. Summary of Effluent Limitation Violations**

| Date | Violation Type | Parameter | Reported Value | Permit Limit | Units |
|---|---|---|---|---|---|
| 02/28/14 | Monthly Average | Nickel | 0.623 | 0.54 | lbs/day |
| 02/28/14 | Monthly Average | Nickel | 10.6 | 7.2 | µg/L |
| 05/07/14 | Daily Maximum | Nickel | 36.9 | 18.8 | µg/L |
| 05/07/14 | Daily Maximum | Nickel | 2.07 | 1.4 | lbs/day |
| 05/27/14 | Daily Maximum | Nickel | 48.1 | 18.8 | µg/L |
| 05/27/14 | Daily Maximum | Nickel | 2.75 | 1.4 | lbs/day |
| 05/28/14 | Daily Maximum | Nickel | 47.9 | 18.8 | µg/L |
| 05/28/14 | Daily Maximum | Nickel | 2.78 | 1.4 | lbs/day |
| 05/29/14 | Daily Maximum | Nickel | 69.8 | 18.8 | µg/L |
| 05/29/14 | Daily Maximum | Nickel | 3.99 | 1.4 | lbs/day |
| 05/30/14 | Daily Maximum | Nickel | 63.3 | 18.8 | µg/L |
| 05/30/14 | Daily Maximum | Nickel | 3.65 | 1.4 | lbs/day |
| 05/31/14 | Monthly Average | Nickel | 40.99 | 7.2 | µg/L |
| 05/31/14 | Monthly Average | Nickel | 2.28 | 0.54 | lbs/day |
| 04/07/15 | Monthly Average | Nitrate | 11.7 | 10 | mg/L |
| 04/07/15 | Monthly Average | Nitrate + Nitrite | 11.7 | 10 | mg/L |
| 09/23/14 | Daily Maximum | Total Coliform | 170 | 23 | MPN/100ml |
| 2/8/2016 | Instantaneous Maximum | Total Coliform | 240 | 300 | MPN/100ml |
| 2/9/2016 | Monthly maximum | Total Coliform | 23 | 80 | MPN/100ml |
| 01/29/15 | Daily Maximum | Total Coliform* | 300 | 100 | MPN/100ml |
| 01/31/15 | Daily Maximum | Total Coliform* | 50 | 23 | MPN/100ml |

| Date | Violation Type | Parameter | Reported Value | Permit Limit | Units |
|---|---|---|---|---|---|
| 01/31/15 | 7-Day Median | Total Coliform* | 7 | 2.2 | MPN/100ml |
| 02/01/15 | 7-Day Median | Total Coliform* | 7 | 2.2 | MPN/100ml |
| 02/02/15 | 7-Day Median | Total Coliform* | 7 | 2.2 | MPN/100ml |
| 02/03/15 | 7-Day Median | Total Coliform* | 7 | 2.2 | MPN/100ml |
| 02/04/15 | 7-Day Median | Total Coliform* | 7 | 2.2 | MPN/100ml |
| 02/10/15 | Daily Maximum | Total Coliform* | 900 | 240 | MPN/100ml |
| 02/10/15 | 30-Day Period | Total Coliform* | 900 | 23 | MPN/100ml |
| 10/09/14 | Daily Maximum | Total Residual Chlorine | 0.35 | 0.1 | mg/L |
| 02/02/15 | Daily Maximum | Total Residual Chlorine | 0.71 | 0.1 | mg/L |
| 07/15/15 | Daily Average | Turbidity | 2.55 | 2 | NTU |
| 01/26/15 | Daily Average | Turbidity* | 8.78 | 2 | NTU |
| 01/26/15 | Daily Average | Turbidity* | 10 | 5 | NTU |
| 01/27/15 | Daily Average | Turbidity* | 8.75 | 2 | NTU |
| 01/27/15 | Daily Average | Turbidity* | 10 | 5 | NTU |
| 01/28/15 | Daily Average | Turbidity* | 4.81 | 2 | NTU |
| 01/28/15 | Daily Average | Turbidity* | 10 | 5 | NTU |
| 01/29/15 | Daily Average | Turbidity* | 4.1 | 2 | NTU |
| 01/30/15 | Daily Average | Turbidity* | 4.28 | 2 | NTU |
| 01/30/15 | Daily Average | Turbidity* | 10 | 5 | NTU |
| 01/31/15 | Daily Average | Turbidity* | 2.48 | 2 | NTU |
| 01/31/15 | Daily Average | Turbidity* | 10 | 5 | NTU |
| 02/01/15 | Daily Average | Turbidity* | 56 | 5 | NTU |
| 02/02/15 | Daily Average | Turbidity* | 3.05 | 2 | NTU |
| 02/02/15 | Daily Average | Turbidity* | 162 | 5 | NTU |
| 02/03/15 | Daily Average | Turbidity* | 130 | 5 | NTU |
| 8/12/2018 | Instantaneous Minimum | pH | 6.43 | 6.5 | pH units |

*A single operational upset

1. Metal Exceedance: In 2014, exceedances of effluent limits were observed for nickel. In response, the Industrial Pretreatment Compliance (now Environmental Compliance) personnel worked with the Ventura WRF Laboratory Staff and Collection System Maintenance Crew to pinpoint locations within the system that could have contributed to the elevated concentrations. Using City geographic information system sewer maps and the Pretreatment database of dischargers, a total of thirteen collection system sectors were sampled for seven metals of concern over several weeks. In addition, over a five-month period, approximately 70 source control inspections were performed. While the exact source of nickel was not conclusively determined, there were no more exceedances for nickel after the site inspections and interviews were performed. Enhancements to pretreatment program inspection and compliance procedures and planned collection system monitoring upgrades to assist in detection of pretreatment violations are expected to help ensure future exceedances for nickel do not occur.

2. Total Coliform/Chlorine Residual Exceedance: An exceedance of the total coliform limit and the chlorine residual limit occurred in September 2014 and October 2014, respectively. The single operational upset that started on January 26, 2015, and caused exceedances of multiple pollutants, was caused by sulfide septicity. Monitoring for sulfide was increased while cleaning the sewer line to alleviate heavy sulfide loading. Additional chemical treatments were implemented in the collection system and the secondary system to reduce and assist in sludge settling at the facility. By February 10, 2015, the operational upset was controlled, and no exceedances were reported regarding this operational upset. The Discharger investigated both exceedances and found that all systems were operational and within specifications; the cause of either exceedance was not determined.
3. Nitrate Exceedance: An exceedance of the limit for nitrate as N occurred in April 2015, and was attributed to the failure of a Biologically Activated Reaeration (BAR) tank mixing pump, which was replaced that year.
4. Turbidity Exceedance: One turbidity exceedance occurred on July 15, 2015 when chemical dosing for tertiary filter disinfection caused sloughing of filter media and turbidity breakthrough. The disinfection rate was adjusted to prevent further sloughing of filter media. The single operational upset caused turbidity exceedances from January 26, 2015 to February 10, 2015.
5. Total Coliform Exceedance with Wet Weather: Two exceedances of total coliform limits (instantaneous maximum and not to exceed 23 MPN/100 mL more than once within a 30-day period) were identified on February 8 and 9, 2016 following wet weather, but otherwise no recurrence of a total coliform excursion has been detected since 2016. These two exceedances were addressed by the Regional Water Board in correspondence related to withdrawn Settlement Offer No. R4-2016-0344.
6. Chronic Toxicity: The existing NPDES permit does not contain numeric effluent limitations for chronic toxicity; however, four exceedances of the 1.0 TUc (Chronic Toxicity Unit) monthly median trigger for accelerated monitoring were observed for the months of December 2017, January 2018, February 2018, and April 2018, as indicated in the table below.

**Table F-4. Summary of Effluent Chronic Toxicity Data**

| Test Date | Test Species | TUc |
|---|---|---|
| 12/15/17 | *Selenastrum* Growth | 5.6 exceeded monthly median of 1 TUc |
| 1/3/2018 | *Selenastrum* Growth | 5.6 exceeded monthly median of 1 TUc |
| 1/17/2018 | *Selenastrum* Growth | 5.6 exceeded monthly median of 1 TUc |
| 1/30/2018 | *Selenastrum* Growth | 4.3 exceeded monthly median of 1 TUc |
| 2/14/2018 | *Selenastrum* Growth | 1.8 exceeded monthly median of 1 TUc |
| 4/11/2018 | *Selenastrum* Growth | 1.4 exceeded monthly median of 1 TUc |

Three effluent monitoring results for chronic toxicity exceeded the 1.0 TUc accelerated monitoring trigger, most likely as a result of the Thomas Fire, which began on December 4, 2017, and inundated the Ventura WRF in smoke and ash for several days. These exceedances occurred on December 15, 2017, January 30, 2018, and February 14, 2018 at monitoring location EFF-001. The exceedances triggered accelerated monitoring for chronic toxicity pursuant to Permit provision IV.1.r.iii, and implementation of the Initial Investigation TRE Work Plan. The Toxicity Identification Evaluation (TIE) performed by the toxicity testing laboratory (ABC Laboratories in Ventura, CA) on samples collected on

February 28, 2018, concluded that observed toxicity may have been caused by metals, non-polar organics, or surfactants. However, since the report also noted that treatment with a chelating agent designed to remove metals did not reduce toxicity, it can be deduced that non-polar organics and surfactants are more likely the cause of observed toxicity. It is noteworthy that firefighting chemicals contain a significant amount of non-polar organics and surfactants. As described in a June 21, 2018 letter from ABC Laboratories (included in ROWD Section VII – Supplemental Information), two other dischargers with prior records of successful toxicity tests and located in watersheds affected by the Thomas Fire also reported toxicity exceedances following the Thomas Fire. Based on consultation with the Regional Water Board staff regarding toxicity results and likely impacts of the Thomas Fire, the City has determined that toxicity results for effluent samples collected during and after the Thomas Fire represent anomalous effluent quality characteristics because the samples were collected under extraordinarily atypical conditions.

## E. Planned Changes

Plant upgrades are planned for the existing wastewater treatment plant, in addition to new facilities planned to protect the ecology of the estuary, develop additional water supply sources to meet water demands for planned future growth, and enhance supply reliability even in drought years.

1. Plant Upgrades

Plant upgrades include modification to the anaerobic digester, aeration blower and nitrification/denitrification (NDN) system, and bioaugmentation in the collection and process systems. The City is finalizing the design of the capital improvement project to upgrade the anaerobic digester heating and mixing system. Construction is estimated to begin after the adoption of this Order and extend to 2020. This upgrade will include installation of a new gas flare and provide a more consistent gas delivery to the cogeneration unit. It will also increase the quality of sludge produced by the digesters that will in turn optimize the performance of the centrifuge dewatering equipment.

The City is also in the design phase of an aeration blower upgrade that will include the installation of high efficiency blowers to provide the air and mixing in the aeration basins of the biological nutrient removal (BNR) process. Installation will also include advanced monitoring and control loops to better control air flow and monitor nitrate levels throughout the system. This will enable operations staff to have a greater understanding of the nitrification/denitrification process through online monitoring and Supervisory Control and Data Acquisition (SCADA) software control.

In light of the success of the bioaugmentation system utilized in the sewer collection system to address sulfide levels, the Ventura WRF has designed, and will pilot a bioaugmentation system. This system will utilize specific nitrifying bacteria and enzymes to provide enhanced nitrogen removal to the BNR process in the short term, while larger capital projects are planned to increase the anoxic tank capacity described below. If successful, this bioaugmentation system will be utilized to make the BNR process more consistent during diurnal and seasonal spikes in nitrate concentrations.

a. Nutrient Reduction through Bioaugmentation:

The Ventura WRF has also taken steps to increase biological activity in the collection system. Traditional forms of chemical treatment were limited in controlling the septic conditions, were costly, and performed at low efficiencies. A form of bioaugmentation was introduced and piloted at a collection system lift station and was found to successfully reduce the amount of sulfide generation which kept the

influent sulfide level down below the tolerance threshold. A group of bacterial cultures inoculated in the system were used to control sulfides well enough to be more cost- and operationally effective than chemical addition. This pilot also indicated that the cultures could be utilized to reduce ammonia and chemical additions within the facility. To mitigate impacts from reduced Ventura WRF influent flows and building upon the data from the collection system bioaugmentation success, Ventura WRF will be testing another pilot with culture-specific bacteria to determine whether ammonia loading from facility side streams such as dewatering centrate can be reduced, resulting in a more enhanced BNR process that can achieve a higher rate of total inorganic nitrogen (TIN) removal.

b. Collection System Expansion and Upgrades

In addition to the Ventura WRF plant upgrades, expansion and improvements, the City has also expanded and completed improvements to the collection system. In February 2016, the City assumed responsibility for the collection system from Montalvo Community Services District (MCSD).

Among other improvements, during the permit term of 2013 – 2018, in compliance with the SSO Consent Decree, its SSMP, and its adopted ordinance, policies and programs, the City has completed 6 miles of sewer main and line replacement, 4 miles of sewer line repair, and repaired or replaced 265 sewer manholes. Operationally, between 2012 and 2018, 75% of all sewer lines were visually inspected, and 100% of force mains were inspected and the cycle restarted.

As a result of the City's upgrades to the SSMP and collection system since executing the SSO Consent Decree, pursuant to the CIWQS Database, the City's collection system performed far better in terms of limiting sanitary sewer system overflows as compared to statewide and regional average collection system performance.

The following table presents Ventura WRF's planned changes contained in the 2018-2024 Capital Improvement Project.

**Table F-5. Improvements and Scheduled Implementation Dates**

| Project Name | Description | Schedule |
|---|---|---|
| Bioaugmentation Pilot | Pilot project to determine if dosing of cultivated bacterial strains prior to the anoxic basins can augment the ammonia and nitrogen removal of existing BNR process. | End of 2019 |
| Aeration Blowers and Control Replacement | Replacing the existing aeration blowers system with new energy-efficient blowers and instrumentation in a new building, to be fully automated with SCADA and nutrient monitoring control loops. Project completion is dependent upon results for Bioaugmentation Pilot currently underway. | Current to 2021 |
| Primary Treatment Enhancements | This project will evaluate replacing the primary sludge gravity thickener with a new primary sludge thickening unit and pump station. | TBD based on outcome of other projects |

| Project Name | Description | Schedule |
|---|---|---|
| Tertiary Filter Replacement | This project will replace existing pressure filters with current technology and provide capacity for future wastewater flows. This will help to ensure optimal filtration and mitigate future turbidity exceedances. | Fall 2019 to 2020 |
| Anaerobic Digesters | Installation of a new gas flare, gas mixing equipment and heating system to improve gas delivery to the cogeneration unit, increase the quality of sludge produced by the digesters, and optimize the performance of the centrifuge dewatering equipment. | Current to 2020 |
| Increase Anoxic Tank Capacity | This project involves the design and construction of two new anoxic tanks to add to the existing tanks in the adjacent open space. The increased anoxic capacity will help to alleviate the modified anoxic zones in the aeration basins, increasing the reliability of the BNR process and further reduce the level of nitrate. The aeration process controllers and blowers will be updated to increase nitrification. Project need dependent upon results of Bioaugmentation Pilot currently underway. | TBD based on outcome of Bioaugmentation Pilot |
| Secondary Clarifier Improvements | This project consists of replacing six existing rectangular secondary clarifier mechanisms by designing and constructing improvements to better control and monitor flow distribution, enhancing settling of the clarifiers and improving turbidity and solids removal of the facility. | 2024 |
| Chlorine Contact Cover Rehabilitation and Replacement | This project consists of epoxy-coating the chlorine contact chamber and the design and construction of a new, permanent cover structure to prevent algae growth within the chambers that may lead to coliform exceedances. In 2011, tarps were installed to mitigate algae growth and coliform exceedances, and while effective, they are prone to weathering and require frequent repair. | 2024 |
| Equalization Basin Mixing | Installation of mixing in the flow equalization basins will help to prevent septic conditions from occurring in the structures and improve the performance of the primary clarifiers and biological process. | 2024 |
| Recycled Water Pump Station Upgrade | This project will upgrade the existing recycled water pump stations to one larger station to feed the entire recycled water line system. | 2024 |
| Primary Clarifier Structural Upgrades | This project will evaluate the structural integrity of existing primary clarifiers and consider rehabilitation or replacement of structures along with associated pumping and piping. | TBD based on outcome of other projects |

Recycled Water Development

The City of Ventura has completed an engineering design concept study to increase recycled water use and decrease discharge to the estuary. The design was presented in the 2017 Report of Waste Discharge, at meetings with resources agencies in late 2018, and in a 2019 Ventura Water Supply Projects Draft Environmental Impact Report (DEIR). In addition to maintaining compliance with this Order, the objectives of the Ventura Water Supply Projects include:

- Augmenting local water supply in an environmentally responsible and cost-efficient manner.
- Providing a drought- and disaster-resilient water supply.
- Providing, maintaining, and improving ecological resources and related beneficial uses of the SCRE and its watershed.
- Improving municipal supply groundwater quality within the service area.

Through a Consent Decree between the City and Wishtoyo/Ventura Coastkeeper/Heal the Bay following a lawsuit brought against the City after the adoption of the 2008 NPDES permit, the City has committed to build and operate facilities needed to implement the recommendations of a Science Review Panel (SRP), with consideration of modifications requested by the resource agencies, and achieve the goals of the Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Estuary Policy) at the earliest practicable date. The City supports the conclusions of the SRP that reducing the discharges to 0.0 MGD would enhance the most sensitive beneficial uses during critical low flow conditions (e.g., berm closed). The City is designing and permitting a multi-facility infrastructure project that will divert up to 90% to 100% of the current Ventura WRF tertiary treated effluent for indirect or direct potable reuse. Due to the complexity of these new facilities, the CEQA review requirements that apply to their planning, design and construction, and the number of state and federal permits needed to build the facilities and divert Ventura WRF's discharge away from the SCRE, the City estimates that at least six years will be required to implement the project. The City has proposed an accelerated schedule designed to complete construction of the facilities to implement the SRP recommendations in furtherance of the Estuary Policy by January 1, 2025, and to make the system fully operational by December 31, 2025, as mandated by the Consent Decree.

