

## North Coast Regional Water Quality Control Board

**ORDER NO. R1-2020-0002**  
**NPDES NO. CA0023671**  
**WDID NO. 1B80081OHUM**

### WASTE DISCHARGE REQUIREMENTS AND MASTER RECYCLING PERMIT

#### FOR THE

#### LOLETA COMMUNITY SERVICES DISTRICT LOLETA WASTEWATER TREATMENT FACILITY HUMBOLDT COUNTY

The following Permittee is subject to waste discharge requirements (WDRs) and water recycling requirements set forth in this Order:

**Table 1. Permittee Information**

<b>Permittee</b>	Loleta Community Services District
<b>Name of Facility</b>	Loleta Wastewater Treatment Facility
<b>Facility Address</b>	2656 Eel River Drive
	Loleta, California 95551
	Humboldt County
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW)
<b>Current Facility Design Flow</b>	0.081 million gallons per day (mgd) (average dry weather design flow)
	0.55 mgd (peak daily wet weather flow)
<b>Proposed Upgraded Facility Design Flow</b>	0.120 mgd (average dry weather design flow)
	0.48 mgd (peak wet weather design flow)

**Table 2. Discharge Locations**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude (North)</b>	<b>Discharge Point Longitude (West)</b>	<b>Receiving Water</b>
001	Disinfected Secondary Treated Municipal Wastewater	40° 38' 23"	124° 13' 37"	Wetland Tributary to the Eel River
002	Disinfected Secondary Treated Municipal Wastewater	--	--	Authorized Recycled Water Use Site <sup>1</sup>

**Table Notes:**

1. Authorized recycled water use site means a site which has been evaluated for California Environmental Quality Act (CEQA) compliance and addressed in the Permittee's title 22 Recycled Water Engineering Report and approved by the State Water Board Division of Drinking Water (DDW) and the Regional Water Board.

VALERIE L. QUINTO, CHAIR | MATTHIAS ST. JOHN, EXECUTIVE OFFICER

**Table 3. Administrative Information**

This Order was adopted on:	<b>February 6, 2020</b>
This Order shall become effective on:	<b>April 1, 2020</b>
This Order shall expire on:	<b>March 31, 2025</b>
The Permittee shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, (CCR) and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	<b>March 31, 2024</b>
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows:	<b>Minor</b>

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2014-0013 and Monitoring and Reporting Program (MRP) No. R1-2014-0013, are rescinded upon the effective date of this Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.

I, Matthias St. John, 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, North Coast Region, on **February 6, 2020**.

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Matthias St. John, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Loleta Community Services District (Permittee), Loleta Wastewater Treatment Facility (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, North Coast 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 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. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a NPDES permit authorizing the Permittee to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order
- B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application, through monitoring and reporting program, 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 this Order and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.E, III.F, IV.C, V.B, and VI.C.5.a of this Order and sections VII, IX.A, IX.B and X.E of the Monitoring and Reporting Program (MRP) are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee 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.

## III. DISCHARGE PROHIBITIONS

- A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.
- C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).

- D.** The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset).
- E.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land and creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.
- F.** The discharge of waste to land that is not owned by the Permittee, governed by District ordinance, or under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the California Code of Regulations (CCR).
- G.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.
- H.** The average dry weather flow of waste through the Facility shall not exceed 0.081 million gallons per day (mgd) measured daily and averaged over a calendar month. The peak daily wet weather flow of waste through the Facility shall not exceed 0.55 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.
- I.** The discharge of waste to the Eel River, at Discharge Point 001, and its tributaries is prohibited during the period from May 15 through September 30 of each year.
- J.** During the period of October 1 through May 14, discharges of wastewater at Discharge Point 001 to the wetland, tributary to an unnamed slough and thence to the Eel River, shall not exceed one percent of the flow of the Eel River at Scotia, as measured at United States Geological Survey (USGS) Gauge No. 11-4770.00. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:
  - 1.** The discharge of secondary treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Eel River at Scotia, at USGS Gauge No. 11-4770.00. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,
  - 2.** In no case shall the total volume of treated wastewater discharged in a calendar month exceed one percent of the total volume of the Eel River at Scotia, measured at USGS Gauge No. 11-4770.00 in the same calendar month. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume comparisons shall be based on the first day of the calendar month to the date when the discharge ceased for the season.
- K.** The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.
- L.** The acceptance of septage to a location other than an approved septage receiving station is prohibited.

#### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

##### A. Effluent Limitations – Discharge Point 001

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

- a. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP (Attachment E).

**Table 4. Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)**

Parameter	Units	Effluent Limitations <sup>1</sup>				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	30	45	--	--	--
pH	s.u.	--	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--
Chlorine, Total Residual	mg/L	0.01	--	0.02	--	--
Copper, Total Recoverable	µg/L	8.9	--	14	--	--
Carbon Tetrachloride	µg/L	0.25	--	0.50	--	--
Chlorodibromomethane	µg/L	0.40	--	1.0	--	--
Dichlorobromomethane	µg/L	0.56	--	1.3	--	--
Heptachlor	µg/L	0.00021	--	0.00042	--	--
Ammonia Impact Ratio <sup>2</sup>	mg/L	1	--	1	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Total Dissolved Solids	mg/L	500	--	--	--	--

**Table Notes:**

- See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.
- The Ammonia Impact Ratio (AIR) is calculated as the ratio of the ammonia concentration in the effluent and the applicable ammonia standard (AMEL and MDEL). Attachment I is a PDF example of the calculator that will be sent to the Permittee to determine compliance with the AMEL/MDEL AIR. For each of the applicable ammonia standards, Attachment H includes two tables that provide the variable AMEL and MDEL ammonia standards used in calculating the AIR. The AIR is the ammonia effluent limit and must be reported in the self-monitoring reports in addition to ammonia concentrations, and pH and temperature values in the effluent and receiving water. Monitoring for ammonia, pH and temperature must be conducted concurrently in order for the AIR to be calculated properly.

- b. **Percent Removal.** The average monthly percent removal of BOD<sub>5</sub> and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.

- c. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to the wetland shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001:
  - i. The median concentration shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters (mL) in a calendar month<sup>1</sup>; and
  - ii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.
- d. **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to the wetland, tributary to a slough and the Eel River. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following:
  - i. Minimum for any one bioassay: 70 percent survival; and
  - ii. Median for any three or more consecutive bioassays: at least 90 percent survival.Compliance with these effluent limitations shall be determined in accordance with section VII.I of this Order and section V.A of the MRP (Attachment E).
- e. **Chronic Toxicity.** As measured at Monitoring Location EFF-001, there shall be no chronic toxicity in the effluent when discharging to the wetland, tributary to a slough and the Eel River. Compliance with this narrative chronic toxicity effluent limitation shall be determined in accordance with section VII.J of this Order and sections V.B and V.C of the MRP (Attachment E).

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

This Order does not establish interim effluent limitations or schedules for compliance with final limitations. See Fact Sheet section IV.E. for a discussion on Time Schedule Order No. R1-2020-0003.

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

This Order does not authorize discharges to land.

**C. Water Recycling Specifications and Requirements – Discharge Point 002<sup>2</sup>**

- 1. **Authorized Recycled Water Location:** This Order authorizes use of recycled water at Discharge Point 002 to an agricultural area adjacent to the Facility, identified in Attachment B-4, in accordance with the water recycling specifications and requirements that follow.
- 2. **Water Recycling Specifications**
  - a. When discharging to the recycled water system, the Permittee shall maintain compliance with the following discharge specifications at Discharge Point 002, with compliance measured at Monitoring Location EFF-002, as described in the attached MRP (Attachment E), unless otherwise specified.

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<sup>1</sup> See section VII.H of this Order regarding compliance with bacteriological limitations.

<sup>2</sup> These requirements are to take effect upon commencement of the recycled water discharge, contingent upon approval of the Title 22 Engineering Report from DDW.

**Table 5. Recycling Discharge Specifications – Discharge Point 002 (Monitoring Location EFF-002)**

Parameter	Units	Discharge Specifications <sup>1,2</sup>				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	30	45	--	--	--
pH	s.u.	--	--	--	6.0	9.0
Total Suspended Solids (TSS)	mg/L	30	45	--	--	--
<b>Table Notes:</b> 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order. 2. These requirements are to take effect upon completion of the upgraded treatment plant and recycled water location.						

- b. Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 002 to the recycled water system shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-002:
  - i.** The median concentration shall not exceed an MPN of 23 per 100 mL, in a calendar month<sup>3</sup>; and
  - ii.** No sample shall exceed an MPN of 240 per 100 mL.

### 3. Water Recycling Requirements

- a.** The Permittee shall comply with applicable state and local requirements regarding the production and use of recycled water, including requirements of Water Code sections 13500-13577 (Water Reclamation) and State Water Board, Division of Drinking Water (DDW) regulations at title 22, sections 60301 – 60357 of the CCR (Water Recycling Criteria).
- b.** The Permittee shall submit a title 22 Recycled Water Engineering Report for approval. The Permittee shall have an approved Title 22 Engineering Report prior to discharging to a Recycled Water Use Site. The Permittee shall maintain an up-to-date DDW-approved Recycled Water Engineering Report. The Permittee shall revise its title 22 Recycled Water Engineering Report and receive DDW approval prior to adding any new recycled water user(s).
- c.** The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order, the operation and maintenance of distribution piping and equipment, and for the application and use of recycled water on the designated recycled water use areas. The Permittee's specific responsibilities, at a minimum, shall include the following:
  - i.** Proper installation, operation, and maintenance of the irrigation system to ensure compliance with all requirements of this Order;

<sup>3</sup> See section VII.H of this Order regarding compliance with bacteriological limitations.



- ii. Control of onsite piping to prevent any cross-connections with potable water supplies;
  - iii. General responsibilities to ensure compliance with this Order and continuous implementation of best management practices (BMPs) identified as necessary to prevent potential hazards to public health and to protect the environment.
- d. The Permittee shall conduct periodic inspections of the irrigation system, facilities, and operations to monitor and ensure compliance with the conditions of this Order.
- e. The Permittee shall report all violations of this Order in the Permittee's self-monitoring reports, including any runoff events.
- f. The use of treated effluent for irrigation shall not result in unreasonable waste of water.
- g. The Permittee shall manage the recycled water system to prevent surface runoff of recycled water.
- h. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).
- i. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of public nuisance or health hazard. The following practices shall be implemented:
  - i. Irrigation water shall infiltrate completely within a 48-hour period; and
  - ii. Low pressure and unpressurized pipelines and ditches that may be accessible to mosquitoes shall not be used to store recycled water.
- j. Recycled water used for irrigation shall not be allowed to escape from the distribution system or the recycled water use areas in the form of surface runoff. [CCR title 22, section 60310(e)] Where appropriate, practices and strategies to prevent the occurrence of runoff shall include, but not be limited to:
  - i. A minimum 50-foot setback to all surface waters or provide written documentation of appropriate BMPs that will be implemented to prevent or minimize the potential for runoff discharging to surface water;
  - ii. Implementation of an Operations and Maintenance Plan that provides for detection of leaks from recycled water piping and irrigation equipment, and correction within 72 hours of learning that runoff, or prior to release of 1,000 gallons, whichever comes first;
  - iii. Proper design and aim of sprinkler heads;
  - iv. Proper design and operation of the irrigation system;
  - v. Refraining from irrigation during precipitation events;
  - vi. Application at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;