On March 7, 2019, the City held a public meeting to discuss the draft Environmental Impact Report (EIR) for future Ventura water projects. The EIR proposed implementation of a new recycled water facility to reduce the discharge of effluent into the estuary to 1.9 MGD of effluent into the estuary, with future reductions to 0.5 to 0.0 MGD in flow, with the oversight of the USFWS, National Oceanic and Atmospheric Administration (NOAA) and the California Department of Fish and Wildlife (CDFW) and the Regional Water Board through NPDES permitting. On October 14, 2019, the City Council unanimously certified the EIR.

## 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 (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. As discussed above, all future planned upgrades are subject to a separate CEQA process, the construction of which and discharge from which are not authorized by this Order.

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

1. **Water Quality Control Plans.** The Water Quality Control Plan for the Los Angeles Region (Basin Plan) designates beneficial uses, establishes water quality objectives (WQOs), 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. Beneficial uses applicable to the Santa Clara River Estuary, the Pacific Ocean, and the Oxnard Forebay groundwater basin are as follows.

**Table F-6. Basin Plan Beneficial Uses – Receiving Waters**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Santa Clara River Estuary | Existing:<br>Navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); estuarine habitat (EST); marine habitat (MAR); wildlife habitat (WILD); rare, threatened, or endangered species[1] (RARE); migration of aquatic organisms, including fish[2] (MIGR); spawning, reproduction, and/or early development[2] (SPWN); and wetland[3] (WET). |
| 001 | Pacific Ocean, Nearshore[4] | Existing:<br>Industrial water supply (IND); NAV; REC-1; REC-2; COMM; MAR; WILD; preservation of biological habitats[5] (BIOL); RARE[1]; MIGR[2]; SPWN[2]; and, shellfish harvesting (SHELL). |

[1] One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

[2] Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

[3] Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

[4] Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.

[5] Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Fermin Marine Life Refuge.

**Table F-7. Basin Plan Beneficial Uses – Ground Waters**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Oxnard Plain Groundwater Basin (unconfined and perched) | Existing<br>Municipal (MUN); Agriculture (AGR);<br>Industrial Supply (IND); and Process Water (PROC) |

**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.

**Sediment Quality**. The State Water Board adopted the Water Quality Control Plan for Enclosed Bays and Estuaries (EBE Plan) – 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. Sediment quality limits are not defined for nutrients. The State Water Board amended Part 1 of the EBE Plan on April 6, 2011 and June 5, 2018. Requirements of this Order implement sediment quality objectives of this Plan.

**National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA 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, USEPA 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.

**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 USEPA 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 USEPA 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. (See section IV.C.1. of this Fact Sheet)

**Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes (40 CFR section 131.21, 65 Federal Register 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

**Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs) for individual pollutants. The TBELs consist of restrictions on BOD, Total Suspended Solids (TSS), oil and grease, settleable solids, turbidity, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS, oil and grease, settleable solids, turbidity, and pH are discussed in section IV.B.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-

based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are carried over from the previous permit.

WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and WQOs contained in the Basin Plan and statewide water quality control plans, including the Ocean Plan, the EBE Plan and ISWEBE Plan, were approved under state law and submitted to and approved by USEPA. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

**Antidegradation Policy.** Federal regulation 40 CFR 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 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 CFR section 131.12 and State Water Board Resolution 68-16. This Order is consistent with antidegradation policies, as discussed in section IV. D. 2.

**Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR 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. This Order complies with anti-backsliding provisions.

**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, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

**Water Rights.** When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. 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 surface or subterranean stream, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211. This is not an NPDES requirement.

The city of Ventura received an Order Approving Change in Place of Use, Purpose of Use, and Quantity of Discharge (Wastewater Petition WW0083) from the Division of Water Rights on May 6, 2016, to change the amount of discharge to the estuary, and to divert tertiary treated recycled water to existing permitted recycled water uses. The Order allows the City to increase the recycled water discharge allowed by Regional Water

Board Order No. 87-045. Previously, about 0.5 MGD of tertiary treated effluent was redirected to irrigation and golf course use. The Order allows an increase to a maximum of 2.0 MGD, or 23% of the Ventura WRF's annual effluent flow of 8.5 MGD, as measured at the time of the Order.

In the future, when the transition plan to reduce the flow to the estuary is implemented, the Permittee shall comply with Water Code section 1211, as discussed above.

**Estuary Policy**. The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Estuary Policy), adopted by the State Water 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." This Order implements the Estuary Policy by requiring plans to address discharge volume reduction. The volume reduction will be addressed in the Transition Plan that is required to be submitted by this Order.

**Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE) of California**.

d. ***Mercury Provisions***: The State Water Board adopted Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California-Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Mercury Provisions) through Resolution No. 2017-0027, which was approved by OAL on June 28, 2017 and became effective upon U.S. EPA approval on July 14, 2017. The Mercury Provisions established one narrative and four numeric water quality objectives for mercury and three new beneficial use definitions, implemented through NPDES permits issued pursuant to CWA section 402, waste discharge requirements, or waivers of waste discharge requirements. The Provisions included implementation provisions for individual non-storm water NPDES permits for municipal and industrial dischargers; storm water discharges including MS4 discharges and discharges regulated by the Industrial General Permit (NPDES No. CAS000001); mine site remediation; nonpoint source discharges; dredging activities; and wetland projects.

   The Mercury Provisions contain provisions that apply to POTWs and individual industrial discharges. The Mercury Provisions converted the fish tissue-based water quality objectives to water column values, denoted as "C". The implementation section of the Mercury Provisions requires the application of section 1.3 of the SIP with modifications to determine whether a discharge has reasonable potential to cause or contribute to an exceedance of the water column concentration for mercury and the development of effluent limitations for mercury based on the water quality objective applicable to the receiving water in accordance with Chapter IV.D.2.b. (See section IV.C.3. for SIP procedures).

   Among the new objectives established in the Mercury Provisions, the California Least Tern Prey Fish Water Quality Objective is specifically identified in Attachment D as applying to the Santa Clara River Reach 1 and the estuary, because least tern and its habitat are both present. For this waterway, the average methylmercury concentrations may not exceed 0.03 mg/kg fish tissue from April 1 through August 31, as applies to the wet weight concentration in whole fish less than 50 mm in total length. The Mercury Provisions convert the fish tissue-based water quality objectives into water column values to be used for reasonable potential analysis and

development of effluent limitation. The objective for the estuary, which is a slow-moving water body, is 4 ng/L total mercury. Mercury sample results were reported as "non-detect" with the detection limit of 0.02 µg/L for the monitoring between 2014 and 2018. According to the Mercury Provisions, "non-detect" data with the detection limit higher than 4 ng/l are not suitable for the analysis. Since the collected data did not meet the minimum detection limit stated by the Mercury Provisions, those data were not qualified to be evaluated and be used for the purposes of performing RPA. Therefore, no effluent limitations were set in this Order. However, the monitoring requirement for mercury in Attachment E has a new detection limit of 0.5 ng/L.

e. ***Bacteria Provisions***: This Order also implements the State Water Resources Control Board's "*Part 3 of the Water Quality Control Plan for the Inland Surface Waters, Enclosed Bays, and Estuaries of California-Bacteria Provisions and a Water Quality Standards Variance Policy and an Amendment to the Water Quality Control Plan for Ocean Waters of California- Bacterial Provisions and a Water Quality Standards Variance Policy"* (Bacteria Provisions) setting state-wide bacteria water quality objectives to protect recreational users from the effects of pathogens. The Bacteria Provisions were approved by OAL on February 4, 2019 and became effective upon USEPA approval on March 22, 2019. The Bacteria Provisions establish *Enterococci* as the sole indicator of pathogens in all waterbodies where the salinity is greater than 1 ppth more than 5 percent of the time, such as estuaries. These *Enterococci* water quality objectives supersede any numeric water quality objectives for bacteria for the protection of the REC-1 beneficial use in Regional Water Board Basin Plans prior to the effective date of the Bacteria Provisions, except in certain circumstances, such as where there are site-specific numeric water quality objectives for bacteria. Total maximum daily loads (TMDLs) established before March 22, 2019, to implement numeric water quality objectives for bacteria, including the Santa Clara River Estuary and Reaches 3, 5, 6 and 7 Indicator Bacteria TMDL (Santa Clara River Bacteria TMDL), are in effect for numerous waterbodies throughout the state. Such TMDLs remain in effect where a bacteria water quality objective supersedes a water quality objective for bacteria for which the TMDL was established.

**Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to comply with effluent limits developed to protect human health.

**Water Recycling.** In accordance with statewide policies concerning water reclamation[6], this Regional Water Board strongly encourages, wherever practical, water recycling, water conservation, and use of storm water and dry-weather urban runoff. The Permittee shall submit a feasibility report evaluating the feasibility of additional recycling efforts to reduce the amount of treated effluent discharged as authorized in this Order and a recycled water progress report describing any updates to the development of increased recycled water production and/or distribution. A water rights 1211 application will be necessary if the additional recycling would reduce the current discharge flow rate to the affected water body. These reports shall be included in the annual report submittal, as described in the Monitoring and Reporting Program (MRP). The City has been operating its recycled water program under Water Reclamation Requirements (WRR) Order No. 87-45 and, in February 2015, the City filed Wastewater Petition WW0083 with the State Water Board pursuant to California Water Code Section

[6] See, e.g., CWC sections 13000 and 13550-13557, State Water Board Resolution No. 77-1 (Policy with Respect to Water Reclamation in California), and State Water Board Resolution No. 2009-0011 (Recycled Water Policy).

1211. The petition sought to change the volume and place of use of tertiary-treated water currently discharged to the SCRE. In response to the increasing demand for recycled water use, the City petitioned the State Water Board and was granted the authorization to increase recycled water use from 0.5 MGD to a maximum of 2.0 MGD for the purposes of trucking/hauling recycled water for irrigation and dust control uses.

**Monitoring and Reporting.** 40 CFR section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The MRP establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.

**Sewage Sludge/Biosolids Requirements.** Section 405 of the CWA and implementing regulations at 40 CFR part 503 require that producers of sewage sludge/biosolids meet certain reporting, handling, and use or disposal requirements. USEPA has not delegated the authority to regulate biosolids/sludge under 40 CFR part 503 to the state of California. Therefore, references to the federal requirements and implementation language for biosolids/sludge, which may have been included in the previous NPDES Order, are not included in this renewal Order. Major publicly owned treatment works should contact USEPA Region 9 (Ms. Lauren Fondahl, or her successor) regarding the submittal of biosolids/sludge reports and any electronic submittal requirements.

### D. Impaired Water Bodies on CWA Section 303(d) List

The State Water Board prepared the California 2014 and 2016 Integrated Report based on a compilation of the Regional Water Boards' Integrated Reports. These Integrated Reports contain both the Clean Water Act (CWA) section 305(b) water quality assessment and section 303(d) list of impaired waters. In developing the Integrated Reports, the Water Boards solicit data, information and comments from the public and other interested persons. On October 3, 2017, the State Water Board approved the CWA Section 303(d) List portion of the State's 2014 and 2016 Integrated Report (State Water Board Resolution No. 2017-0059). On April 06, 2018, USEPA approved California's 2014 and 2016 Integrated Report.

The CWA section 303(d) List can be found at the following link:

https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml

The Santa Clara River Estuary is listed as impaired for multiple pollutants in the California's 2014 and 2016 Integrated Report. The following pollutants were identified as impacting the receiving waters:

1. Santa Clara River Estuary – Calwater Watershed 40311000 (Hydro. Unit No. 402.10 in Basin Plan)

   Pollutants – Ammonia, ChemA, indicator bacteria, toxaphene, and toxicity

### E. Other Plans, Polices and Regulations

1. **Climate Change Adaptation and Mitigation**. On March 7, 2017, the State Water Board adopted a resolution in recognition of the challenges posed by climate change that requires a proactive approach to climate change in all State Water Board actions, including drinking water regulation, water quality protection, and financial assistance (Resolution No. 2017-0012). The resolution lays the foundation for a response to climate change that is integrated into all State Water Board actions, by giving direction to the State Water Board divisions and encouraging coordination with the Regional Water Boards. In response to the State Water Board's resolution, the Los Angeles Water Board adopted "A Resolution to Prioritize Actions to Adapt to and Mitigate the Impacts of Climate Change on the Los Angeles Region's Water Resources and Associated Beneficial Uses"

(Resolution No. R18-004) on May 10, 2018. The resolution summarizes the steps taken so far to address the impacts of climate change within the Los Angeles Water Board and lists a series of steps to move forward. These include the identification of potential regulatory adaptation and mitigation measures that could be implemented on a short-term and long-term basis by each of the Los Angeles Water Board's programs to take into account, and assist in mitigating where possible, the effects of climate change on water resources and associated beneficial uses. This Order contains provisions to require planning and actions to address climate change impacts in accordance with both the State and Regional Water Boards' resolutions.

The Permittee shall develop a Climate Change Effects Vulnerability Assessment and Management Plan (Climate Change Plan) and submit the Climate Change Plan to the Regional Water Board for the Executive Officer's approval no later than 12 months after adoption of this Order. The Climate Change Plan shall include an assessment of short and long term vulnerabilities of the facility and operations as well as plans to address vulnerabilities of collection systems, facilities, treatment systems, and outfalls for predicted impacts in order to ensure that facility operations are not disrupted, compliance with permit conditions is achieved, and receiving waters are not adversely impacted by discharges. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigations to ameliorate climate-induced impacts including, but not limited to, changing influent and receiving water quality and conditions, as well as the impact of rising sea level (where applicable), wildfires, storm surges and back-to-back severe storms that are expected to become more frequent.

**Sources of Drinking Water Policy**. On May 19, 1988, the State Water Board adopted Resolution No. 88-63, Sources of Drinking Water (SODW) Policy, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with the State Water Board's SODW Policy, on March 27, 1989, the Regional Water Board adopted Resolution No. 89-03, Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B).

The Basin Plan indicates that there is no MUN or GWR beneficial use of the estuary. Because there is no MUN or GWR beneficial use of the estuary, this Order does not contain limits based on MCLs, which are used to protect the MUN and GWR beneficial uses of water bodies. However, this Order is still protective of the local groundwater because the wastewater treatment facility produces treated effluent with levels of pollutants that are much lower than MCLs.

**Title 22 of the California Code of Regulations (CCR Title 22).** The California Department of Public Health (CDPH) established primary and secondary maximum contaminant levels (MCLs) for inorganic, organic, and radioactive contaminants in drinking water. These MCLs are codified in Title 22. The Basin Plan (Chapter 3) incorporates Title 22 primary MCLs by reference. This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect. Title 22 primary MCLs have been used as bases for effluent limitations in WDRs and NPDES permits to protect groundwater recharge (GWR) beneficial use when that receiving groundwater is designated as MUN. As stated above, the estuary has no MUN or GWR beneficial use; therefore, these MCLs are not applied as limits in this Order.

**Secondary Treatment Regulations**. 40 CFR part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding.

1. **Storm Water**. CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Water Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.* This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity. General NPDES Permit No. CAS000001 was revised on April 1, 2014 and became effective on July 1, 2015.

   Storm water runoff from the Ventura WRF is regulated under General NPDES Permit No. CAS000001. On June 11, 2015, the Permittee filed a Notice of Intent to comply with the requirements of the general permit. The Permittee developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Water Board's General NPDES Permit No. CAS000001.

2. **Sanitary Sewer Overflows.** The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 United States Code sections 1311, 1342). The Permittee must comply with State Water Board No. 2006-0003-DWQ, Statewide *General Waste Discharge Requirements for Sanitary Sewer Systems* (SSS WDR) as amended by State Water Board Order No. WQ 2013-0058-exec and any subsequent order updating these requirements. These statewide WDRs require public agencies that own or operate sanitary sewer systems with greater than one mile of sewer lines to enroll for coverage, comply with requirements to develop and implement sewer system management plans, and report all sanitary sewer overflows (SSOs) to the State Water Board's online SSOs database. The Permittee enrolled in the SSO WDRs in 2006, and the collection systems of the Permittee are covered under the SSO WDRs. This NPDES permit also contains requirements pertaining to the Permittee's collection system. The Permittee must properly operate and maintain its collection system (40 CFR part 122.41 (e)), report any non-compliance (40 CFR sections 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR section 122.41(d)).

   The requirements contained in this Order sections VI.C.3.b (Spill Cleanup Contingency Plan section), VI.C.4 (Construction, Operation and Maintenance Specifications section), and VI.C.6 (Spill Reporting Requirements section) are intended to be consistent with the requirements of the Sanitary Sewer Systems WDR. The Regional Water Board recognizes that there may be some overlap between these NPDES permit provisions and those of the Sanitary Sewer Systems WDR, related to the collection systems. The requirements of this WDR are considered the minimum thresholds (see Finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board will accept the documentation prepared by the Permittees under the Sanitary Sewer Systems WDR for compliance purposes as satisfying the requirements in sections VI.C.3.b, VI.C.4, and VI.C.6, provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to Sanitary Sewer Systems WDR, section D, provision 2(iii) and (iv), the provisions of this NPDES permit supersede the Sanitary Sewer Systems WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative. The requirements of this permit are more stringent that the Sanitary Sewer Systems WDR because in addition to the Sanitary Sewer Systems WDR requirements, this NPDES permit requires water quality monitoring of the receiving water when the spill reaches the surface water.

3. **Watershed Management -** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region. Information about watersheds in the region can be obtained at the Regional Water Board's website at https://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/ . The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available.

   A multi-stakeholder workgroup, including POTWs, developed the Santa Clara River Watershed Management Program (SCRWMP), and obtained an approval from the Regional Water Board in 2012. The Permittee has been participating in the watershed wide monitoring program and this Order incorporates monitoring requirements for instream bioassessment monitoring under the SCRWMP.

4. **Relevant TMDLs –** Section 303(d) of the CWA requires states to identify water bodies that do not meet water quality standards and then to establish TMDLs for each waterbody for each pollutant of concern. TMDLs identify the maximum amount of pollutants that can be discharged to waterbodies without causing violations of water quality standards.

   a. **Santa Clara River Indicator Bacteria TMDL** - On July 8, 2010, the Regional Water Board adopted Resolution No. R10-006, Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Indicator Bacteria in the Santa Clara River Estuary and Reaches 3, 5, 6 and 7. The significant contributors of bacteria loading to the river and Estuary were identified as dry- and wet-weather urban runoff discharges from the storm water conveyance system. Other point and nonpoint sources were analyzed and found to be less significant. Stormwater loading is controlled by the enrollment of the Ventura WRF in the general stormwater permit described in section III.E.4. The waste load allocation for the wastewater discharge from the Ventura WRF is set equal to a 7-day median of 2.2 MPN/100 mL of total coliform to ensure zero (0) allowable exceedance days of the numeric targets. This also ensures that there will be no exceedances of the geometric mean targets.

## IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source Permittees 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: 40 CFR section 122.44(a) requires that permits include applicable Technology Based Effluent Limits (TBELs) and standards; and 40 CFR section 122.44(d) requires that permits include Water Quality Based Effluent Limits (WQBELs) to attain and maintain applicable numeric and narrative water quality standards to protect the beneficial uses of the receiving water.

The variety of potential pollutants found in discharges from the Facility presents a potential for aggregate toxic effects to occur. Whole effluent toxicity (WET) is an indicator of the combined effect of pollutants contained in the discharge. Chronic toxicity is a more stringent requirement than acute toxicity. Therefore, chronic toxicity is considered a pollutant of concern that must be evaluated to ensure protection of narrative Basin Plan Objectives.

### A. Discharge Prohibitions

Effluent and receiving water limitations in this Board Order are based on the CWA, Basin Plan, State Water Board's plans and policies, USEPA guidance and regulations, and best practicable waste treatment technology. This Order authorizes the discharge of tertiary-treated wastewater from Discharge Point 001. It does not authorize any other types of discharges.

### B. Technology-Based Effluent Limitations (TBELs)

#### 1. Scope and Authority

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Permittee to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level--referred to as "secondary treatment" --that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations which are specified in 40 CFR part 133. These technology-based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of $BOD_5$20°C, TSS, and pH.

#### 2. Applicable TBELs

Consistent with the above statutory and regulatory requirements, this Facility is subject to technology-based effluent limitations (TBELs) for the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$20°C, TSS, and pH. However, all TBELs from the previous Order No. R4-2013-0174 are based on tertiary-treated wastewater treatment standards. The pH effluent limitations are based on the Basin Plan WQO, which is more stringent than the TBEL. These effluent limitations have been carried over from the previous Order to avoid backsliding. Further, mass-based effluent limitations are based on a design flow rate of 14 MGD. The removal efficiency for BOD and TSS is set at the minimum level attainable by secondary treatment technology. The following table summarizes the TBELs applicable to the Facility.

**Table F-8. Summary of TBELs**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| $BOD_5$20°C | mg/L | 20 | 30 | 45 |
| $BOD_5$20°C | lbs/day[7] | 2,340 | 3,500 | 5,250 |
| TSS | mg/L | 15 | 40 | 45 |
| TSS | lbs/day[7] | 1,750 | 4,670 | 5,250 |
| Removal Efficiency for BOD | % | ≥85 | -- | -- |
| Removal Efficiency for TSS | % | ≥85 | -- | -- |

[7] The mass emission rates are based on the plant design flow rate of 14 MGD and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

These TBELs are also contained in similar NPDES permits, for similar facilities, based on the treatment level achievable by tertiary wastewater treatment systems. These effluent limitations are also consistent with the State Water Board precedential decision, State Water Board Order No. WQ 2004-0010 (City of Woodland).

### C. Water Quality-Based Effluent Limitations (WQBELs)

#### 1. Scope and Authority

CWA Section 301(b) and 40 CFR 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 in the receiving water. This Order contains more stringent requirements than secondary treatment requirements that are necessary to meet applicable water quality standards. In section VIII of this fact sheet, the Regional Water Board has considered the factors listed in Water Code section 13241 in establishing these requirements. The rationale for these requirements is discussed starting from section IV.C.2.

Section 122.44(d)(1)(i) of 40 CFR 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 in the receiving water, 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) USEPA recommended criteria under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter 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). WQBELs must also be consistent with the assumptions and requirements of TMDL WLAs approved by USEPA.

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.

#### 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. The Basin Plan establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the SCRE affected by the discharge have been described previously in this Fact Sheet.

b. The Basin Plan also specifies narrative and numeric WQOs applicable to surface water as shown in the following discussions.

##### i. $BOD_5$20°C and TSS

$BOD_5$20°C is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, fish kills.

40 CFR part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and TSS, as:

1) The 30-day average shall not exceed 30 mg/L, and
2) The 7-day average shall not exceed 45 mg/L.

This Order provides tertiary treatment requirements, such as the $BOD_5$20°C and TSS limits that are more stringent than secondary treatment requirements. The Ventura WRF achieves solids removal that is better than secondary-treated wastewater by adding chemical coagulants to enhance the precipitation of solids, and by filtering the secondary effluent.

The monthly average, the 7-day average, and the daily maximum limits cannot be removed because none of the anti-backsliding exceptions apply. Those limits were all included in the previous permit (Order R4-2013-0174) and the Ventura WRF has been able to meet all three limits (monthly average, the 7-day average, and the daily maximum) for both $BOD_5$20°C and TSS.

In addition to including mass-based and concentration-based effluent limitations for $BOD_5$20°C and suspended solids, the Order also contains percent removal requirements for these two constituents. In accordance with 40 CFR sections 133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

**ii. pH**

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to buffering from naturally-occurring carbonate dissolved in the water. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR section 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that (1) inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan which reads “the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.”

**iii. Settleable solids**

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan narrative, “Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.” The numeric limits are

empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation because short-term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit and the Ventura WRF has been able to meet both limits.

**iv. Oil and grease**

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan narrative, “Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.”

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation because spikes that occur under a 7-day average scheme could cause a visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit and the Ventura WRF has been able to meet both limits.

**v. Chlorine (Residual)**

Disinfection of wastewaters with chlorine produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan water quality objective, “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.”

This Order imposes a daily maximum limitation because it is impracticable to use a 7-day average or a 30-day average limitation, and because it is not as protective of beneficial uses as a daily maximum limitation. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills.

**vi. Chloride, Total Dissolved Solids (TDS), Sulfate, and Boron**

Table 3-10 of the Basin Plan indicates that there are no water body-specific objectives for surface water for Total Dissolved Solids (TDS), chloride, sulfate and boron in the estuary.

**vii. Dissolved Oxygen**

This Order, the Estuary Policy and the Basin Plan include narrative limits for dissolved oxygen in the receiving water; and also specify that it shall not be depressed below 5 mg/L as a result of the wastes discharged, and the mean

of all waters measured shall be greater than 7 mg/L, except when natural conditions cause lesser concentrations. The 2018 Nutrient, Toxicity and Dissolved Oxygen study characterized low dissolved oxygen events in the Estuary receiving water, which were not correlated with low effluent dissolved oxygen. Dissolved oxygen below 5 mg/l was found at some times between 2012 and 2016, in spring, summer and fall, at the north and west ends of the estuary. Sixty-three percent of the events took place at the northwest edge of the estuary (RSW-004) where water is shallow, circulation is limited and dissolved nutrients from the Ventura WRF first enter the estuary.

**viii. Methylene Blue Active Substances (MBAS)**

Given the nature of the facility, which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed the narrative water quality objective for the prohibition of floating material such as foams and scums. In addition, surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use, based on the Basin Plan. Therefore, an effluent limitation for MBAS is retained.

Cobalt thiocyanate active substances (CTAS) are monitored in the same way as MBAS. The presence or absence of CTAS during sampling assists permit writers and the Permittee in diagnosing the source of floating materials, such as foam or scum, which are prohibited by the Basin Plan when they cause nuisance or adversely affect beneficial uses. There is no limit or compliance requirement for CTAS because it has no established water quality objective.

**ix. Mercury**

The State Water Resources Control Board adopted "*Part 2 of the Water Quality Control Plan for the Inland Surface Waters, Enclosed Bays, and Estuaries of California- Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions*" (Mercury Provisions) through Resolution No. 2017-0027 and approved by USEPA on July 14, 2017. The minimum detection level for analytical method used for effluent monitoring of mercury completed under R4-2013-0174 was 0.02 ug/L. The method is not sufficiently sensitive to identify exceedances of the Mercury Provisions and no detections were reported. A lower detection level will be used for mercury analysis in this Order.

**x. Nitrogen Compounds/Nutrient Compounds**

Nitrogen is a nutrient. Excessive amounts of nutrients can lead to algae growth and hypoxia. Chapter 3 of the Basin Plan contains the following WQO, "Waters shall not exceed the 10 mg/L nitrogen as nitrate-nitrogen plus nitrite-nitrogen (NO3-N + NO2-N), 45 mg/L as nitrate (NO3), 10 mg/L as nitrate-nitrogen (NO3-N), or 1 mg/L as nitrite-nitrogen (NO2-N) or as otherwise designated in Table 3-10." Although there are no water body-specific objectives for nitrogen in the Estuary, based on the Discharger's effluent data from their SMRs, the discharge has reasonable potential to exceed the nitrate plus nitrite as nitrogen 10 mg/L water quality objective (WQO), specified in the Basin Plan. Effluent limitations are required to protect beneficial uses. The Discharger will have to meet the WQOs at the end-of-pipe, since algae

blooms are already present in the estuary and no dilution credit is appropriate.

**xi. Total Ammonia**

Ammonia is a pollutant routinely found in the wastewater effluent of POTWs, in landfill-leachate, and in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia ($NH_3$) and the ammonium ion ($NH_4^+$). They are both toxic, but the neutral, un-ionized ammonia species ($NH_3$) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

A reasonable potential analysis (RPA) was conducted for total ammonia, as $NH_3^-$ plus $NH_4+$, using the Discharger's effluent data from their SMRs January 2014 through March 2018. The RPA compares the effluent data with the Basin Plan WQOs and determined there is a reasonable potential to cause or contribute to an exceedance of the Basin Plan WQO for ammonia.

Consistent with 40 CFR section 122.44(d), this Order contains numeric effluent limitations for total ammonia. They are calculated here following the procedure also used in the previous Order R4-2013-0174.

The Facility discharges to the Santa Clara River Estuary via water quality/wildlife ponds. The ponds serve water quality polishing, storage and equalization functions, and are also utilized by birds. Currently, the water quality related function of the ponds includes allowing time for temperature and pH to stabilize and more closely match ambient conditions in the Santa Clara River Estuary prior to discharge. In order to prevent water quality degradation in the ponds and ensure protection of aquatic life residing in the estuary, the Discharger is required to demonstrate compliance with effluent limitations for Total Ammonia at two separate monitoring stations: EFF-001 and EFF-001A. The effluent limitation for Total Ammonia at EFF-001 is a water quality based effluent limitation, calculated using the treatment facility's recent historical performance. The effluent limitation for Total Ammonia at EFF-001A is also a water quality based effluent limitation calculated using existing data collected from the estuary. Sampling point EFF-001 is located downstream of all treated effluent processes and above the wildlife ponds and EFF-001A is located between the wildlife ponds and the estuary.

**Translation of Total Ammonia Objectives into Effluent Limitations Applicable to Discharge Point 001 with Point of Compliance Measured at EFF-001**

Step 1 – Identify applicable water quality criteria.

From the Discharger's effluent, the following data are summarized below:

pH = 7.13 at 50$^{th}$ percentile and temperature = 25.3°C

pH = 7.26 at 90th percentile and temperature = 28.4°C

From Table 3-1 of the Basin Plan, using 90th percentile pH 7.26;

One-hour Average Objective for Inland Surface Waters Characteristic of Freshwater not Designated COLD and/or MIGR = 27.54 mg/L

The Facility discharges into a receiving waterbody that has a "MIGR" beneficial use designation. According to the Basin Plan, when selecting the applicable freshwater one-hour average ammonia water quality objective, it is assumed that salmonids may be present in waters designated in the Basin Plan as "COLD" or "MIGR" in the absence of additional information to the contrary. However, in the USEPA approval letter dated June 19, 2003, of the 2002 Ammonia Basin Plan Amendment, USEPA clarified that the one-hour average ammonia objective is dependent on pH and whether sensitive coldwater fish are present. Although the Estuary has a "MIGR" beneficial use designation, it has no "COLD" beneficial use designation. There are no coldwater fish present in the receiving water. Therefore, for purposes of calculating an effluent limit based on the freshwater ammonia objectives, the one-hour average ammonia objective used is that for "Waters not Designated COLD or MIGR." The one-hour average objective is dependent on pH and whether salmonid fish species are present, but not on temperature.

30-day Average Objective

According to the Basin Plan, "Early life stages (ELS) of fish are presumptively present and must be protected at all times of the year unless the water body is listed in Table 3-5 of the Basin Plan or unless a site-specific study is conducted, which justifies applying the ELS absent condition or a seasonal ELS present condition." Since there is no site-specific study conducted at the site, the 30-day average objective will be based on the "ELS Present Condition."

The 30-day average ammonia is found in Table 3-2 of the Basin Plan, or the 30-day average ELS present can be calculated using the formula:

Substitute the 50th percentile pH = 7.13 and temperature = 25.28°C into the formula below.

ELS Present

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}}\right) * MIN(2.85, 1.45 * 10^{0.028*(25-T)})$$

Where T = temperature expressed in ºC.

Substituting the values of pH and temperature in the above formula, the 30-day Average ELS Present = 2.79 mg/L

From Basin Plan Chapter 3, Table 3-2, footnote 2;

4-day Average Objective = 2.5 times the 30-Day Ave. Obj.

4-day Average Objective = 2.5 x 2.79 = 6.98 mg/L

Step 2 – For each water quality objective, calculate the effluent concentration allowance (ECA) using the steady-state mass balance

model. Since mixing has not been allowed by the Regional Water Board, this equation applies:

ECA = WQO

Step 3 – Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjust for variability. By using Table 3-6, calculated CV (i.e., standard deviation/mean for ammonia), the following are the ECA.

ECA multiplier when CV = 0.418

One-hour Average = 0.426

Four-day Average = 0.632

30-day Average = 0.840

Using the LTA equations:

ELS Present:

$LTA_{1\text{-hour}/99} = ECA_{1\text{-hour}} \times ECA\ multiplier_{1\text{-hour}99}$

= 27.54 x 0.426 = 11.737 mg/L

$LTA_{4\text{-day}/99\ ELS\ Present} = ECA_{4\text{-day}} \times ECA\ multiplier_{4\text{-day}99}$

= 6.98 x 0.632 = 4.409 mg/L

$LTA_{30\text{-day}/99\ ELS\ Present} = ECA_{30\text{-day}} \times ECA\ multiplier_{30\text{-day}99}$

= 2.79 x 0.840 = 2.346 mg/L

Step 4 – Select the (most limiting) of the LTAs derived in Step 3 ($LTA_{min}$)

ELS Present $LTA_{min}$ = 2.346 mg/L

Step 5 – Calculate water quality based effluent limitation MDEL and AMEL by multiplying $LTA_{min}$ as selected in Step 4, with a factor (multiplier) found in Table 3-7.

Monthly sampling frequency (n) is 30 times per month or less, and the minimum LTA is the $LTA_{30\text{-day}/99}$, therefore n = 30, ELS Present CV = 0.418.

CV = 0.418

ELS Present multiplier

MDEL multiplier = 2.346

AMEL multiplier = 1.130

ELS Present:

$MDEL = LTA_{min} \times MDEL\ multiplier_{99} = 2.346 \times 2.346 = 5.5$ mg/L

$AMEL = LTA_{min} \times AMEL\ multiplier_{95} = 2.346 \times 1.130 = 2.7$ mg/L

The effluent limitations for total ammonia with a point of compliance at EFF-001 are presented below. These effluent limitations apply year-round.

**Table F-9. Summary of Total Ammonia Effluent Limitations Applicable at EFF-001**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Total Ammonia | mg/L | 2.7 | -- | 5.5 |
| Total Ammonia | lbs/day | 203 | -- | 413 |

**Translation of Total Ammonia Objectives into Effluent Limitations Applicable to Discharge Point 001 with Point of Compliance Measured at EFF-001A**

Chapter 3 of the Basin Plan - Water Quality Objectives identifies the applicable ammonia objectives and the implementation of those objectives where salinity varies between 1 and 10 parts per thousand (ppt) as it does in the estuary. The WQOs are provided or may be calculated by formula as follows.

**a) One-Hour Average Objective**

*One-Hour Average Total Ammonia Saltwater Quality Objective as Criteria Maximum Concentration (CMC)*

Total Ammonia =

$$0.233 + 0.233 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm, T= temperature ($^0$K) and $pK_a^S$ = 0.116 * I + 9.245, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on I, I = $19.9273*S(1000-1.005109S)^{-1}$, the molar ionic strength of saltwater based on S where S= salinity

The following represents the 90$^{th}$ percentile of effluent data at M-001A for summer and winter. Sample dates were limited to those where ammonia, temperature, pH and salinity data were all collected on the same day and provided by the Discharger as part of the permit application:

(i) pH: 8.6 (summer) and 8.5 (winter)

(ii) temperature: 25.8°C (summer) and 20.9°C (winter)

(iii) Salinity: 1.32 (summer) and 1.3 (winter)

(iv) I: 0.03 (summer) and 0.03 (winter)

(v) $pK_a^S$: 9.25 (summer) and 9.25 (winter)

Use of the 90$^{th}$ percentile pH, temperature, and salinity to set effluent limitations is appropriate because of the shorter time scale of the one-hour average. It is conservative, because it is overprotective 90 percent of the time. Using the values in the formula above, the resulting One-hour Average Objective is equal to 1.29 mg/L for the summer months and 1.81 mg/L for the winter months.