- vii.** Use of repeat start times and/or multiple water days with short run times to increase irrigation efficiency and reduce runoff potential; and
- viii.** Maintenance of irrigation infrastructure (pipelines, pumps, sprinkler equipment, etc.) to prevent and minimize breakage and leaks.
- k.** Recycled water and airborne spray shall not be allowed to escape from the authorized recycled water use area(s).
- l.** Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities.
- m.** Disinfected secondary treated recycled water shall not be irrigated within 100 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified at title 22, section 60301(a) of the CCR have been met and approved by DDW.
- n.** All areas where treated effluent is used for irrigation that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than four inches high by eight inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road.
- o.** The main shutoff valve of the irrigation system shall be tagged with a recycled water warning sign and shall be equipped with an appropriate locking device to prevent unauthorized operation of the valve.
- p.** The discharge or use of recycled water for irrigation shall not cause or contribute to an exceedance of any applicable water quality standard. The Permittee shall be responsible for ensuring that all recycled water meets all terms and conditions of this Order, including the water quality standards in sections IV and V of this Order.
- q.** The Permittee shall discontinue all delivery of recycled water for irrigation during any period that there is reason to believe that the requirements for use as specified in this Order or the requirements of DDW or U.S. EPA are not being met. The delivery of recycled water for irrigation shall not resume until all non-compliant conditions have been corrected.
- r.** The use of recycled water for dust suppression shall only occur during periods of dry weather, shall be limited to periods of short duration, and shall be limited to areas under the Permittee's control.

**D. Other Requirements – Not Applicable**

**1. Disinfection Process Requirements for Chlorine Disinfection System (INT-001)**

When discharging to the Eel River at Discharge Point 001, treated effluent shall be disinfected in a manner that ensures effective pathogen reduction. As measured at the end of the chlorine contact chamber at Monitoring Location INT-001, the total residual chlorine concentration shall be maintained at a level that ensures the discharge meets the total coliform effluent limitations at the end of the disinfection process.

## **2. Disinfection Process Requirements (INT-002)<sup>4</sup>**

The Permittee shall operate the ultraviolet light (UV) disinfection system in accordance with the operating protocol and technical and administrative requirements set out by DDW in order to demonstrate compliance with disinfection effluent limitations specified in section IV.A.1.c and disinfection water recycling specifications in section IV.C.2.b of this Order. Specifically, the Permittee shall:

- a.** Provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, and UV power at Monitoring Location INT-002 and turbidity following the filtration process.
- b.** The Permittee shall establish and maintain a UV dose that ensures the discharge meets the total coliform effluent limitations at the end of the disinfection process for discharges to Discharge Points 001 and 002. The Permittee must demonstrate that the UV dose (reported in mJ/cm<sup>2</sup> or mW-s/cm<sup>2</sup>) is sufficient to ensure compliance with the total coliform effluent limitations in sections IV.A.1.c, and IV.C.2.b. of the Order.
- c.** Ensure that the UV transmittance (at least 254 nanometers) in the wastewater does not fall below 55 percent of maximum at any time, unless otherwise approved by DDW.
- d.** Visually inspect the quartz sleeves and cleaning system components per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and check the efficacy of the cleaning system.
- e.** Wipe/clean the quartz sleeves at fixed intervals following the manufacturer's procedures to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be increased as necessary to ensure compliance with permit requirements such as UV dose and total coliform organism requirements.
- f.** Operate the UV disinfection system in accordance with an approved operations and maintenance plan, which specifies clearly the operational limits and responses required for critical alarms. The Permittee shall maintain a copy of the approved operations plan at the treatment plant and make the plan readily available to operations personnel and regulatory agencies. The Permittee shall post a quick reference plant operations data sheet at the treatment plant. The data sheet shall include the following information:
  - i.** The alarm set points for secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power.
  - ii.** The values of secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power and specific actions to be taken to maintain compliance.
  - iii.** The required frequency of calibration for all meters measuring turbidity, flow, UV transmittance, and power.
  - iv.** The required frequency of mechanical cleaning/wiping and equipment inspection.

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<sup>4</sup> These requirements are to take effect upon completion of the upgraded treatment plant and recycled water location.

- v. Procedure for diverting or otherwise preventing non-compliant recycled water from being discharged to the receiving water or the recycled water system.
- g. Replace lamps per the manufacturer's recommendation, or sooner, if there are indications the lamps are failing to provide adequate disinfection. The Permittee shall maintain lamp age and lamp replacement records for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).
- h. Properly calibrate flow meters and UV transmittance (UVT) monitors to ensure proper disinfection.
- i. Ensure reliable operation, performance, and calibration of the on-line UVT meter.
- j. Operate the UV disinfection system with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available row of UV lamps or UV lamp bank.
- k. Ensure that flow through the UV disinfection system not exceed 0.12 mgd as a daily average dry weather flow, unless otherwise approved by DDW.

## **V. RECEIVING WATER LIMITATIONS**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

### **A. Surface Water Limitations**

Discharges from the Facility shall not cause the following in the receiving water:

1. The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L.

In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions<sup>5</sup>, site-specific background DO requirements can be applied<sup>6</sup> as water quality objectives by calculating the daily minimum DO necessary to maintain 85% DO saturation during the dry season and 90% DO saturation during the wet season under site salinity, site atmospheric pressure, and natural receiving water temperature<sup>7</sup>. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

For the protection of estuarine habitat (EST), the dissolved oxygen concentration of enclosed bays and estuaries shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.