**b) 4-Day Average Objective**

*Four-Day Average Total Ammonia Saltwater Quality Objective as Criteria Continuous Concentration (CCC)*

Total Ammonia =

$$0.035 + 0.035 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm, T= temperature ($^0$K) and $pK_a^S$ = 0.116 * I +9.245, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on I, I = 19.9273*S(1000-1.005109S)$^{-1}$, the molar ionic strength of saltwater based on S, where S= salinity

The following represents the 50$^{th}$ percentile of receiving water data collected at M-001A:

(i) pH: 8.1 (summer) and 8.1 (winter)

(ii) temperature: 23.4 °C (summer) and 18.7 °C (winter)

(iii) Salinity: 1.2 (summer) and 1.3 (winter)

(iv) I: 0.024 (summer) and 0.026 (winter)

(v) $pK_a^{S:}$ 9.25 (summer) and 9.25 (winter)

Use of the 50$^{th}$ percentile pH, temperature, and salinity is appropriate to set the 4-day average objective, because the 4-day average represents more long-term conditions. Using the values in the formula above, the resulting 4-day Average Objective is equal to 0.55 mg/L for the summer period and 0.77 mg/L for the winter period.

**c) Translation of Total Ammonia Saltwater WQOs into Effluent Limitations**

In order to translate the WQOs for total ammonia as described in the preceding discussions into effluent limitations, the Implementation Provisions: Translation of Objectives into Effluent Limits, was followed and is discussed below.

(i) Identify applicable water quality criteria: Four-day Average = 0.55 mg/L (summer) and 0.77 mg/L (winter) and One-hour Average = 1.29 mg/L (summer) and 0.1.81 mg/L (winter)

(ii) For each WQO, calculate the effluent concentration allowance (ECA) using the steady-state mass balance model. Since mixing has not been allowed by the Regional Water Board, this equation applies: ECA = WQO

(iii) Determine the Long-Term Average discharge condition (LTA) by multiplying each ECA with a factor (multiplier) that adjusts for variability. The coefficient of variation (CV) is calculated from the monthly averages of

the receiving water effluent ammonia at all monitoring stations by summer and winter.

(iv) Find ECA multiplier, when CV = 0.82 (summer) and 0.68 (winter): ECA multiplier$_{4\text{-day99}}$ = 0.430 (summer) and 0.489 (winter) and ECA multiplier$_{1\text{-hour99}}$ = 0.242 (summer) and 0.288 (winter)

(v) Use the LTA equations:

$LTA_{4\text{-day99}} = ECA_{4\text{-day}}$ x ECA multiplier$_{4\text{-day99}}$ = 0.55 mg/L x 0.430 = 0.237 mg/L (summer)

$LTA_{1\text{-hour99}} = ECA_{1\text{-hour}}$ x ECA multiplier$_{1\text{-hour99}}$ = 1.29 mg/L x 0.242 = 0.312 mg/L (summer)

$LTA_{4\text{-day99}} = ECA_{4\text{-day}}$ x ECA multiplier$_{4\text{-day99}}$ = 0.77 mg/L x 0.489 = 0.376 mg/L (winter)

$LTA_{1\text{-hour/99}} = ECA_{1\text{-hour}}$ x ECA multiplier$_{1\text{-hour99}}$ = 1.81 mg/L x 0.288 = 0.522 mg/L (winter)

(vi) Select the (most limiting) of the LTAs derived in Step 3: $LTA_{min}$ = 0.237 (summer) and $LTA_{min}$ = 0.376 mg/L (winter)

(vii) Calculate maximum daily effluent limit (MDEL) and average monthly effluent limit (AMEL) by multiplying $LTA_{min}$ as selected in Step 4 with a factor (multiplier).

Monthly sampling frequency (n) is 4 times per month or less, and the minimum LTA is the $LTA_{4\text{-day99}}$ for summer and the $LTA_{1\text{-hour99}}$ for winter therefore if n = 4, the CV is as calculated from the effluent, as above = 0.82 (summer) and 0.68 (winter):

AMEL multiplier$_{95}$ = 1.77 (summer) and 1.630 (winter)

MDEL multiplier$_{99}$ = 4.12 (summer) and 3.47 (winter)

AMEL = $LTA_{min}$ x AMEL multiplier$_{95}$ = 0.237 x 1.77 = 0.42 mg/L **(summer)**

MDEL = $LTA_{min}$ x MDEL multiplier$_{99}$ = 0.237 x 4.12 = 0.98 mg/L **(summer)**

AMEL = $LTA_{min}$ x AMEL multiplier$_{95}$ = 0.376 x 1.630 = 0.61 mg/L **(winter)**

MDEL = $LTA_{min}$ x MDEL multiplier$_{99}$ = 0.376 x 3.47 = 1.3 mg/L **(winter)**

In this permit, summer months are from May to October, and winter months are from November to April. The effluent limitations for total ammonia are presented below with point of compliance at EFF-001A.

**Table F-10. Summary of Total Ammonia Effluent Limitations Applicable at EFF-001A**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Total Ammonia (Summer) | mg/L | 0.42 | -- | 0.98 |

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Total Ammonia (Summer) | lbs/day | 32 | -- | 74 |
| Total Ammonia (Winter) | mg/L | 0.61 | -- | 1.3 |
| Total Ammonia (Winter) | lbs/day | 46 | -- | 98 |

i. **Indicator bacteria**

Total coliform bacteria is used to indicate the likelihood of pathogenic bacteria in surface waters. Given the nature of the facility, a wastewater treatment plant, pathogens are likely to be present in the effluent in cases where the disinfection process is not operating adequately. As such, the permit contains the following:

a) Effluent Limitations

(1) The 7-day median number of coliform organisms at some point in the treatment process must not exceed a MPN or CFU of 2.2 per 100 milliliters,

(2) The number of total coliform bacteria must not exceed an MPN or CFU of 23 per 100 milliliters in more than one sample within any 30-day period, and

(3) No sample shall exceed an MPN of CFU of 240 total coliform bacteria per 100 milliliters.

These disinfection-based effluent limitations for coliform are for human health protection and are consistent with requirements established by the California Department of Public Health. These limits for coliform must be met at the point of the treatment train immediately following disinfection, as a measure of the effectiveness of the disinfection process.

(4) The Santa Clara River Indicator Bacteria TMDL, adopted on July 8, 2010 through Resolution No. R10-006, Amendment to the Basin Plan for the Los Angeles Region to Include a TMDL for Indicator Bacteria in the Santa Clara River Estuary and Reaches 3, 5, 6 and 7 set a waste load allocation for the Ventura WRF equal to a 7-day median of 2.2 MPN/100 mL of total coliform to ensure zero (0) allowable exceedance days. Thus, the permit retains the TMDL based effluent limitations as described above.

This TMDL WLA of 2.2 MPN/100mL is identical and as stringent as the effluent limitation stated in item (a) (1), above. Therefore, only one effluent limitation value is indicated in Table 4 – Effluent Limitations of the Order.

b) Receiving Water Limitation

Bacteria concentration in the receiving water shall not exceed the single sample and the geometric mean targets, as a result of waste discharged, presented in the table below:

| Numeric targets | Single Sample | Geometric mean |
|---|---|---|
| Fecal coliform | 400/100 mL | 200/100 mL |
| Enterococcus | 104/100 mL | 35/100 mL |
| Total coliform | 10,000/100 mL* | 1,000/100 mL |

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

xiii. **Temperature**

The Thermal Plan contains temperature objective for estuaries and coastal lagoons. The requirements of this Order implement the Thermal Plan, and throughout the SCRE the following limitations shall apply:

(a) Elevated temperature waste discharges shall comply with the following:

(5) The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

(6) Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

(7) No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

(8) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

xiv. **Turbidity**

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity is based on the Basin Plan and section 60301.320 of Title 11, Chapter 3, “Filtered Wastewater” of the CCR. To protect water contact recreation, the Order limits turbidity of the wastewater such that it does not exceed: (a) a daily average of 2 NTU; (b) 5 NTU more than 5 percent of the time (72 minutes) during any 24 hour period; and (c) 10 NTU at any time.

xv. **Radioactivity**

Radioactive substances are generally present in natural waters in extremely low concentrations. Oil field fracking, mining or industrial activities may increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. The existing narrative effluent limitation for radioactivity which reads, “Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life” is based on the

radioactive substances specified in the Basin Plan in order to protect the surface water beneficial uses and human health.

Ventura County has oil production and, recently, fracking well production, which may yield liquid radioactive wastes. The Regional Water Board has determined that it is not appropriate to assess effluent limit compliance with the Basin Plan or Ocean Plan narrative objective for radioactivity at Ventura using the drinking water MCLs since there is no municipal or domestic beneficial use for the Pacific Ocean or the SCRE. However, given the proximity of the collection areas for the treatment plants and the county-wide presence of fracking activities, a performance goal for radionuclides is used to ensure the Discharger maintains the existing quality of waste treatment and sufficient pretreatment exclusion of radioactive wastes. The radioactivity measured in Ventura WRF is less than the values based on the MCL at other facilities and these values are used as the performance goals.

xvi. **Biostimulatory Substances and Algae**

(a) Biostimulatory substances include excess nutrients (nitrogen and phosphorus) and other compounds that stimulate aquatic growth. In addition to being aesthetical unpleasant (causing taste, odor, or color problems), this excessive growth can also cause other water quality problems. The limits for biostimulatory substances are based on the Basin Plan narrative, “Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.”

The 2018 Stillwater Estuary study describes eutrophication in the estuary when the absence of dissolved oxygen can impact aquatic life.

“Despite reductions in nitrate from the Ventura WRF following facility upgrades, the SCRE continues to exhibit enriched (i.e., eutrophic) conditions found during the Phase 1 study (Stillwater Sciences 2011). Although, the status assessment indicates low potential for eutrophication in some conditions the maximum DO [dissolved oxygen] was super-saturated and exceeded 10 mg/L, indicating high rates of oxygen production by primary producers. This is supported by high levels of Chlorophyll-a within the SCRE and therefore can be assumed to have high potential for eutrophication indicating that ample nutrients and favorable conditions are available for excessive algal growth (page 110).”

The 2011 Stillwater Estuary study concluded that nutrient reductions would provide identifiable benefits to the estuary conditions during dry weather, closed-mouth conditions (page 9 in 2018 Stillwater Estuary Study summary).

(b) Algae - Excessive growth of algae and/or other aquatic plants can degrade water quality. Algal blooms sometimes occur naturally, but they are often the result of excess nutrients (i.e., nitrogen, phosphorus) from waste discharges or nonpoint sources. These algal blooms can lead to problems with odors, color, and increased turbidity and can depress the dissolved oxygen content of the water, leading to fish kills. Floating algal scum and algal mats are also an

aesthetically unpleasant nuisance. Nutrient limits are used to ensure effluent discharge does not cause algal blooms.

c. **CTR and SIP**

This Order implements the California Toxic Rule (CTR) and the State Implementation Policy (SIP) specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis (RPA) to determine the need for effluent limitations for priority pollutants. The Technical Support Document for Water Quality-based Toxics Control (TSD) specifies the procedures to conduct reasonable potential analyses for non-priority pollutants.

**3. Determining the Need for WQBELs**

Priority pollutant water quality criteria in the CTR are applicable to the 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 40 CFR section 131.38(c)(3): freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this condition occurs 95 percent or more of the time; saltwater criteria apply at salinities of 10 ppt and above at locations where this occurs 95 percent or more of the time; and at salinities between 1 and 10 ppt the more stringent of the two apply. The CTR criteria for freshwater or human health for consumption of organisms, whichever is most stringent, are used to prescribe the effluent limitations in the tentative Order to protect the beneficial uses of the Estuary.

Some water quality criteria are hardness dependent. The Discharger provided hardness data collected from the Estuary. The receiving water hardness values ranged from 111 to 6268 mg/L after 2013. Since only 1 percent of the receiving water hardness data and their average hardness as $CaCO_3$ (968 mg/L) are greater than 400 mg/L as $CaCO_3$, in accordance with the SIP/CTR procedures, the 400 mg/L hardness cap is used in calculating metals criteria for evaluation of reasonable potential.

Pursuant to 40 CFR section 122.45(d)(2), for POTW continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall, unless impracticable, be stated as average weekly and average monthly discharge limitations (AWEL and AMEL, respectively). It is impracticable to include only average weekly and average monthly effluent limitations in the permit, because a single daily discharge of certain pollutants, in excess amounts, can cause violations of WQOs. The effects of pollutants on aquatic organisms are often rapid. For many pollutants, an average weekly or average monthly effluent limitation alone is not sufficiently protective of beneficial uses. As a result, Maximum Daily Effluent Limits (MDELs, as referenced in 40 CFR section 122.45(d)(1)), are included in the permit for certain constituents.

The NPDES regulations at 40 CFR section 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. The Regional Water Board developed WQBELs for total coliform, fecal coliform, and enterococcus based upon available wasteload allocations in a TMDL for indicator bacteria applicable to the SCRE. The Regional Water Board developed WQBELs for these pollutants pursuant to 40 CFR section 122.44(d)(1)(vii)(B), which does not require or contemplate a separate RPA during permit development.

In accordance with Section 1.3 of the SIP, Regional Water Board staff conducted an RPA for each priority pollutant with an applicable criterion or objective to determine if a

WQBEL is required in the permit. The Regional Water Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan or other statewide plans. To conduct the RPA, the Regional Water Board staff identified the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Permittee. The monitoring data cover the period from January 2014 to March 2018.

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 an RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

NPDES Permit Writers' Manual (EPA-833-K-10-001), September 2010 also cited that even without a TMDL, a permitting authority could, at its own discretion, determine that WQBELs are needed for any pollutant associated with impairment of a waterbody. A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics.

Based on the RPA analysis, the pollutants that demonstrate reasonable potential are copper, nickel, and zinc. The following table summarizes results from RPA.

**Table F-11. Summary of Reasonable Potential Analysis**

| CTR No. | Constituent | Applicable Water Quality Criteria (C) µg/L | Max Effluent Conc. (MEC) µg/L | Maximum Detected Receiving Water Conc. (B) µg/L | RPA Result - Need Limitation ? | Reason |
|---|---|---|---|---|---|---|
| 1 | Antimony | 6 | 0.88 | <1 | No | MEC<C, B<C |
| 2 | Arsenic | 10 | 1.1 | 9.99 | No | MEC<C, B<C |
| 3 | Beryllium | 4 | <0.12 | <0.2 | No | MEC<C, B<C |
| 4 | Cadmium | 4.5 | 0.37 | <1 | No | MEC<C, B<C |
| 5a | Chromium III | 484 | 7.5 | <4 | No | MEC<C, B<C |
| 5b | Chromium VI | 11 | 0.28 | <4 | No | MEC<C, B<C |
| 6 | **Copper** | **9.0** | **4.98** | **10.1** | **Yes** | **Tier 2: B>C** |
| 7 | Lead | 13 | <5 | <5 | No | MEC<C, B<C |
| 8 | Mercury | 0.004 | <0.02 | <0.02 | No | INSWEB part 2[8] |

[8] Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California-Tribal Subsistence Fishing Beneficial Uses and Mercury Provisions sets the mercury limit for this Order because California Least Terns prey on the fish in the estuary. Based on the detection limit in the prior

| CTR No. | Constituent | Applicable Water Quality Criteria (C) µg/L | Max Effluent Conc. (MEC) µg/L | Maximum Detected Receiving Water Conc. (B) µg/L | RPA Result - Need Limitation ? | Reason |
|---|---|---|---|---|---|---|
| **9** | **Nickel** | **10.23** | **69.8** | **80.1** | **Yes** | **Tier 1: MEC>C, Tier 2: B>C** |
| 10 | Selenium | 5 | <2 | 20.8 | No | MEC<C |
| 11 | Silver | 28 | <0.2 | 0.2 | No | MEC<C, B<C |
| 12 | Thallium | 2 | <1 | <1 | No | MEC<C, B<C |
| **13** | **Zinc** | **101.9** | **175** | **199** | **Yes** | **Tier 1: MEC>C, Tier 2: B>C** |
| 14 | Cyanide | 5.2 | <5 | <5 | No | MEC<C, B<C |
| 15 | Asbestos | $7x10^6$ fibers/L | No sample | No sample | No | N/A |
| 16 | 2,3,7,8-TCDD (Dioxin) | 1.4 X10-8 | <0.09 | <0.09 | No | MEC<C, B<C |
| 17 | Acrolein | 780 | <0.6 | <0.6 | No | MEC<C, B<C |
| 18 | Acrylonitrile | 0.66 | <0.5 | <0.5 | No | MEC<C, B<C |
| 19 | Benzene | 71 | <0.5 | <0.5 | No | MEC<C, B<C |
| 20 | Bromoform | 360 | 3.01 | 0.35 | No | MEC<C, B<C |
| 21 | Carbon Tetrachloride | 4.4 | <0.12 | <0.12 | No | MEC<C, B<C |
| 22 | Chlorobenzene | 21,000 | <0.2 | <0.2 | No | MEC<C, B<C |
| 23 | Dibromochloro-methane | 34 | 5.82 | 0.86 | No | MEC<C, B<C |
| 24 | Chloroethane | No criteria | <0.52 | <0.52 | No | No criteria |
| 25 | 2-chloroethyl vinyl ether | No criteria | <0.13 | <0.13 | No | No criteria |
| 26 | Chloroform | Reserved | 9.2 | 3.05 | No | MEC<C, B<C |
| 27 | Dichlorobromo-methane | 46 | 9.28 | 1.35 | No | MEC<C, B<C |
| 28 | 1,1-dichloroethane | No criteria | <0.07 | <0.07 | No | No criteria |
| 29 | 1,2-dichloroethane | 99 | <0.03 | <0.03 | No | MEC<C, B<C |
| 30 | 1,1-dichloroethylene | 3.2 | <0.13 | <0.13 | No | MEC<C, B<C |
| 31 | 1,2-dichloropropane | 39 | <0.04 | <0.04 | No | MEC<C, B<C |
| 32 | 1,3-dichloropropylene | 1,700 | <0.68 | <0.68 | No | MEC<C, B<C |
| 33 | Ethylbenzene | 29,000 | <0.34 | <0.34 | No | MEC<C, B<C |
| 34 | Methyl bromide | 4,000 | <0.5 | <0.5 | No | MEC<C, B<C |
| 35 | Methyl chloride | Narrative | <0.08 | <0.08 | No | No criteria |
| 36 | Methylene chloride | 1,600 | <0.25 | <0.25 | No | MEC<C, B<C |
| 37 | 1,1,2,2-tetrachloroethane | 11 | <0.03 | <0.03 | No | MEC<C, B<C |
| 38 | Tetrachloroethylene | 8.85 | <0.03 | <0.03 | No | MEC<C, B<C |
| 39 | Toluene | 200,000 | <0.2 | 0.22 | No | MEC<C, B<C |
| 40 | Trans 1,2-Dichloroethylene | 140,000 | <0.1 | <0.1 | No | MEC<C, B<C |
| 41 | 1,1,1-Trichloroethane | Narrative | <0.03 | <0.03 | No | No criteria |
| 42 | 1,1,2-Trichloroethane | 42 | <0.02 | <0.02 | No | MEC<C, B<C |

Order, no mercury was detected between 2014-2018. Because no detections were reported, no limit is imposed. However, a lower detection limit is required for analysis in this Order.

| CTR No. | Constituent | Applicable Water Quality Criteria (C) µg/L | Max Effluent Conc. (MEC) µg/L | Maximum Detected Receiving Water Conc. (B) µg/L | RPA Result - Need Limitation ? | Reason |
|---|---|---|---|---|---|---|
| 43 | Trichloroethylene | 81 | <0.12 | <0.12 | No | MEC<C, B<C |
| 44 | Vinyl Chloride | 525 | <0.18 | <0.18 | No | MEC<C, B<C |
| 45 | 2-chlorophenol | 400 | <3.3 | <3.3 | No | MEC<C, B<C |
| 46 | 2,4-dichlorophenol | 790 | <2.7 | <2.7 | No | MEC<C, B<C |
| 47 | 2,4-dimethylphenol | 2,300 | <2.7 | <2.7 | No | MEC<C, B<C |
| 48 | 4,6-dinitro-o-cresol (aka 2-methyl-4,6-Dinitrophenol) | 765 | <10 | <10 | No | MEC<C, B<C |
| 49 | 2,4-dinitrophenol | 14,000 | <42 | <42 | No | MEC<C, B<C |
| 50 | 2-nitrophenol | No criteria | <3.6 | <3.6 | No | No criteria |
| 51 | 4-nitrophenol | No criteria | <2.4 | <2.4 | No | No criteria |
| 52 | 3-Methyl-4-Chlorophenol (aka P-chloro-m-cresol) | No criteria | <3 | <3 | No | No criteria |
| 53 | Pentachlorophenol | 7.9 | <3.6 | <3.6 | No | MEC<C, B<C |
| 54 | Phenol | 4.6x10^6 | <1.5 | <1.5 | No | MEC<C, B<C |
| 55 | 2,4,6-trichlorophenol | 6.5 | <2.7 | <2.7 | No | MEC<C, B<C |
| 56 | Acenaphthene | 2,700 | <2 | <2 | No | MEC<C, B<C |
| 57 | Acenaphthylene | No criteria | <1.9 | <1.9 | No | No criteria |
| 58 | Anthracene | 110,000 | <1.9 | <1.9 | No | MEC<C, B<C |
| 59 | Benzidine | 0.00054 | <4.4 | <4.4 | No | MEC<C, B<C |
| 60 | Benzo(a)Anthracene | 0.049 | <7.8 | <7.8 | No | MEC<C, B<C |
| 61 | Benzo(a)Pyrene | 0.049 | <2.5 | <2.5 | No | MEC<C, B<C |
| 62 | Benzo(b)fluoranthene | 0.049 | <4.8 | <4.8 | No | MEC<C, B<C |
| 63 | Benzo(ghi)Perylene | No criteria | <4.1 | <4.1 | No | No criteria |
| 64 | Benzo(k)Fluoranthene | 0.049 | <2.5 | <2.5 | No | MEC<C, B<C |
| 65 | Bis(2-Chloroethoxy) methane | No criteria | <5.3 | <5.3 | No | No criteria |
| 66 | Bis(2-Chloroethyl) Ether | 1.4 | <5.7 | <5.7 | No | MEC<C, B<C |
| 67 | Bis(2-Chloroisopropyl) Ether | 170,000 | <5.7 | <5.7 | No | MEC<C, B<C |
| 68 | Bis(2-Ethylhexyl) Phthalate | 5.9 | <2.5 | <2.5 | No | MEC<C, B<C |
| 69 | 4-Bromophenyl Phenyl Ether | No criteria | <1.9 | <1.9 | No | No criteria |
| 70 | Butylbenzyl Phthalate | 5,200 | <2.5 | <2.5 | No | MEC<C, B<C |
| 71 | 2-Chloronaphthalene | 4,300 | <1.9 | <1.9 | No | MEC<C, B<C |
| 72 | 4-Chlorophenyl Phenyl Ether | No criteria | <4.2 | <4.2 | No | No criteria |
| 73 | Chrysene | 0.049 | <2 | <2 | No | MEC<C, B<C |

| CTR No. | Constituent | Applicable Water Quality Criteria (C) µg/L | Max Effluent Conc. (MEC) µg/L | Maximum Detected Receiving Water Conc. (B) µg/L | RPA Result - Need Limitation ? | Reason |
|---|---|---|---|---|---|---|
| 74 | Dibenzo(a,h) Anthracene | 0.049 | <2.5 | <2.5 | No | MEC<C, B<C |
| 75 | 1,2-Dichlorobenzene | 17,000 | <1.9 | <1.9 | No | MEC<C, B<C |
| 76 | 1,3-Dichlorobenzene | 2,600 | <1.9 | <1.9 | No | MEC<C, B<C |
| 77 | 1,4-Dichlorobenzene | 2,600 | <4.4 | <4.4 | No | MEC<C, B<C |
| 78 | 3-3'-Dichlorobenzidine | 0.077 | <16.5 | <16.5 | No | MEC<C, B<C |
| 79 | Diethyl Phthalate | 120,000 | <2.2 | <2.2 | No | MEC<C, B<C |
| 80 | Dimethyl Phthalate | 2.9x10^6 | <1.6 | <1.6 | No | MEC<C, B<C |
| 81 | Di-n-Butyl Phthalate | 12,000 | <2.5 | <2.5 | No | MEC<C, B<C |
| 82 | 2-4-Dinitrotoluene | 9.1 | <5.7 | <5.7 | No | MEC<C, B<C |
| 83 | 2-6-Dinitrotoluene | No criteria | <1.9 | <1.9 | No | No criteria |
| 84 | Di-n-Octyl Phthalate | No criteria | <2.5 | <2.5 | No | No criteria |
| 85 | 1,2-Diphenylhydrazine | 0.54 | <10 | <10 | No | MEC<C, B<C |
| 86 | Fluoranthene | 370 | <2.2 | <2.2 | No | MEC<C, B<C |
| 87 | Fluorene | 14,000 | <1.9 | <1.9 | No | MEC<C, B<C |
| 88 | Hexachlorobenzene | 0.00077 | <1.9 | <1.9 | No | MEC<C, B<C |
| 89 | Hexachlorobutadiene | 50 | <0.9 | <0.9 | No | MEC<C, B<C |
| 90 | Hexachlorocyclo-pentadiene | 17,000 | <1.9 | <1.9 | No | MEC<C, B<C |
| 91 | Hexachloroethane | 8.9 | <1.6 | <1.6 | No | MEC<C, B<C |
| 92 | Indeno(1,2,3-cd) Pyrene | 0.049 | <3.7 | <3.7 | No | MEC<C, B<C |
| 93 | Isophorone | 600 | <2.2 | <2.2 | No | MEC<C, B<C |
| 94 | Naphthalene | No criteria | <10 | <10 | No | No criteria |
| 95 | Nitrobenzene | 1,900 | <1.9 | <1.9 | No | MEC<C, B<C |
| 96 | N-Nitrosodimethylamine | 8.1 | <0.15 | <0.15 | No | MEC<C, B<C |
| 97 | N-Nitrosodi-n-Propylamine | 1.4 | <10 | <10 | No | MEC<C, B<C |
| 98 | N-Nitrosodiphenylamine | 16 | <10 | <10 | No | MEC<C, B<C |
| 99 | Phenanthrene | No criteria | <5.4 | <5.4 | No | No criteria |
| 100 | Pyrene | 11,000 | <1.9 | <1.9 | No | MEC<C, B<C |
| 101 | 1,2,4-Trichlorobenzene | No criteria | <1.9 | <1.9 | No | No criteria |
| 102 | Aldrin | 0.00014 | <0.004 | <0.004 | No | MEC<C, B<C |
| 103 | Alpha-BHC | 0.013 | <0.003 | <0.003 | No | MEC<C, B<C |
| 104 | Beta-BHC | 0.046 | <0.006 | <0.006 | No | MEC<C, B<C |
| 105 | Gamma-BHC (aka Lindane) | 0.063 | <0.004 | <0.004 | No | MEC<C, B<C |
| 106 | delta-BHC | No criteria | <0.009 | <0.009 | No | No criteria |
| 107 | Chlordane | 0.00059 | <0.014 | <0.014 | No | MEC<C, B<C |
| 108 | 4,4'-DDT | 0.00059 | <4.7 | <4.7 | No | MEC<C, B<C |
| 109 | 4,4'-DDE | 0.00059 | <5.6 | <5.6 | No | MEC<C, B<C |
| 110 | 4,4'-DDD | 0.00084 | <2.8 | <2.8 | No | MEC<C, B<C |

| CTR No. | Constituent | Applicable Water Quality Criteria (C) µg/L | Max Effluent Conc. (MEC) µg/L | Maximum Detected Receiving Water Conc. (B) µg/L | RPA Result - Need Limitation ? | Reason |
|---|---|---|---|---|---|---|
| 111 | Dieldrin | 0.00014 | <0.002 | <0.002 | No | MEC<C, B<C |
| 112 | Alpha-Endosulfan | 0.0087 | <0.014 | <0.014 | No | MEC<C, B<C |
| 113 | Beta-Endosulfan | 0.0087 | <0.004 | <0.004 | No | MEC<C, B<C |
| 114 | Endosulfan Sulfate | 240 | <0.066 | <0.066 | No | MEC<C, B<C |
| 115 | Endrin | 0.0023 | <0.006 | <0.006 | No | MEC<C, B<C |
| 116 | Endrin Aldehyde | 0.81 | <0.023 | <0.023 | No | MEC<C, B<C |
| 117 | Heptachlor | 0.00021 | <0.003 | <0.003 | No | MEC<C, B<C |
| 118 | Heptachlor Epoxide | 0.00011 | <0.083 | <0.083 | No | MEC<C, B<C |
| 119 | PCB 1016 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 120 | PCB 1221 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 121 | PCB 1232 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 122 | PCB 1242 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 123 | PCB 1248 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 124 | PCB 1254 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 125 | PCB 1260 | 0.00017 | <0.065 | <0.065 | No | MEC<C, B<C |
| 126 | Toxaphene | 0.002 | <10 | <10 | No | MEC<C, B<C |

**4. WQBEL Calculations**

a. **Calculation Options**. Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include:

i. Use WLA from applicable TMDL

ii. Use a steady-state model to derive MDELs and AMELs.

iii. Where sufficient data exist, use a dynamic model which has been approved by the State Water Board.

***b. WQBELs Calculations***

WQBELs based on human health and aquatic life criterion were established for this Order. The process for developing these limits is in accordance with section 1.4 of the SIP.

i. Nickel: Tiers 1 and 2 of the SIP triggered reasonable potential for nickel because the MEC exceeded the criteria (MEC > C), there was an exceedance of WQOs in the receiving water (B > C) and the pollutant is detected in the effluent. Therefore, final effluent limitations have been prescribed for nickel.

(a) 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≤B

where

C = the priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 400 mg/L (as $CaCO_3$) was used for development of hardness-dependent criteria.

D = the dilution credit

B = the ambient background concentration

For this Order, dilution was not allowed due to nature of the receiving water and quantity of the effluent.

For nickel, the applicable saltwater quality criteria are:

ECA acute = 91.36 µg/L

ECA chronic = 10.23 µg/L

A metal translator of 0.81, based on the Entrix study of June 27, 2002, was applied to calculate the final effluent limitations for nickel.

(b) For each ECA based on aquatic life criterion/objective, determine the LTA by multiplying the ECA by a factor (multiplier). The multiplier is 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 x Multiplier acute

LTA chronic = ECA chronic x Multiplier chronic

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 has more than 10 samples, and more than 80 percent of the samples in the data set are detections, the CV is calculated to be 1.677.

(c) For nickel, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

Multiplier acute = 0.13242

Multiplier chronic = 0.23903

LTA acute = 91.36 µg/L x 0.13242 = 12.10 µg/L

LTA chronic = 10.23 µg/L x 0.23903 = 2.45 µg/L

(d) Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA acute or LTA chronic

For lead, the most limiting LTA was the LTA acute

LTA = 2.45 µg/L

(e) Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMELs and MDELs. The multiplier is 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 monthly or daily limit. Table 2 of the SIP provides the 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 x AMEL multiplier

MDEL aquatic life = LTA x MDEL multiplier

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

For nickel, the following data was used to develop the AMEL and MDEL for aquatic life using table 2 of the SIP.

Multiplier MDEL = 7.55168

Multiplier AMEL = 2.49291

AMEL aquatic life = 2.45 x 7.55168= **6.09 µg/L**

MDEL aquatic life = 2.45 x 2.49291 = **18.46 µg/L**

(f) For the ECA based on human health, set the AMEL equal to the ECA human health. An AMEL human health for nickel has not been established, so the discharge limits are based on potential impacts to aquatic life. The AMEL and MDEL based on aquatic life is the effluent limit for this Order.

ii. Copper: Tier 2 of the SIP triggered reasonable potential for copper because the receiving water concentration at RSW-005 exceeded the criteria (B > C) and the pollutant is detected in the effluent.

The salt water continuous critical concentration (CCC) from the SIP, as total recoverable copper, is 3.7349 µg/L and the most restrictive SIP criterion. Applying the metal translator of 0.86 from the Entrix study of June 27, 2002, the CCC is 4.3430 µg/L. The WER applied for copper was 2.08, based on Order R4-2008-0011, which amended the 2008 NPDES permit. The resulting CCC criteria is 9.0333 µg/L. This value is used with a coefficient of variation of 0.66 and the maximum effluent concentration of 4.98 mg/L in the calculation of an AMEL limitation of 6.67 µg/L and a MDEL limitation of 13.98 µg/L. However, the AMEL limitation for copper in the previous permit, R4-2013-0174, is lower at 6.1 mg/L. Elevated copper values were detected in effluent on January and February of 2014, and at a reduced level in late May and early June of that year, corresponding with elevated concentrations of other metals, nickel, and zinc. While the effluent limitations were exceeded, the spike of concentration skews the statistical distribution upon which the limitations are founded and

results in the calculation of a higher limitation. Although the source of the contamination has not been found, pretreatment protocols and sampling have been enhanced and a repeat event is not expected. The previous AMEL is maintained consistent with the antibacksliding policy.

iii. Zinc: Tier 1 and Tier 2 of the SIP RPA procedures were also triggered for zinc.

The salt water continuous critical concentration (CCC) from the SIP, as total recoverable zinc, is 85.62 µg/L and the most restrictive SIP criterion. Applying the metal translator of 0.84 from the Entrix study of June 27, 2002, the CCC is 101.9 µg/L. This value is used with a coefficient of variation of 0.637 and the maximum effluent concentration of 175 mg/L in the calculation of an AMEL limitation of 54.9 µg/L and a MDEL limitation of 113.3 µg/L. Elevated levels of zinc were detected in May of 2014, changing the statistical distribution of the detections from that typically observed and indicating that the effluent has the potential to cause or contribute to an exceedance of water quality objectives for zinc. New limitations were established for zinc in the discharge.

The metals final effluent limitations prescribed in this Order are consistent with the SIP Procedures and Water Effect Ratio are summarized below.

**Table F-12. Metals Effluent Limitations for Discharge Point 001**

| Parameter | Units | Average Monthly | Maximum Daily |
|---|---|---|---|
| Nickel | µg/L | 6.1 | 18.5 |
| Nickel | lbs/day[9] | 0.46 | 1.4 |
| Copper | µg/L | 6.1 | 14.0 |
| Copper | lbs/day[9] | 0.46 | 1.1 |
| Zinc | µg/L | 55 | 113.3 |
| Zinc | lbs/day[9] | 4.1 | 8.5 |

c. **Impracticability Analysis**

Federal NPDES regulations contained in 40 CFR section 122.45, states that, for POTWs, all permit limitations, standards, and prohibitions, including those to achieve water quality standards, shall, unless impracticable, be stated as average weekly and average monthly discharge limitations.

As stated by USEPA in its long-standing guidance for developing WQBELs, average limitations alone are not practical for limiting acute, chronic, and human health toxic effects.