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<sup>5</sup> Natural conditions are conditions or circumstances affecting the physical, chemical, or biological integrity of water that are not influenced by past or present anthropogenic activities.

<sup>6</sup> Upon approval from the Regional Water Board Executive Officer.

<sup>7</sup> The method(s) used to estimate natural temperatures for a given waterbody or stream length must be approved by the Executive Officer and may include, as appropriate, comparison with reference streams, simple calculation, or computer models.

2. The discharge shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.
3. The discharge shall not cause the specific conductance (micromhos ) concentration of the receiving waters to increase above 225 micromhos more than 50 percent of the time, or above 375 micromhos more than 10 percent of the time. Compliance will be determined by evaluating the 50th percentile and 90th percentile of the monthly means of receiving water data each calendar year.
4. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 140 mg/L more than 50 percent of the time, or above 275 mg/L more than 10 percent of the time. Compliance will be determined by evaluating the 50th percentile and 90th percentile of the monthly means of receiving water data each calendar year.
5. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.
6. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
7. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
8. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
9. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
10. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
11. The discharge shall not cause receiving waters to contain concentrations of biostimulatory substances that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.
13. The discharge shall not cause a measurable temperature change in the receiving water at any time.
14. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide concentrations in bottom sediments or aquatic life.

15. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, division 4, chapter 15, article 5.5 of the CCR.
16. The discharge shall not cause receiving waters to 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 affect beneficial uses.
17. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
18. The discharge shall not cause concentrations of chemical constituents to occur in excess of MCLs and secondary MCLs (SMCLs) established for these pollutants in title 22, division 4, chapter 15, article 4, section 64431, article 5.5, section 64444, and article 16, section 64449 of the CCR.
19. The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life, nor in excess of the MCLs and SMCLs established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR.

**B. Groundwater Limitations**

1. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Basin Plan) and reasonable BMPs, will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater. In addition, Permittee shall implement measures that constitute Best Practicable Treatment or Control of the discharge, and any technical evaluation must assure that the highest water quality consistent with maximum benefit to people of the State will be maintained.
2. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause alterations of groundwater that contain chemical concentrations in excess of the MCL and SMCL provisions established for these pollutants in title 22, division 4, chapter 15, article 4, 64431, article 5.5, section 64444, and article 16, section 64449.
3. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain radionuclides in concentrations that cause nuisance or adversely affect beneficial uses, nor in excess of the MCLs and SMCLs established for these pollutants in title 22, division 4, chapter 15, article 5, sections 64442 and 64443 of the CCR.
4. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

5. The collection, treatment, storage, and disposal of wastewater or use of recycled water shall not cause the median of the most probable number of coliform organisms over any 7-day period to exceed 1.1 MPN/100 mL or 1 colony/100 mL in groundwaters used for domestic or municipal supply (MUN).
6. The collection, treatment, storage and disposal of wastewater or use of recycled water shall not cause groundwater to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.

## VI. PROVISIONS

### A. Standard Provisions

1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard 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. 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.
  - b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, final effluent limitation, recycled water specification, other specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment infrastructure, breach of pond containment, sanitary sewer overflow, recycled water main break or equivalent release, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with section V.E of Attachment D and section X.E of the MRP (Attachment E).

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

The Permittee shall comply with the MRP, included as Attachment E of this Order, and future revisions thereto.

### C. Special Provisions

#### 1. Reopener Provisions

- a. **Standard Revisions.** This Order may be reopened for modification, (1) if applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, or (2) when new information that was not available at

the time of permit issuance would have justified different permit conditions at the time of issuance.

- b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.
- c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a narrative or numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- d. **303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet, section III.D) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL may be modified or imposed to conform this Order to the TMDL requirements.
- e. **Water Effects Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents, except for copper for which a site-specific WER of 2.41 has been used as further described in section IV.C.3 of the Fact Sheet. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. If the Permittee performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits a report that demonstrates that WER or translator studies were performed in accordance with U.S. EPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.
- f. **Nutrients.** This Order contains effluent limitations for ammonia and nitrate and effluent monitoring requirements for nutrients (ammonia, unionized ammonia, nitrate, nitrite, organic nitrogen, and phosphorus). If new water quality objectives for nutrients are established, if monitoring data indicate the need for new or revised effluent limitations for any of these parameters, or if new or revised methods for compliance with effluent limitations for any of these parameters are developed, this Order may be reopened and modified to include new or modified effluent limitations or other requirements, as necessary.
- g. **Salt and Nutrient Management Plans (SNMPs).** The Recycled Water Policy adopted by the State Water Board on February 3, 2009, and effective May 14, 2009, recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or sub-regional SNMPs rather than through imposing requirements solely on individual recycled water projects. This Order may be reopened to incorporate provisions consistent with any SNMP(s)



adopted by the Regional Water Board or subsequent amendments to the Recycled Water Policy.

- h. Title 22 Engineering Report.** This Order implements title 22 requirements to protect public health. If the Permittee's title 22 engineering report requires modifications to this Order to adequately implement title 22, this Order may be reopened and modified as necessary.

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

- a. Ammonia Study.** The Permittee shall conduct a study on its own or in collaboration with other dischargers to determine the presence of freshwater mussels in the receiving water or to calculate site-specific criteria to support implementation of the water quality criteria for ammonia in the April 2013 *Aquatic Life Ambient Water Quality for Ammonia – Freshwater 2013* (EPA-822-R-13-001). The Permittee may conduct literature searches of historical mussel surveys and/or conduct a site-specific mussel survey to evaluate the presence/absence of mussels in the receiving water. The study shall be conducted in accordance with the August 2013 *Technical Support Document for Conducting and Reviewing Freshwater Mussel Occurrence Surveys for the Development of Site-Specific Water Quality Criteria for Ammonia* (EPA-800-R-13-003). The Permittee shall submit a work plan for conducting the study by **January 31, 2021**. The study shall be initiated within 3 years of the permit effective date and a final report summarizing the results of the study shall be submitted to the Regional Water Board in conjunction with the report of waste discharge (ROWD) by **January 31, 2024**.
- b. Recycled Water BMP/Operations and Management Plan.** The Permittee shall create a Recycled Water BMP/Operations and Management Plan that meets the requirements of this Order, including the BMPs identified in the Recycled Water Use Requirements B.12 of Attachment G and the Permittee's procedures. by **December 31, 2021**. The Permittee shall update the Recycled Water BMP/Operations and Management Plan as necessary in order to remain current and applicable to the discharge and requirements of this Order, and shall submit the updated Plan to the Regional Water Board.
- c. Disaster Preparedness Assessment Report and Action Plan.** Natural disasters, extreme weather events, sea level rise, and shifting precipitation patterns, some of which are projected to intensify due to climate change, have significant implications for wastewater treatment and operations. Some natural disasters are expected to become more frequent and extreme according to the current science on climate change. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, the Permittee shall submit a Disaster Preparedness Assessment Report and Action Plan to the Regional Water Board by **June 1, 2022**, for Executive Officer review and approval.

The Permittee shall: (1) conduct an assessment of the wastewater treatment facility, operations, collection, and discharge systems to determine areas of short- and long-term vulnerabilities related to natural disasters and extreme weather, including sea level rise and other conditions projected by climate change science, if applicable; the assessment shall consider, as applicable, impacts to plant operations due to changing influent and receiving water quality, rising sea level, storm surges, fires, floods,

earthquakes, tsunamis, back-to-back severe storms, and other extreme conditions that pose a risk to plant operations and water quality; (2) identify control measures needed to protect, improve, and maintain wastewater infrastructure, waste discharge compliance, and receiving water quality in the event of a natural disaster or, if applicable, under conditions resulting from climate change; (3) develop a schedule to implement necessary control measures. 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 potential risks associated with extreme weather events and changing conditions resulting from climate change; and (4) implement the necessary control measures per the approved schedule of implementation.

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

#### **a. Pollutant Minimization Program (PMP)**

- i.** The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
  - (a)** The concentration of the pollutant is reported as “Detected, but Not Quantified” (DNQ) and the effluent limitation is less than the reporting limit (RL);
  - (b)** A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL), using definitions described in Attachment A and reporting protocols described in MRP section X.B.5.
- ii.** The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
  - (a)** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
  - (b)** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
  - (c)** Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
  - (d)** Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
  - (e)** An annual status report that shall be submitted as part of the Annual Facility Report due **March 1st** to the Regional Water Board and shall include:
    - (1)** All PMP monitoring results for the previous year;
    - (2)** A list of potential sources of the reportable pollutant(s);

(3) A summary of all actions undertaken pursuant to the control strategy;  
and

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

#### 4. Construction, Operation and Maintenance Specifications

- a. **Proper Operation and Maintenance.** This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.
- b. **Operation and Maintenance Manual.** The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following:
  - i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications, and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.
  - ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
  - iii. Description of laboratory and quality assurance procedures.
  - iv. Process and equipment inspection and maintenance schedules.
  - v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.
  - vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.
- c. **New/Upgraded Facility Certification Report.** All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Permittee shall submit a certification report for each new treatment facility, expansion of an existing facility, and design capacity re-ratings, prepared by the design engineer. For design capacity re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility design capacity. The signature and

engineering license number of the engineer preparing the certification report shall be affixed to the report. If any future changes are made to the Facility, the Permittee shall submit as-built design plans for each change.

- i. The certification report shall:
  - (a) Identify and certify the design capacity of the treatment facility, including wet- and dry-weather flow capacities; and
  - (b) Certify the adequacy of each component of the treatment facility.

**5. Special Provisions for Municipal Facilities (POTWs Only)**

**a. Wastewater Collection Systems**

**i. Statewide General WDRs for Sanitary Sewer Systems**

The Permittee has coverage under, and is separately subject to, the requirements of State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems, as amended by Order No. WQ 2013-0058-EXEC. As such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any revisions thereto for operation of its wastewater collection system.

**b. Source Control and Pretreatment Provisions**

- i. The Permittee shall perform source control functions and provide a summary of source control activities conducted in the Annual Report (due **March 1st** to the Regional Water Board). Source control functions and requirements shall include the following:
  - (a) Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.
  - (b) If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.
  - (c) Perform public outreach to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the wastewater treatment plant, at least once per year.
  - (d) Perform on-going inspections and monitoring, as necessary, to ensure adequate source control.
  - (e) General Prohibitions. Pollutants introduced into wastewater treatment facilities (WWTFs) by a non-domestic source shall not pass through [40 CFR 403.3(n)] the WWTF or interfere [40 CFR 403.3(i)] with the operation or performance of the works. These general prohibitions and the specific prohibitions in paragraph (f) of this provision apply to all non-domestic sources introducing pollutants into a WWTF whether or not the source is subject to other National Pretreatment Standards or any national, state, or local pretreatment requirements.