For example, a POTW sampling for a toxicant to evaluate compliance with a 7-day average limitation could fully comply with this average limit, but still be discharging toxic effluent on one, two, three, or up to four of these seven days and not be meeting 1-hour average acute criteria or 4-day average chronic criteria

[9] The mass based effluent limits are based on the plant design flow rate of 14 MGD for technology based effluent limitations (TBELs) such as BOD and TSS. The maximum flow is capped at 9 MGD for all other constituents, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day, or Flow (MGD) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Similarly, a 7-day average alone would not protect one, two, three, or four days of discharging pollutants in excess of the acute and chronic criteria. Fish exposed to these endocrine disrupting chemicals will be passed on to the human consumer. Endocrine disruptors alter hormonal functions by several means. These substances can:

2. Mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.
3. Block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.
4. Alter production and breakdown of natural hormones.
5. Modify the making and function of hormone receptors.

For these reasons, USEPA recommends daily maximum and 30-day average limits for regulating toxics in all NPDES discharges. For the purposes of protecting the acute effects of discharges containing toxicants (CTR human health for the ingestion of fish), daily maximum limitations have been established in this NPDES permit when a pollutant is considered to be a carcinogen, endocrine disruptor, or is bioaccumulative.

d. **Mass-based limits**. 40 CFR section 122.45(f)(1) requires that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

The Facility design flow is 14 MGD. Because the Regional Water Board capped the flow at 9 MGD in the 2008 Order, because of antidegradation concerns, and because the Ventura WRF has determined larger flows may not enhance the estuary under current flow conditions, the flow of 9 MGD is used to calculate mass based limits in this Order.

**Table F-13. Summary of WQBELs for Discharge Point 001 with Point of Compliance at**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Copper | µg/L | 6.1 | -- | 14.0 |
| Copper | lbs/day[9] | 0.46 | -- | 1.1 |
| Nickel | µg/L | 6.1 | -- | 18.5 |
| Nickel | lbs/day[9] | 0.46 | -- | 1.4 |
| Zinc | µg/L | 55.0 | -- | 113.3 |

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Zinc | lbs/day[9] | 4.1 | -- | 8.5 |
| MBAS | mg/L | 0.5 | -- | -- |
| MBAS | lbs/day[9] | 38 | -- | -- |
| Total Ammonia | mg/L | 2.7 | -- | 5.5 |
| Total Ammonia | lbs/day[9] | 203 | -- | 413 |
| Nitrate + Nitrite as Nitrogen | mg/L | 10 | -- | -- |
| Nitrate + Nitrite as Nitrogen | lbs/day[9] | 750 | -- | -- |
| Nitrate as Nitrogen | mg/L | 10 | -- | -- |
| Nitrate as Nitrogen | lbs/day[9] | 750 | -- | -- |
| Nitrite as Nitrogen | mg/L | 1 | -- | -- |
| Nitrite as Nitrogen | lbs/day[9] | 75 | -- | -- |
| Chronic Toxicity[10] | Pass or Fail, % Effect (TST) | Pass[11] | -- | Pass or % Effect < 50 |

**Table F-14. Summary of WQBELs for Discharge Point 001 with Point of Compliance at EFF-001A**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Total ammonia (Summer) | mg/L | 0.42 | -- | 0.98 |
| Total ammonia (Summer) | lbs/day[9] | 32 | -- | 74 |
| Total ammonia (Winter) | mg/L | 0.61 | -- | 1.3 |
| Total ammonia (Winter) | lbs/day[9] | 46 | -- | 98 |

### 5. Whole Effluent Toxicity (WET)

WET testing protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. 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. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level.

[10] A numeric WQBEL is established because effluent data showed that there is reasonable potential for the effluent to cause or contribute to an exceedance of the chronic toxicity water quality objective. The Chronic Toxicity final effluent limitation is protective of both the numeric acute toxicity and the narrative toxicity Basin Plan water quality objectives. These final effluent limitations will be implemented using the *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (USEPA 2002, EPA-821-R-02-013), current USEPA guidance in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June /2010)* and *EPA Regions 8, 9, and 10 Toxicity Training Tool (January 2010), http://www2.epa.gov/region8/epa-regions-8-9-and-10-toxicity-training-tool-january-2010*.

[11] This is a Median Monthly Effluent Limitation.

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the Ventura WRF effluent, or could have synergistic or additive effects. There are five exceedance of the 1.0 TUc monthly median trigger for chronic toxicity in the final effluent sampled in December 2017-February 2018 and all are attributed to ash and debris associated with the Thomas Fire. As a result of the extraordinary conditions associated with the toxicity, no follow-up accelerated testing was conducted. The chronic toxicity exceedances are presented in Table F-5. The Regional Water Board has determined that, pursuant to the SIP, reasonable potential exists for chronic toxicity. As such, this Order contains effluent limitations for chronic toxicity.

The 2013 permit contained narrative effluent limitations for acute toxicity and chronic toxicity. But this Order only contains final effluent limitations for chronic toxicity, expressed as a monthly median and a daily maximum. Since chronic toxicity is a more stringent requirement than acute toxicity, removal of the numeric acute toxicity effluent limitation does not constitute backsliding.

The effluent limitations for chronic toxicity were established because effluent data showed that there is reasonable potential for pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standard.

In the past, the State Water Board reviewed circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential. (See SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Water Board adopted Order No. 2003-0012 (Los Coyotes Order) deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the meantime, the State Water Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1.0 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. The Ventura WRF 2013 permit contained a narrative chronic toxicity limitation consistent with the direction received by the State Water Board.

However, many facts have changed since the State Water Board adopted the Los Coyotes Order in 2003: USEPA published two new guidance documents with respect to chronic toxicity testing (described below); the Los Angeles Regional Water Board adopted NPDES permits for industrial facilities incorporating TST-based effluent limitations for chronic toxicity and has adopted numeric chronic toxicity effluent limitations for industrial facilities and POTWs with TMDL WLAs of 1.0 TUc; and the Santa Ana Regional Water Board adopted an NPDES permit for a POTW incorporating the test of significant toxicity (TST)-based effluent limitations for chronic toxicity. In addition to these factual developments, the State Water Board has not adopted a revised policy that addresses chronic toxicity effluent limitations in NPDES permits for inland discharges, as anticipated by the Los Coyotes Order. Because the Los Coyotes Order explicitly "declined to make a determination … regarding the propriety of the final numeric effluent limitations for chronic toxicity…," (Los Coyotes Order, p. 9) and because of the differing facts before the Regional Water Board in 2014 as compared to the facts that were the basis for the Los Coyotes Order in 2003, the Regional Water Board concludes that the Los Coyotes Order does not require inclusion of narrative rather than numeric effluent limitations for chronic toxicity. Further, the Regional Water Board finds that numeric effluent limitations for chronic toxicity are necessary, feasible, and appropriate.

On October 19, 2018, the State Water Board released for public comment the *Draft Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California*, with proposed toxicity provisions. The comment period ended on December

21, 2018. It is anticipated that the item will be scheduled for State Water Board consideration in Fall 2019. Because effluent data exhibited reasonable potential to cause or contribute to an exceedance of the water quality objective, this Order contains numeric chronic toxicity effluent limitations. Compliance with the chronic toxicity requirement contained in this Order are to be determined in accordance to sections VII.J. This Order contains a reopener to allow the Regional Water Board to modify the permit, if necessary, to make it consistent with any new policy, law, or regulation.

For this Order, chronic toxicity in the discharge is evaluated using a monthly median effluent limitation and a maximum daily effluent limitation that utilize USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach. The chronic toxicity effluent limitation is expressed as "Pass" for the median monthly summary results and "Pass" or "<50% Effect" for each maximum daily individual results.

In January 2010, USEPA published a guidance document entitled, "EPA Regions 8, 9 and 10 Toxicity Training Tool," which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR section 122.45(d) requires that all permit limitations be expressed, unless impracticable, as an AWEL and an AMEL for POTWs. Following section 5.2.3 of the TSD, the use of an AWEL is not appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing an MDEL for toxic pollutants and pollutants in water quality permitting, including WET. This is appropriate for two reasons. The basis for the average weekly requirement for POTWs derives from secondary treatment regulations and is not related to the requirement to assure achievement of water quality standards (WQS). Moreover, an average weekly requirement comprising up to seven daily samples could average out daily peak toxic concentrations for WET and therefore, the discharge's potential for causing acute and chronic effects would be missed. It is impracticable to use an AWEL, because short-term spikes of toxicity levels that would be permissible under the 7-day average scheme would not be adequately protective of all beneficial uses. The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. However, in cases where a chronic mixing zone is not authorized, USEPA Regions 9 and 10 continue to recommend that the AMEL for chronic WET should be expressed as a median monthly limit (MMEL).

Later in June 2010, USEPA published another guidance document titled, Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to USEPA's WET test methods. Section 9.4.1.2 of USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/0136, 1995)*, recognizes that, "the statistical methods in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

USEPA's WET testing program and acute and chronic WET methods rely on the measurement result for a specific test endpoint, not upon achievement of specified concentration-response patterns to determine toxicity. USEPA's WET methods do not require achievement of specified effluent or ambient concentration-response patterns

prior to determining that toxicity is present[12]. Nevertheless, USEPA's acute and chronic WET methods require that effluent and ambient concentration-response patterns generated for multi-concentration acute and chronic toxicity tests be reviewed - as a component of test review following statistical analysis - to ensure that the calculated measurement result for the toxicity test is interpreted appropriately. (EPA-821-R-02-012, section 12.2.6.2; EPA-821-R-02-013, section 10.2.6.2.). In 2000, USEPA provided guidance for such reviews to ensure that test endpoints for determining toxicity based on the statistical approaches utilized at the time the guidance was written (NOEC, LC50s, IC25s) were calculated appropriately (EPA 821-B-00-004).

USEPA designed its 2000 guidance as a standardized step-by step review process that investigates the causes for 10 commonly observed concentration-response patterns and provides for the proper interpretation of the test endpoints derived from these patterns for NOECs, LC50s, and IC25s, thereby reducing the number of misclassified test results. The guidance provides one of three determinations based on the review steps: (1) that calculated effect concentrations are reliable and should be reported, (2) that calculated effect concentrations are anomalous and should be explained, or (3) that the test was inconclusive and should be repeated with a newly collected sample. The standardized review of the effluent and receiving water concentration-response patterns provided by USEPA's 2000 guidance decreased discrepancies in data interpretation for NOEC, LC50, and IC25 test results, thereby lowering the chance that a truly nontoxic sample would be misclassified and reported as toxic.

Appropriate interpretation of the measurement result from USEPA's TST statistical approach (pass/fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for those samples. Therefore, when using the TST statistical approach, application of USEPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures - including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicity tests, and control performance (mean, standard deviation, and coefficient of variation) - described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single-concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The Regional Water Board will not consider a concentration-response pattern as sufficient basis to determine that a TST t-test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.

Any Data Quality Objectives or Standard Operating Procedure used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent or receiving water toxicity test measurement results from the TST statistical approach which include a consideration of concentration-response patterns and/or PMSDs must be submitted for review by the Regional Water Board, in consultation with USEPA and the

[12] See, Supplementary Information in support of the Final Rule establishing WET test methods at 67 Fed.Reg. 69952, 69963, November 19, 2002.

State Water Board's Quality Assurance Officer and Environmental Laboratory Accreditation Program (40 CFR section 122.44(h)). As described in the bioassay laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 7, 2014, and from the USEPA dated December 24, 2013, the PMSD criteria only apply to compliance for NOEC and the sublethal endpoints of the NOEC, and therefore are not used to interpret TST results.

## D. Final Effluent Limitation Considerations

### 1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR 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 as stringent as those in the prior permit, Order No. R4-2013-0174.

The reasonable potential analysis for copper would result in less stringent effluent limits, but the existing limits are maintained because of the anti-backsliding requirements of CWA section 402(o)(2)(B)(i) and because the treatment process has attained the existing limit for every year after 2014.

In this Order, effluent limitations for lead and selenium have been removed because analysis of new information indicates that the pollutants are not being discharged at concentrations that have the reasonable potential to cause or contribute to exceedances of water quality standards.

The other effluent limitations contained in Order No. R4-2013-0174 remain or became more stringent because the pollutants continue to show reasonable potential to cause or contribute to an exceedance of the applicable water quality criteria. A new limit is established for zinc, because it has reasonable potential to cause or contribute to exceedances of water quality standards that were detected in May 2014.

### 2. Antidegradation Policies

40 CFR section 131.12 requires that state water quality standards include an antidegradation policy consistent with the federal antidegradation policy. On October 28, 1968, the State Water Board established California's antidegradation policy when it adopted Resolution No. 68-16, Statement of Policy with Respect to Maintaining the Quality of the Waters of the State. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The State Water Board has, in State Water Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy contained in 40 CFR section 131.12. Similarly, CWA section 303(d)(4)(B) and 40 CFR section 131.12 require that all permitting actions be consistent with the federal antidegradation policy. Together, the state and federal antidegradation policies are designed to ensure that a water body will not be degraded as a result of the permitted discharge. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies.

Discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution No. 68-16 because the discharge will not degrade existing high-quality water.

Copper had unusually high variability (i.e., coefficient of variation, CV) in the measured effluent concentration in 2014, which resulted in less stringent effluent limitations. Therefore, the existing limits were maintained due to antidegradation concerns and the existing limits have been met at all dates after 2014 for copper.

An effluent limitation for zinc has been added because an unusually high measure was also reported in 2014, and the broadened range of measures indicates an increased risk that the effluent would result or contribute to exceedances of water quality standards.

No changes to the Permittee's treatment systems or processes are planned that would impact the concentrations of these constituents in the effluent. Monitoring for these constituents in the effluent and receiving waters continues to be required under this Order. The Regional Water Board may modify the terms of this Order to prevent degradation of high-quality waters based on any change in the concentration of these constituents in the effluent or receiving water that indicates that a degradation of high-quality waters may occur. The treatment required by this Order is the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained.

**3. Stringency of Requirements for Individual Pollutants**

This Order contains both TBELs and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS and pH are discussed in section IV.B. of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are summarized in the table below.

WQBELs have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the WQOs 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 CFR section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP. All beneficial uses and WQOs contained in the Basin Plan were approved under state law and submitted to and approved by USEPA. Any WQOs and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

**Table F-15. Summary of Final Effluent Limitations and Performance Goals for Discharge**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | Performance Goals (Annual Average) | Basis |
|---|---|---|---|---|---|---|---|---|
| $BOD_5$20°C | mg/L | 20 | 30 | 45 | | | | Existing/ Tertiary treatment |
| $BOD_5$20°C | lbs/day | 2,340 | 3,500 | 5,250 | | | | Existing/ Tertiary treatment |
| TSS | mg/L | 15 | 40 | 45 | | | | Existing/ Tertiary treatment |
| TSS | lbs/day | 1,750 | 4,670 | 5,250 | | | | Existing/ Tertiary treatment |
| Turbidity | NTU | Average Daily 2 | -- | 5 | -- | 10 | | Existing/ Tertiary treatment |
| pH | standard units | -- | -- | -- | 6.5 | 8.5 | | Basin Plan |
| Temperature | °F | -- | -- | 86 | -- | -- | | Existing |
| Removal Efficiency for BOD | % | ≥85 | -- | -- | | | | 40 CFR part 133 |
| Removal Efficiency for TSS | % | ≥85 | -- | -- | | | | 40 CFR part 133 |
| Radioactivity[13] | | | | | | | | |
| Combined Radium-226 and Radium 228 | pCi/L | | -- | | -- | -- | 5.0 | Title 22 & BPJ |
| Gross Alpha particle activity (excluding radon and uranium) | pCi/L | | -- | | -- | -- | 15 | Title 22 & BPJ |
| Uranium | pCi/L | | -- | | -- | -- | 20 | Title 22 & BPJ |
| Gross Beta/photon emitters | millirem/ year | | -- | | -- | -- | 4 | Title 22 & BPJ |
| Strontium-90 | pCi/L | | -- | | -- | -- | 8.0 | Title 22 & BPJ |

[13] Calculation of performance goal for radioactivity based on best professional judgement and increased environmental risk in the collection system.

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Instanta-neous Minimum | Instanta-neous Maximum | Perfor-mance Goals (Annual Average) | Basis |
|---|---|---|---|---|---|---|---|---|
| Tritium | pCi/L | | -- | | -- | -- | 20,000 | Title 22 & BPJ |
| Total coliform[14] | MPN or CFU/ 100 mL | 23[14] | 2.2[14, 15] | 240[14] | -- | -- | | Title 22/ TMDL |
| Fecal coliform | MPN or CFU/ 100 mL | Geometric mean[15] 200 | -- | -- | -- | -- | -- | TMDL |
| Enterococcus | MPN or CFU/ 100 mL | Geometric mean[15] 35 | -- | -- | -- | -- | -- | TMDL |
| Oil and Grease | mg/L | 10 | -- | 15 | | | | Basin Plan narrative and BPJ |
| Oil and Grease | lbs/day | 750 | -- | 1,125 | | | | Basin Plan narrative and BPJ |
| Settleable Solids | ml/L | 0.1 | -- | 0.3 | | | | Basin Plan narrative and BPJ |
| Total Residual Chlorine | mg/L | -- | -- | 0.1 | | | | Basin Plan |
| Total Residual Chlorine | lbs/day | -- | -- | 7.5 | | | | Basin Plan |
| MBAS | mg/L | 0.5 | -- | -- | | | | Basin Plan |

[14] The wastes discharged to water courses shall at all times be adequately disinfected. For the purpose of this requirement, the wastes shall be considered adequately disinfected if: (1) the median number of total coliform bacteria in the disinfected effluent does not exceed a 7-day median of 2.2 Most Probable Number (MPN) or Colony Forming Unit (CFU) per 100 milliliters utilizing the bacteriological results of the last seven (7) days for which an analysis has been completed, (2) the number of total coliform bacteria does not exceed 23 MPN or CFU per 100 milliliters in more than one sample within any 30-day period, and (3) no sample shall exceed 240 MPN or CFU of total coliform bacteria per 100 milliliters. Samples shall be collected at a time when wastewater flow and characteristics are most demanding on treatment facilities and disinfection processes.

[15] The Santa Clara River Indicator Bacteria Total Maximum Daily Load (TMDL) was adopted by the Regional Water Board on July 8, 2010 (Resolution No. R4-2014-010). The Santa Clara River Bacteria TMDL was approved by the State Water Board, OAL, and USEPA on October 4, 2011, December 19, 2011, and January 13, 2012, respectively. It became effective on March 21, 2012. The Santa Clara River Indicator Bacteria TMDL identifies the most significant contributors of bacteria as the storm water conveyance system. Waste Load Allocations for Ventura WRF are set equal to a 7-day median of 2.2 MPN/100 mL of *total coliform.* Note that this WLA is as stringent as the Title 22 disinfection criteria of 2.2 MPN/100mL. No exceedances of the geometric mean targets for fecal coliform of 200 MPN/100mL, enterococcus of 35 MPN/100mL, and total coliform of 1,000 MPN/100 mL, shall be permitted.

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily | Instanta-neous Minimum | Instanta-neous Maximum | Perfor-mance Goals (Annual Average) | Basis |
|---|---|---|---|---|---|---|---|---|
| MBAS | lbs/day | 38 | -- | -- | | | | Basin Plan |
| Total Ammonia | mg/L | 2.7 | -- | 5.5 | | | | Basin Plan |
| Total Ammonia[18] | lbs/day | 203 | -- | 413 | -- | -- | | Basin Plan |
| Nitrate + Nitrite (as N) | mg/L | 10 | -- | -- | -- | -- | | Basin Plan |
| Nitrate + Nitrite (as N) | lbs/day | 750 | -- | -- | -- | -- | | Basin Plan |
| Nitrate (as N) | mg/L | 10 | -- | -- | -- | -- | | Basin Plan |
| Nitrate (as N) | lbs/day | 750 | -- | -- | -- | -- | | Basin Plan |
| Nitrite (as N) | mg/L | 1 | -- | -- | -- | -- | | Basin Plan |
| Nitrite (as N) | lbs/day | 75 | -- | -- | -- | -- | | Basin Plan |
| Copper | µg/L | 6.1 | -- | 14 | -- | -- | | SIP/CTR |
| Copper | lbs/day | 0.46 | -- | 1.1 | -- | -- | | SIP/CTR |
| Nickel | µg/L | 6.1 | -- | 18.5 | -- | -- | | SIP/CTR |
| Nickel | lbs/day | 0.46 | -- | 1.4 | -- | -- | | SIP/CTR |
| Zinc | µg/L | 55 | -- | 113.3 | -- | -- | | SIP/CTR |
| Zinc | lbs/day | 4.1 | -- | 8.5 | -- | -- | | SIP/CTR |
| Chronic toxicity (TST)[16] | Pass or Fail, % Effect | Pass | -- | Pass or % Effect < 50 | | | | TST & USEPA Guidance |

**Table F-16. Summary of Final Effluent Limitations for Discharge Point 001 with Point of Compliance at EFF-001A**

| Parameters | Units | Average Monthly | Average Weekly | Maximum Daily |
|---|---|---|---|---|
| Total ammonia (Summer) | mg/L | 0.42 | -- | 0.98 |
| Total ammonia (Summer) | lbs/day[9] | 32 | -- | 74 |
| Total ammonia (Winter) | mg/L | 0.61 | -- | 1.3 |
| Total ammonia (Winter) | lbs/day[9] | 46 | -- | 98 |

### E. Interim Effluent Limitations – Not Applicable

[16] The Permittee shall conduct whole effluent toxicity as outlined in section V. Please refer to section V.A.7 of this MRP for the accelerated monitoring schedule.

### F. Land Discharge Specifications – Not Applicable

### G. Recycling Specifications

The production, distribution, and reuse of recycled water for direct, non-potable applications are presently regulated under Water Recycling Requirements contained in Order No. 87-045 adopted by the Regional Water Board on April 27, 1987. In February 2015, the City filed Wastewater Petition WW0083 with the State Water Board pursuant to California Water Code Section 1211. The petition sought to change the volume and place of use of tertiary-treated water currently discharged to the SCRE. In response to the increasing demand for recycled water use, the City petitioned the State Water Board and was granted the authorization to increase recycled water use from 0.5 MGD to a maximum of 2.0 MGD for the purposes of trucking/hauling recycled water for residential irrigation uses, for irrigation and dust control uses on May 6, 2016.

The Discharger is in the process of planning for the construction of an Advanced Water Purification Facilities, groundwater injection and extraction wells, and related facilities to expand the recycled water system and is working with USFWS, NMFS, CDFW to reduce the discharge to the SCRE. Once the plans are completed and the State Water Board Division of Drinking Water and Regional Water Board have approved the expansion, the WDR/WRR will be renewed or additional recycling facilities will be permitted and constructed to reuse some effluent which currently enters the estuary. The City of Ventura will then file a wastewater change petition with the State Water Board's Water Rights Division to expand its recycled water program and remove water from the estuary.

The Permittee shall continue to investigate the feasibility of recycling, conservation, and/or alternative disposal methods of wastewater (such as groundwater injection), and/or use of storm water and dry-weather urban runoff. The Permittee shall submit an update to this feasibility study as part of the submittal of the Report of Waste Discharge (ROWD) for the next permit renewal.

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Water

The Basin Plan and other statewide plans contain numeric and narrative WQOs applicable to all surface waters within the Los Angeles Region. WQOs include an objective to maintain the high-quality waters pursuant to 40 CFR 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.

### B. Groundwater

The fresh groundwater beneath the Facility is in the Oxnard Plain Groundwater Basin. Groundwater infiltration and exfiltration has been documented at the Facility. The wildlife ponds do not have lined bottoms, and loss of effluent water is known to occur at the ponds, either through evaporation or seepage into the groundwater.

The loss of treated effluent from the ponds into the underlying groundwater is evidence of a hydraulic connection between the surface water and the groundwater. The water table, and hence, the location of the saline/freshwater interface, is known to vary between closed-flooded estuary conditions and open-breaching estuary conditions. The boundary between the groundwater basin (fresh) and the ocean (saline) is not a fixed point. Even though groundwater limits are not included in this Order, impacts on groundwater are prohibited.

## VI. RATIONALE FOR PROVISIONS

### A. Standard Provisions

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

40 CFR sections 122.41(a)(1) and (b) through (n) 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 CFR allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 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

a. This provision is based on 40 CFR part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

#### 2. Special Studies and Additional Monitoring Requirements

a. **Antidegradation Analysis and Engineering Report for Any Proposed Plant Expansion.** In the event of any proposed plant expansion, this provision is based on the State Water Board Resolution No. 68-16, which requires the Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state. Prior to expanding the plant capacity, the Permittee must demonstrate that it has implemented adequate controls (e.g., adequate treatment capacity) to ensure that high quality waters will be maintained. This provision requires the Permittee to demonstrate that it has increased plant capacity through the addition of new treatment system(s) to obtain alternative effluent limitations for the discharge from the treatment system(s). Prior to any plant expansion, this provision requires the Permittee to report specific time schedules for the plant's projects. This provision requires the Permittee to submit the Antidegradation Analysis and Engineering Report for the proposed Plant Expansion to the Regional Water Board for approval.

**b. Operations Plan for Proposed Expansion.** This provision is based on section 13385(j)(1)(D) of the Water Code and allows a time period not to exceed 90 days in which the Permittee may adjust and test the treatment system(s). Prior to start-up of an expansion project, this provision requires the Permittee to submit an Operations Plan describing the actions the Permittee will take during the period of adjusting and testing to prevent violations.

c. **Treatment Plant Capacity.** The treatment plant capacity study required by section VI.C.2.d of this Order shall serve as an indicator for the Regional Water

Board regarding Facility's increasing hydraulic capacity and growth in the service area.

**3. Best Management Practices and Pollution Prevention**

a. **Pollutant Minimization Program (PMP).** This provision is based on the requirements of section 2.4.5 of the SIP.

**4. Construction, Operation, and Maintenance Specifications**

a. This provision is based on the requirements of 40 CFR section 122.41(e) and the previous Order.

**5. Special Provisions for Publicly-Owned Treatment Works (POTWs)**

a. **Biosolids Requirements.** To implement CWA section 405(d), on February 19, 1993, USEPA promulgated 40 CFR part 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Permittee to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Permittee is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Water Board, other Regional Water Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied. (See attachment H).

b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective pretreatment program pursuant to section 307 of the CWA; 40 CFR section 35 and 403; and/or Title 23, CCR section 2233.

c. **Filter Bypass Requirements.** Conditions pertaining to bypass are contained in Attachment D, Section I. Standard Provisions – Permit Compliance, subsection G. The bypass or overflow of untreated or partially treated wastewater to waters of the State is prohibited, except as allowed under conditions stated in 40 CFR section 122.41(m) and (n). During periods of elevated, wet weather flows, an overflow basin is used to store the excess flow before returning it to the Primary Flow Equalization Basin. In the event that the overflow basin is not able to accommodate any additional wet weather flow, the excess secondary treated wastewater is diverted around the tertiary filters. These anticipated or unanticipated discharges are approved under the bypass conditions when the resulting combined discharge of fully treated (tertiary) and partially treated (secondary) wastewater complies with the effluent and receiving water limitations in this Order. (Refer to Standard Provisions I.G.3).

d. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on May 2, 2006. The State Water Board amended the Monitoring and Reporting Program for the General Order through Order WQ 2013-0058-EXEC on August 6, 2013. The General Order requires public agencies that own or operate sanitary sewer systems with sewer lines one mile of pipe or greater to enroll for coverage and comply with the General Order. The General Order requires agencies to develop sanitary sewer management plans and report all sanitary sewer overflows, among other requirements and prohibitions.

The General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive, and therefore, more stringent than the requirements under federal standard provisions. The Discharger and public agencies that are discharging wastewater into the facility's collection system were required to obtain enrollment for regulation under the General Order by December 1, 2006. The Discharger submitted an NOI for enrollment in the General Order WQP 2006-0003-DWQ on October 2, 2006.

### 6. Other Special Provisions - Not Applicable

### 7. Compliance Schedule - Not Applicable

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 CFR 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 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

Influent monitoring is required:

1. To determine compliance with the permit conditions for $BOD_5$ 20°C and suspended solids removal rates.
2. To assess treatment plant performance.
3. To assess the effectiveness of the Pretreatment Program.
4. As a requirement of the PMP.

### B. Effluent Monitoring

The Permittee is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the MRP Attachment E. This provision requires compliance with the MRP, and is based on 40 CFR sections 122.44(i), 122.62, 122.63, and 124.5. The MRP is a standard requirement in all NPDES permits (including this Order) issued by the Regional Water Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the Water Code, and Regional Water Board policies. The MRP also contains a sampling program specific for the Permittee's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent

limitations are specified. Further, in accordance with section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring is required for those pollutants expected to be present in the discharge from the Facility, will be required as shown on the MRP and as required in the SIP. Semi-annual monitoring for priority pollutants in the effluent is required in accordance with the Pretreatment requirements.

**Table F-17. Effluent Monitoring Frequency Comparison**

| Parameter | Monitoring Frequency R4-2013-0174 | Monitoring Frequency R4-2020-xxx |
|---|---|---|
| Total residual chlorine | Continuous | Continuous |
| Total residual chlorine | 5 days/week | 5 days/week |
| Total waste flow | Continuous | Continuous |
| Turbidity | Continuous | Continuous |
| Total and fecal coliform | Daily | Daily |
| Enterococci | 5 times per 30 days | Weekly |
| Settleable solids | Daily | Daily |
| $BOD_5$20°C | Daily | Daily |
| TSS | Daily | Daily |
| Dissolved oxygen | Daily | Daily |
| Temperature | Weekly | Weekly |
| pH | Weekly | Weekly |
| Oil and grease | Weekly | Weekly |
| Total Dissolved Solids | Monthly | Quarterly |
| Total hardness | none | Monthly |
| Fluoride | Monthly | None |
| Phosphate as P | Monthly | Monthly |
| Phosphorous | Monthly | Monthly |
| Total Ammonia | Monthly | Monthly |
| Nitrate nitrogen | Monthly | Monthly |
| Nitrite nitrogen | Monthly | Monthly |
| Organic nitrogen | Monthly | Monthly |
| Total nitrogen | none | Monthly |
| Total Kjeldahl nitrogen | Monthly | Monthly |
| Detergents (as MBAS) | Monthly | Monthly |
| Detergents (as CTAS) | none | Monthly |
| Chlorophyll a | Monthly | Monthly |
| Cyanide | Semiannually | Semiannually |
| Chronic toxicity | Monthly | Monthly |
| Acute toxicity | Annually | None |
| Antimony | Semiannually | Semiannually |
| Arsenic | Semiannually | Semiannually |
| Barium | Semiannually | Semiannually |
| Beryllium | Semiannually | Semiannually |
| Cadmium | Semiannually | Semiannually |
| Chromium VI | Semiannually | Semiannually |
| Cobalt | Semiannually | Semiannually |
| Copper | Monthly | Monthly |
| Iron | Semiannually | Semiannually |
| Lead | Monthly | Semiannually |
| Mercury | Quarterly | Monthly |

| Parameter | Monitoring Frequency R4-2013-0174 | Monitoring Frequency R4-2020-xxx |
|---|---|---|
| Molybdenum | Semiannually | Semiannually |
| Nickel | Monthly | Monthly |
| Selenium | Monthly | Quarterly |
| Silver | Semiannually | Semiannually |
| Thallium | Semiannually | Semiannually |
| Vanadium | Semiannually | Semiannually |
| Zinc | Quarterly | Monthly |
| Perchlorate | None | Semiannually |
| 1,4-Dioxane | None | Semiannually |
| 1,2,3-Trichloropropane | None | Semiannually |
| Methyl tert-butyl-ether (MTBE) | None | Semiannually |
| Chlorodibromomethane | Semiannually | Semiannually |
| Dichlorobromomethane | Semiannually | Semiannually |
| Bis(2-ethylhexyl)phthalate | Semiannually | Semiannually |
| Acetone | Semiannually | Semiannually |
| Total xylene | Semiannually | Semiannually |
| Toluene | Semiannually | Semiannually |
| Chloroform | Semiannually | Semiannually |
| Bromoform | Semiannually | Semiannually |
| Remaining priority pollutants (excluding asbestos) | Semiannually | Semiannually |
| Pesticides | Semiannually | Semiannually |
| DDT | None | Semiannually |
| 2,3,7,8-TCDD | Semiannually | Semiannually |
| Radioactivity (Including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium) | Semiannually | Semiannually |

The acute toxicity monitoring is no longer required because chronic toxicity is more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effect until it gets to the higher level. The lead monitoring frequency was reduced from quarterly to semiannually because it did not show reasonable potential to exceed the criteria. The monitoring frequency for zinc, which does show that reasonable potential, was increased to monthly like other metals with reasonable potential. Fluoride is no longer monitored because there is no MUN or GWR beneficial uses of the receiving water.

### 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. 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. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it gets to the higher level. For this permit, chronic toxicity in the discharge is evaluated using USEPA's 2010 Test of Significant Toxicity (TST) hypothesis testing approach, and is expressed as "Pass" or "Fail" for the median monthly summary results and "Pass" or "Fail" and "Percent Effect" for each individual chronic toxicity result. The chronic toxicity effluent limitations protect the narrative Basin Plan Water Quality Objective for chronic toxicity. The rationale for WET has been discussed extensively in section IV.C.5 of this Fact Sheet.

### D. Receiving Water Monitoring

#### 1. Surface Water

a. Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water.

#### 2. Groundwater – (Not Applicable)

### E. Other Monitoring Requirements

#### 1. Watershed Monitoring and Bioassessment Monitoring

The goals of the Watershed-wide Monitoring Program including the bioassessment monitoring for the Santa Clara River Watershed are to:

a. Determine compliance with receiving water limits.

b. Monitor trends in surface water quality.

c. Ensure protection of beneficial uses.

d. Provide data for modeling contaminants of concern.

e. Characterize water quality including seasonal variation of surface waters within the watershed.

f. Assess the health of the biological community.

g. Determine mixing dynamics of effluent and receiving waters in the estuary.

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

Under the authority of section 308 of the CWA (33 U.S.C. section 1318), USEPA 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 USEPA 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 USEPA's DMR-QA Coordinator and Quality Assurance Manager.

## VIII. CONSIDERATION OF NEED TO PREVENT NUISANCE AND WATER CODE SECTION 13241 FACTORS.

**A.** Need to prevent nuisance: The state law requirements in this Order are required to prevent pollution or nuisance as defined in section 13050, subdivisions (l) and (m), of the Water Code. Many are also required in accordance with narrative water quality objectives in the Basin Plan. These state requirements include, but are not limited to, groundwater limitations, spill

prevention plans, operator certification, sanitary sewer overflow reporting, and requirements for standby or emergency power.

**B.** Past, present, and probable future beneficial uses of water: Chapter 2 of the Basin Plan identifies designated beneficial uses for water bodies in the Los Angeles Region. Beneficial uses of water relevant to this Order are also identified above in Section III.C.1.

**C.** Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto: The environmental characteristics are discussed in the Region's Watershed Management Initiative Chapter, as well as available in State of the Watershed reports and the State's CWA Section 303(d) List of impaired waters. The environmental characteristics of the hydrographic unit, including the quality of available water, will be improved by compliance with the requirements of this Order. Additional information on the Santa Clara River watershed is available at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/ .