- (f) Specific Prohibitions. In addition, the following pollutants shall not be introduced into a WWTF:
  - (1) Pollutants that create a fire or explosion hazard in the WWTF;
  - (2) Pollutants that will cause corrosive structural damage to the WWTF, but in no case discharges with pH lower than 5.0, unless the WWTF is specifically designed to accommodate such discharges;
  - (3) Solid or viscous pollutants in amounts that will cause obstruction to the flow in the WWTF resulting in interference;
  - (4) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the WWTF;
  - (5) Heat in amounts that will inhibit biological activity in the WWTF resulting in interference, but in no case heat in such quantities that the temperature at the WWTF exceeds 40°C (104°F) unless the Regional Water Board, upon request of the Permittee, approves alternate temperature limits;
  - (6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interferences or pass through; and
  - (7) Pollutants that result in the presence of toxic gases, vapors, or fumes within the WWTF in a quantity that may cause acute worker health and safety problems.
- ii. In the event that the Permittee identifies industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the wastewater treatment plant, or the Regional Water Board or its Executive Officer determines that circumstances warrant pretreatment requirements in order to prevent interference [40 C.F.R. §403.3(j)] with the wastewater treatment Facility or Pass Through [40 C.F.R. §403.3(n)], then:
  - (a) The Permittee shall notify the Regional Water Board **within 30 days** after there are discharges that trigger the pretreatment requirements;
  - (b) The Permittee shall submit a revised ROWD and the pretreatment program for the Regional Water Board's review and approval as soon as possible, but **not more than one year after the Permittee's notification** to the Regional Water Board of the need for pretreatment requirements being triggered;
  - (c) The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);
  - (d) The Permittee shall notify each CIU of its discharge effluent limits. The limits must be as stringent as the pretreatment standards contained in the applicable federal category (40 C.F.R. part 400-699). The Permittee may develop more stringent, technology-based local limits if it can show cause; and

- (e) The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.
- iii. The Regional Water Board retains the right to take legal action against an industrial user and/or the Permittee where a user fails to meet the approved applicable federal, state, or local pretreatment standards.
- iv. The Regional Water Board may amend this Order, at any time, to require the Permittee to develop and implement an industrial pretreatment program pursuant to the requirements of 40 C.F.R. part 403 if the Regional Water Board finds that the Facility receives pollutants from an industrial user that is subject to pretreatment standards, or if other circumstances so warrant.
- c. Sludge Disposal and Handling Requirements**
- i. Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.
- ii. All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and state regulations.
- iii. The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 C.F.R. part 503, which are enforceable by the U.S. EPA, not the Regional Water Board. If during the life of this Order, the state accepts primacy for implementation of 40 C.F.R. part 503, the Regional Water Board may also initiate enforcement where appropriate.
- iv. Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 C.F.R. part 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.
- v. The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.
- vi. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.
- vii. Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, protect the boundaries of the site from erosion, and prevent drainage from the treatment and storage site. Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.

- viii. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the state.

**d. Biosolids Management**

For any discharge of biosolids from the Facility, the Permittee shall comply with the following requirements:

- i. For the land application of biosolids as soil amendment within the North Coast region, the Permittee shall obtain or maintain coverage under the State Water Board Water Quality Order No. 2004-0012-DWQ General Waste Discharge Requirements for the Discharge of Biosolids to Land or Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities, or
- ii. Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.
- iii. New sludge treatment and storage facilities must comply with the requirements of the Water Code and title 27 of the CCR for the protection of water quality.

**e. Operator Certification**

Supervisors and operators of municipal wastewater treatment facilities shall possess a certificate of appropriate grade in accordance with title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment facility operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade certified by DDW where water recycling is involved.

**f. Adequate Capacity**

If the Facility will reach capacity within 4 years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, **within 120 days after providing notification to the Regional Water Board**, or within 120 days after receipt of Regional Water Board notification that the Facility will reach capacity within 4 years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232].

**6. Other Special Provisions**

**a. Storm Water**

For the control of storm water discharge from the Facility, if required, the Permittee shall seek separate authorization to discharge under the requirements of the State

Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

BMPs to control the run-on of storm water to the Facility site shall be maintained and upgraded as necessary. The Permittee shall describe the effectiveness of these storm water BMPs, as well as activities to maintain and upgrade these BMPs during the previous year, in its annual report to the Regional Water Board.

#### **7. Compliance Schedules – Not Applicable**

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

### **VII. COMPLIANCE DETERMINATION**

Compliance with the prohibitions and effluent limitations contained in sections III and IV of this Order will be determined as specified below.

#### **A. General**

Compliance with effluent limitations for priority pollutants, when effluent limitations have been established, 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 deemed out of compliance with effluent limitations if the concentration of a pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

#### **B. Multiple Sample Data**

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, 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 middle values 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 and a value of zero shall be used for the ND or DNQ value in the median calculation for compliance purposes only. Using a value of zero for DNQ or ND samples does not apply when performing reasonable potential or antidegradation analyses.

#### **C. Average Monthly Effluent Limitation**

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, 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). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar month, the Permittee shall calculate the median of all sample results within that month for compliance determination with the AMEL as described in section VII.B, above.

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

If the average (or when applicable, the median determined by subsection B, above, for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. 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. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar week, the Permittee shall calculate the median of all sample results within that week for compliance determination with the AWEL as described in section VII.B, above.

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

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period.

**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, 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).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

**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, 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).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

#### **H. Bacteriological Limitations (Total Coliform)**

- 1. Median.** The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, followed by quantified values. The median value is determined based on the number of data points in the set. 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, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.
- 2.** Compliance with the monthly median will be determined on a monthly basis by calculating the median of the weekly samples collected during the month, as described in VII.H.1, immediately above.