**D.** Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area: Water quality conditions sufficient to support the beneficial uses of the waterbodies in the Santa Clara River watersheds can reasonably be achieved through the coordinate control of all factors that affect water quality in the area. TMDLs have been developed (as required by the Clean Water Act) for many of the impairments in the watershed. A number of Regional Water Board programs and actions are in place to address the water quality impairments in the watershed, including regulation of point source municipal and industrial discharges with appropriate NPDES permits and non-point source discharges such as irrigated agriculture. All of these regulatory programs control the discharge of pollutants to surface and ground waters to prevent nuisance and protect beneficial uses. These regulatory programs have resulted in watershed solutions and have improved water quality. Generally, improvements in the quality of the receiving waters impacted by the permittee's discharges can be achieved by reducing the volume of discharges to receiving waters (e.g., through increased recycling), reducing pollutant loads through source control/pollution prevention, including operational source control such as public education (e.g., disposal of pesticides, pharmaceuticals, and personal care products into the sewer) and product or materials elimination or substitution, and removing pollutants through treatment.

**E.** Economic considerations: The Permittee did not present any evidence regarding economic considerations related to this Order. However, the Regional Water Board has considered the economic impact of requiring certain provisions pursuant to state law. The additional costs associated with complying with state law requirements are reasonably necessary to prevent nuisance and protect beneficial uses identified in the Basin Plan. Further, the loss of, or impacts to, beneficial uses would have a detrimental economic impact. Economic considerations related to costs of compliance are therefore not sufficient, in the Regional Water Board's determination, to justify failing to prevent nuisance and protect beneficial uses.

**F.** Need for developing housing within the region: The Regional Water Board has no evidence regarding the need for developing housing within the region or how the Permittee's discharge will affect that need. The Regional Water Board, however, does not anticipate that these state law requirements will adversely impact the need for housing in the area. The region generally relies on imported water to meet many of its water resource needs. Imported water makes up a vast majority of the region's water supply, with local groundwater, local surface water, and reclaimed water making up the remaining amount. This Order helps address the need for housing by controlling pollutants in discharges, which will improve the quality of local surface and ground water, as well as water available for recycling and re-use. This in turn may reduce the demand for imported water thereby increasing the region's capacity to support continued

housing development. A reliable water supply for future housing development is required by law, and with less imported water available to guarantee this reliability, an increase in local supply is necessary. Therefore, the potential for developing housing in the area will be facilitated by improved water quality.

**G.** Need to develop and use recycled water: The State Water Board's Recycled Water Policy requires the Regional Water Boards to encourage the use of recycled water. In addition, as discussed immediately above, a need to develop and use recycled water exists within the region, especially during times of drought. To encourage recycling, the Permittee is required by this Order to continue to explore the feasibility of recycling to maximize the beneficial reuse of tertiary treated effluent. Approximately twenty two percent of the effluent to be discharged under this Order may be reused for beneficial purposes, with larger volume reuse programs planned for the future.

## IX. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for Ventura WRF. 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 Persons

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 the following: (1) posted a copy at the main entrance gate of Ventura WRF, and (2) posted a copy at the main entrance gate to the wildlife ponds. 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. Comments were due either in person or by mail to the Executive Office at the Regional Water Board at losangeles@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 **January 6, 2020**.

### 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: | February 13, 2020 |
| Time: | 9:00 a.m. |
| Location: | City of South Gate, Council Chambers<br>8650 California Avenue<br>South Gate, California 90280 |

(See the Regional Water Board's website for the meeting location using the following link: https://www.waterboards.ca.gov/losangeles/board_info/meetings/.)

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 aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

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 at the address below of by calling (213) 576-6600.

Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013-2343

### 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, email address, and phone number.

### G. Additional Information

Requests for additional information or questions regarding this order should be directed to Raul Medina at (213) 620-2160 or via email at raul.medina@waterboards.ca.gov.

# ATTACHMENT G – TOXICITY REDUCTION EVALUATION (TRE) WORK PLAN OUTLINE

**A.** Gather and Review Information and Data
   1. POTW Operations and Performance
   2. POTW Influent and Pretreatment Program
   3. Effluent Data, including Toxicity Results
   4. Sludge (Biosolids) Data

**B.** Evaluate Facility Performance

**C.** Conduct Toxicity Identification Evaluation (TIE)

**D.** Evaluate Sources and In-Plant Controls

**E.** Implement Toxicity Control Measures

**F.** Conduct Confirmatory Toxicity Testing

# ATTACHMENT H – BIOSOLIDS AND SLUDGE MANAGEMENT

## BIOSOLIDS USE AND DISPOSAL REQUIREMENTS

(Note: "Biosolids" refers to non-hazardous sewage sludge defined in 40 CFR part 503.9. Sewage sludge that is hazardous, as defined in 40 CFR part 261, must be disposed of in accordance with the Resource Conservation and Recovery Act (RCRA).) 40 CFR part 503 requirements identified below are for information only and are not regulated by this Order.

**A.** All biosolids generated by the Discharger shall be reused or disposed of in compliance with the applicable portions of:

1. 40 CFR part 503: for biosolids that are land applied, placed in surface disposal sites (dedicated land disposal sites or monofills), or incinerated; 40 CFR part 503 Subpart B (land application) applies to biosolids placed on the land for the purpose of providing nutrients or conditioning the soil for crops or vegetation. 40 CFR part 503 Subpart C (surface disposal) applies to biosolids placed on the land for the purpose of disposal.
2. 40 CFR part 258: for biosolids disposed of in Municipal Solid Waste landfills.
3. 40 CFR part 257: for all biosolids disposal practices not covered under 40 CFR part 258 or 503.

**B.** The Discharger is responsible for assuring that all biosolids from its facility are used or disposed of in accordance with 40 CFR part 503, whether the Discharger reuses or disposes of the biosolids itself or transfers them to another party for further treatment, reuse, or disposal. The Discharger is responsible for informing subsequent preparers, appliers, or disposers of the requirements they must meet under 40 CFR part 503.

**C.** Duty to mitigate: The Discharger shall take all reasonable steps to prevent or minimize any biosolids use or disposal which may adversely impact human health or the environment.

**D.** No biosolids shall be allowed to enter wetland or other waters of the United States.

**E.** Biosolids treatment, storage, and use or disposal shall not contaminate groundwater.

**F.** Biosolids treatment, storage, and use or disposal shall not create a nuisance such as objectionable odors or flies.

**G.** The Discharger shall assure that haulers who transport biosolids off site for further treatment, storage, reuse, or disposal take all necessary measures to keep the biosolids contained.

**H.** If biosolids are stored for over two years from the time they are generated, the Discharger must ensure compliance with all the requirements for surface disposal under 40 CFR part 503 Subpart C, or must submit a written request to USEPA with the information in section 503.20 (b), requesting permission for longer temporary storage.

**I.** Sewage sludge containing more than 50 mg/kg PCB's shall be disposed of in accordance with 40 CFR part 761.

**J.** Any off-site biosolids treatment, storage, use or disposal site operated by the Discharger within Region 4 (Los Angeles Region of RWQCB) that is not subject to its own Waste Discharge Requirements shall have facilities adequate to divert surface runoff from the adjacent area, to protect the site boundaries from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site to escape from the site.

Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

**K.** Inspection and Entry: The USEPA or an authorized representative thereof, upon the presentation of credentials, shall be allowed by the Discharger, directly or through contractual arrangements with their biosolids management contractors, to:

1. Enter upon all premises where biosolids are produced by the Discharger and all premises where Discharger biosolids are further treated, stored, used, or disposed, either by the Discharger or by another party to whom the Discharger transfers the biosolids for further treatment, storage, use, or disposal.
2. Have access to and copy any records that must be kept under the conditions of this permit or of 40 CFR part 503, by the Discharger or by another party to whom the Discharger transfers the biosolids for further treatment, storage, use, or disposal.
3. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in the production of biosolids and further treatment, storage, use, or disposal by the Discharger or by another party to whom the Discharger transfers the biosolids for further treatment, storage, use, or disposal.

**L.** Monitoring shall be conducted as follows:

1. Biosolids shall be tested for the metals required in section 503.16 (for land application) or section 503.26 (for surface disposal), using the methods in "Test Methods for Evaluating Solids Waste, Physical/Chemical Methods" (SW-:846), as required in 503.8(b}(4}, at the following minimum frequencies:

| Volume (dry metric tons/year) | Frequency |
|---|---|
| 0 – 290 | once per year |
| 290 – 1500 | once per quarter |
| 1500 – 15000 | once per 60 days |
| > 15000 | once per month |

For accumulated, previously untested biosolids, the Discharge shall develop a representative sampling plan, which addresses the number and location of sampling points, and collect representative samples.

Test results shall be expressed in mg pollutant per kg biosolids on a 100% dry weight basis.

Biosolids to be land applied shall be tested for Organic-N, ammonium-N, and nitrate-N at the frequencies required above.

Prior to land application, the Discharger 'shall demonstrate that the biosolids meet Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR section 503.32. Prior to disposal in a surface disposal site, the Discharger shall demonstrate that the biosolids meet Class B levels or shall ensure that the site is covered at the end of each operating day.

For biosolids that are land applied or placed in a surface disposal site, the Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR section 503.33 (b).

Class 1 facilities (facilities with pretreatment programs or others designated as Class 1 by the Regional Administrator) and Federal facilities with> 5 MGD influent flow shall sample biosolids for pollutants listed under section 307 (a) of the Act (as required in the pretreatment section of the permit for POTWs with pretreatment programs.) Class 1 facilities and Federal Facilities with> 5 MGD influent flow shall

test dioxins/dibenzofurans using a detection limit of < 1 pg/g during their next sampling period if they have not done so within the past 5 years and once per 5 years thereafter.

The biosolids shall be tested annually or more frequently if necessary to determine hazardousness in accordance with California Law.

If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

Biosolids placed in a municipal landfill shall be tested semi-annually by the Paint Filter Test (SW-846, Method 9095) to demonstrate that there are no free liquids.

**M.** The Discharger either directly or through contractual arrangements with their biosolids management contractors shall comply with the following 40 CFR part 503 notification requirements:

1. A reuse/disposal plan shall be submitted to USEPA Region IX Coordinator and, in the absence of other state or regional reporting requirements, to the state permitting agency, prior to the use or disposal of any biosolids from this facility to a new or previously unreported site. The plan shall be submitted by the land applier of the biosolids and shall include, a description and a topographic map of the proposed site(s) for reuse or disposal, names and addresses of the applier(s) and site owner(s), and a list of any state or local permits which must be obtained. For land application sites, the plan shall include a description of the crops or vegetation to be grown, proposed nitrogen loadings to be used for the crops, and a groundwater monitoring plan if one exists.
2. If the Discharger biosolids do not meet 40 CFR section 503.13 Table 3 metals concentration limits, the Discharger must require their land applier to contact the state permitting authority to determine whether bulk biosolids subject to the cumulative pollutant loading rates in 40 CFR section 503.12(b)(2) have been applied to the site since July 20, 1993, and, if so, the cumulative amount of pollutants applied to date, and background concentration, if known. The Discharger shall then notify USEPA Region IX Coordinator of this information.
3. For biosolids that are land applied, the Discharger shall notify the applier in writing of the nitrogen content of the biosolids, and the applier's requirements under 40 CFR part 503, including the requirements that the applier certify that the requirement to obtain information in Subpart A, and that the management practices, site restrictions, and any applicable vector attraction reduction requirements Subpart D have been met. The Discharger shall require the applier to certify at the end of 38 months following application of Class B biosolids that those harvesting restrictions in effect for up to 38 months have been met.
4. If bulk biosolids are shipped to another State or to Indian Lands, the Discharger must send written notice prior to the initial application of bulk biosolids to the permitting authorities in the receiving State or Indian Land (the USEPA Regional Office for the area and the State/Indian authorities).
5. Notification of 40 CFR part 503 non-compliance: The Discharger shall require appliers of their biosolids to notify USEPA Region 9 and their state permitting agency of any noncompliance within 24 hours if the non-compliance may seriously endanger health or the environment. For other instances of non-compliance, the Discharger shall require appliers of their biosolids to notify USEPA Region 9 and their state permitting agency of the non-compliance in writing within 10 working days of becoming aware of the non-compliance.

**N.** The Discharger shall submit an annual biosolids report to USEPA Region IX Biosolids Coordinator and the Los Angeles Regional Water Quality Control Board by February 19 of each year for the period covering the previous calendar year. The report shall include:

1. The amount of biosolids generated that year, in dry metric tons, and the amount accumulated from previous years.
2. Results of all pollutant monitoring required in the Monitoring Section above.
3. Descriptions of pathogen reduction methods, and vector attraction reduction methods, as required in 40 CFR sections 503.17 and 503.27.
4. Results of any groundwater monitoring or certification by groundwater scientist that the placement of biosolids in a surface disposal site will not contaminate an aquifer.
5. Names and addresses of land appliers and surface disposal site operators, and volumes applied (dry metric tons).
6. Names and addresses of persons who received biosolids for storage, further treatment, disposal in a municipal waste landfill, or for other reuse/disposal methods not covered in N.3, above, and volumes delivered to each.

**O.** The Discharger shall require all parties contracted to manage their biosolids to submit an annual biosolids report to USEPA Region IX Biosolids Coordinator by February 19 of each year for the period covering the previous calendar year. The report shall include:

1. Names and addresses of land appliers and surface disposal site operators, name, location (latitude/longitude), and size (hectares) of site(s), volumes applied/disposed (dry metric tons) and for land application, biosolids loading rates (metric tons per hectare), nitrogen loading rates (kg/ha), dates of applications, crops grown, dates of seeding and harvesting and certifications that the requirement to obtain information in 40 CFR section 503.12(e)(2), management practices in section 503.14 and site restrictions in section 503.32(b)(5) have been met.

# ATTACHMENT I – PRETREATMENT REPORTING REQUIREMENTS

The City of Ventura (Permittee, City) is required to submit annual Pretreatment Program Compliance Report (Report) to the Regional Water Board and United States Environmental Protection Agency, Region 9 (USEPA). This Attachment outlines the minimum reporting requirements of the Report. If there is any conflict between requirements stated in this attachment and provisions stated in the Waste Discharge Requirements (WDR), those contained in the WDR will prevail.

**A.** Pretreatment Requirements

1. The Permittee shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR part 403, including any subsequent regulatory revisions to part 403. Where part 403 or subsequent revision places mandatory actions upon the Permittee as Control Authority but does not specify a timetable for completion of the actions, the Permittee shall complete the required actions within six months from the issuance date of this permit or the effective date of the part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Permittee shall be subject to enforcement actions, penalties, fines and other remedies by the USEPA or other appropriate parties, as provided in the Act. USEPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the act.
2. The Permittee shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d) and 402(b) of the Act with timely, appropriate and effective enforcement actions. The Permittee shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
3. The Permittee shall perform the pretreatment functions as required in 40 CFR part 403 including, but not limited to:
    a. Implement the necessary legal authorities as provided in 40 CFR section 403.8(f)(1);
    b. Enforce the pretreatment requirements under 40 CFR sections 403.5 and 403.6;
    c. Implement the programmatic functions as provided in 40 CFR section 403.8(f)(2); and
    d. Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR section 403.8(f)(3).
4. The Permittee shall submit annually a report to USEPA Pacific Southwest Region, and the State describing its pretreatment activities over the previous year. In the event the City is not in compliance with any conditions or requirements of this permit, then the City shall also include the reasons for noncompliance and state how and when the City shall comply with such conditions and requirements. This annual report shall cover operations from January 1 through December 31 and is due on April 15 of each year. The report shall contain, but not be limited to, the following information:
    a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the publicly-owned treatment works (POTW) influent and effluent for those pollutants USEPA has identified under section 307(a) of the Act

which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan, with quarterly samples analyzed only for those pollutants detected in the full scan. The City is not required to sample and analyze for asbestos. Sludge sampling and analysis are covered in the sludge section of this permit. The City shall also provide any influent or effluent monitoring data for nonpriority pollutants which the City believes may be causing or contributing to interference or pass through. Sampling and analysis shall be performed with the techniques prescribed in 40 CFR part 136;

b. A discussion of Upset, Interference or Pass Through incidents, if any, at the treatment plant which the City knows or suspects were caused by nondomestic users of the POTW system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through or interference;

c. An updated list of the City's significant industrial users (SIUs) including their names and addresses, and a list of deletions, additions and SIU name changes keyed to the previously submitted list. The City shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall also indicate which SIUs are subject to local limitations;

d. The City shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

   i. Name of the SIU;

   ii. Category, if subject to federal categorical standards;

   iii. The type of wastewater treatment or control processes in place;

   iv. The number of samples taken by the POTW during the year;

   v. The number of samples taken by the SIU during the year;

   vi. For an SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

   vii. A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;

   viii. Whether the facility is in significant noncompliance (SNC) as defined at 40 CFR section 403.8(f)(2)(viii) at any time during the year; and

   ix. A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action, final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance.

e. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;

f. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning the program's administrative structure, local limits, monitoring

program or monitoring frequencies, legal authority, enforcement policy, funding levels, or staffing levels;

g. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

h. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 CFR section 403.8(f)(2)(viii).

**B.** LOCAL LIMITS EVALUATION

1. In accordance with 40 CFR section 122.44(j)(2)(ii), the POTW shall provide a written technical evaluation of the need to revise local limits under 40 CFR section 403.5(c)(1) within 180 days of issuance or reissuance of the Facility's NPDES permit.

**C.** SIGNATORY REQUIREMENTS AND REPORT SUBMITTAL

1. Signatory Requirements.

   The annual report must be signed by a principal executive officer, ranking elected official or other duly authorized employee if such employee is responsible for the overall operation of the POTW. Any person signing these reports must make the following certification [40 CFR section 403.6(a)(2)(ii)]:

   *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*.

2. Report Submittal.

   The Annual Pretreatment Report shall be submitted electronically using the State Water Board's California Integrated Water Quality System (CIWQS) Program website http://www.waterboards.ca.gov/ciwqs/index.html. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

   A copy of the Annual Pretreatment Report must be sent to USEPA electronically to the following address:

   R9Pretreatment@epa.gov