#### **I. Acute Toxicity Limitations**

Compliance with the three-sample median acute toxicity effluent limitation shall be determined when there is a discharge, by calculating the median percent survival of the three most recent consecutive samples meeting all test acceptability criteria collected from Monitoring Location EFF-001.

Compliance with the accelerated monitoring and TRE provisions shall constitute compliance with the acute toxicity requirements, all specified in the MRP (Attachment E, sections V.A and V.C).

#### **J. Chronic Toxicity**

Compliance with the accelerated monitoring and TRE provisions specified in the MRP (Attachment E, sections V.B.8 and V.C) shall constitute compliance with the narrative chronic toxicity requirement specified as Effluent Limitation IV.A.1.e. The MRP, section V.B.6.a, further describes how a determination of Pass/Fail shall be made.

#### **K. Average Dry Weather Flow**

Compliance with the average dry weather flow prohibition in section III.H of this Order will be determined once each calendar year by evaluating all flow data collected at Monitoring Location INF-001 in a calendar year. The flow through the facility, measured daily and averaged monthly, must be 0.081<sup>8</sup> mgd or less for the month with the lowest average monthly flow. The flow through the upgraded Facility, measured daily and averaged monthly, must be 0.120 mgd or less for the month with the lowest average monthly flow.

#### **L. Peak Daily Wet Weather Flow**

The peak daily wet weather flow is the maximum flow rate that occurs over a 24-hour period. Compliance with the peak daily wet weather flow prohibition in section III.H of this Order will be determined daily by measuring the daily average flow at Monitoring Location INF-001. If the

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<sup>8</sup> For current Facility operations.

measured daily average flow exceeds 0.55 mgd<sup>8</sup>, the discharge does not comply with Prohibition III.H of this Order. Once the Facility upgrade is completed, if the measured daily average flow exceeds 0.48 mgd, the discharge does not comply with Prohibition III.H of this Order.

DRAFT

## 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 Pollutants**

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

### **Carcinogenic Pollutants**

substances that are known to cause cancer in living organisms.

### **Coefficient of Variation (CV)**

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)**

Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

**Dilution Credit**

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

**Effective Concentration (EC)**

A point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Kärber. EC25 is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

**Effluent Concentration Allowance (ECA)**

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 wasteload allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bays**

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 headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

**Estimated Chemical Concentrations**

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

**Estuaries and Coastal Lagoons** are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that 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 salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, Russian, San Diego, and Otay Rivers. Estuaries do not include inland surface waters or ocean waters.

### **Inhibition Concentration (IC)**

The IC25 is typically calculated as a percentage of effluent. It is the level at which the organisms exhibit 25 percent reduction in biological measurement such as reproduction or growth. It is calculated statistically and used in chronic toxicity testing.

### **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).

### **Lowest Observed Effect Concentration (LOEC)**

The lowest concentration of an effluent or toxicant that results in adverse effects on the test organism (i.e., where the values for the observed endpoints are statistically different from the control).

### **Maximum Daily Effluent Limitation (MDEL)**

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

### **Median**

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

### **Method Detection Limit (MDL)**

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

### **Minimum Level (ML)**

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**

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)**

Those sample results less than the laboratory's MDL.

**No Observed Effect Concentration (NOEC)**

The highest tested concentration of an effluent or a test sample at which the effect is no different from the control effect, according to the statistical test used (see LOEC). The NOEC is usually the highest tested concentration of an effluent or toxicant that causes no observable effects on the aquatic test organisms (i.e., the highest concentration of toxicity at which the values for the observed responses do not statistically differ from the controls). It is determined using hypothesis testing.

**Persistent Pollutants**

Substances for which degradation or decomposition in the environment is nonexistent or very slow.

**Pollutant Minimization Program (PMP)**

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

**Pollution Prevention**

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 or Regional Water Board.

**Publicly Owned Treatment Works (POTW)**

A treatment works as defined in section 212 of the Clean Water Act (CWA), which is owned by a State or municipality as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

**Recycled Water**

Water that, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource (Water Code

section 13050). The terms “recycled water” and “reclaimed water” have the same meaning (Water Code section 26).

### **Reporting Level (RL)**

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

### **Satellite Collection System**

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

### **Septage**

Defined as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, recreational vehicle’s sanitation tank, or similar storage or treatment works that receives domestic waste.

### **Source of Drinking Water**

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

### **Standard Deviation ( $\sigma$ )**

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.

### **Toxicity Reduction Evaluation (TRE)**

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.)

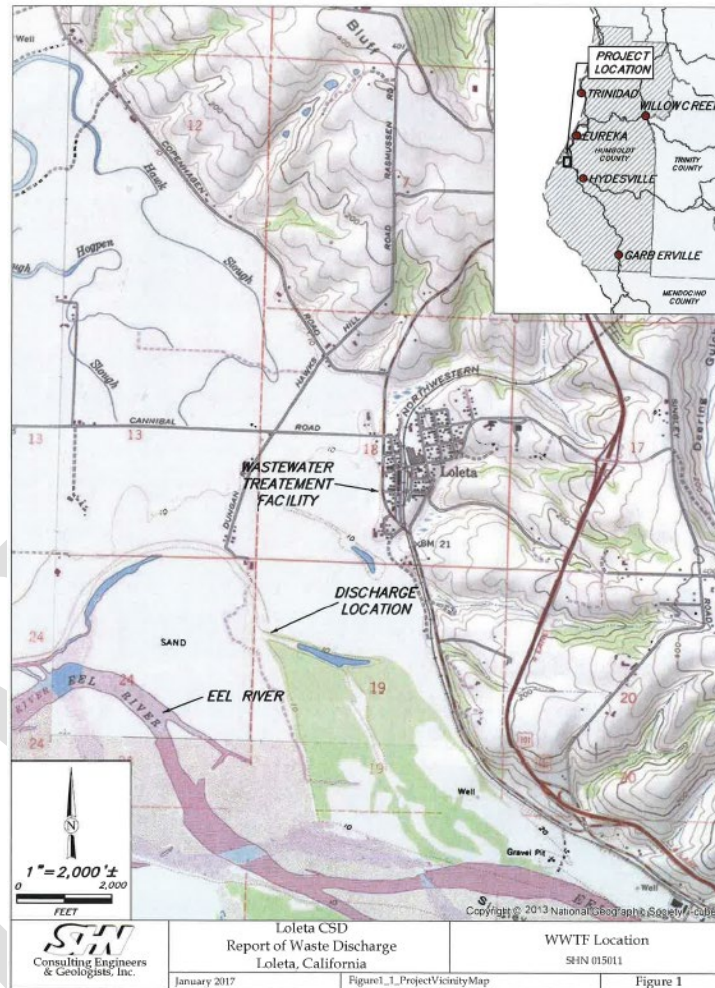


**Test of Significant Toxicity (TST)**

The statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010). The TST was developed by the U.S. Environmental Protection Agency (EPA) for analyzing WET and ambient toxicity data. Using the TST approach, the sample is declared toxic if there is greater than or equal to a 25% effect in chronic tests, or if there is greater than or equal to a 20% effect in acute tests at the permitted instream waste concentration (IWC) (referred to as the toxic regulatory management decision (RMD)). The sample is declared non-toxic if there is less than or equal to a 10% effect at the IWC in acute or chronic tests (referred to as the non-toxic RMD).

## ATTACHMENT B – MAPS

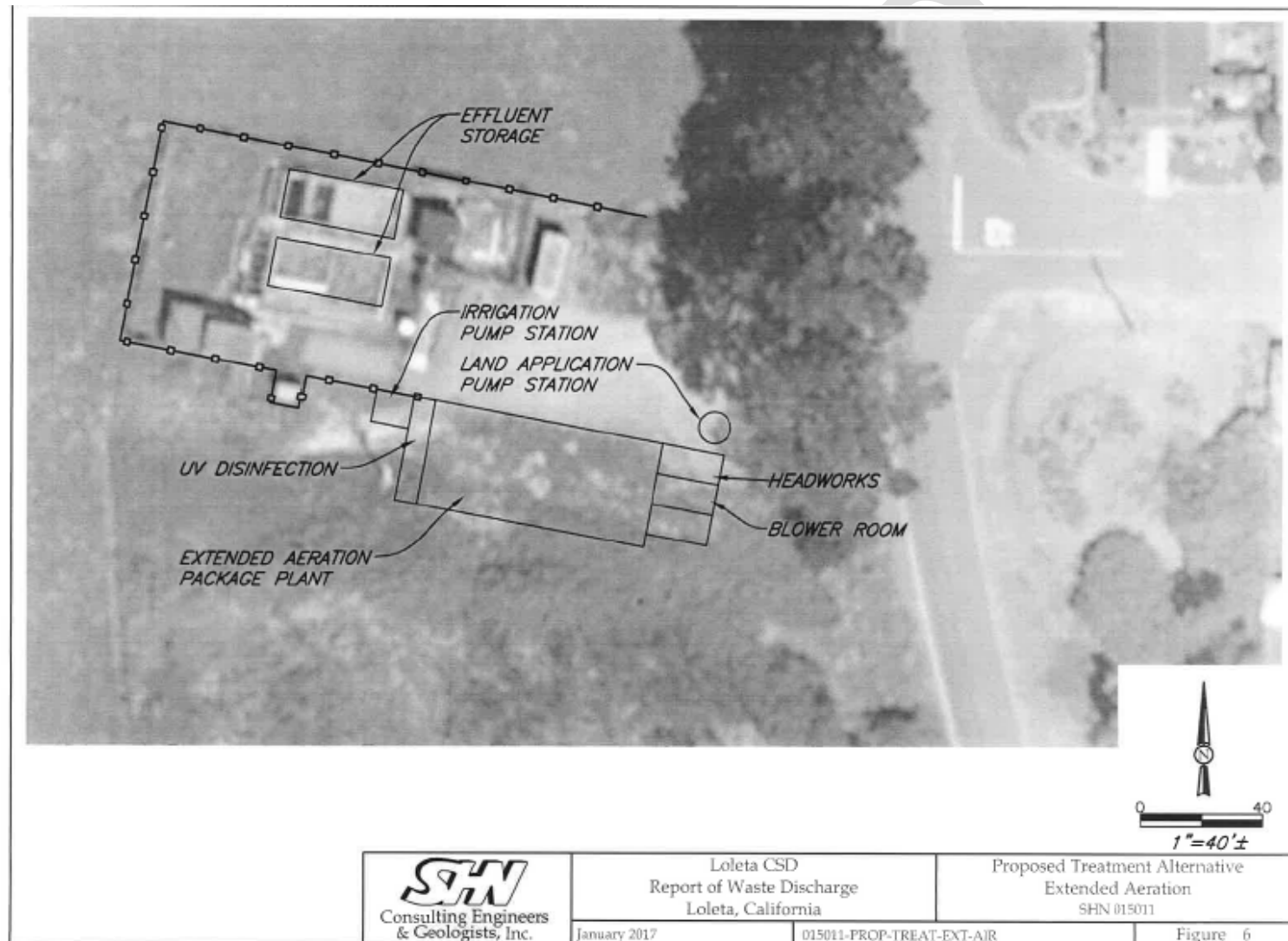
Figure B-1. Wastewater Treatment Facility Location Map



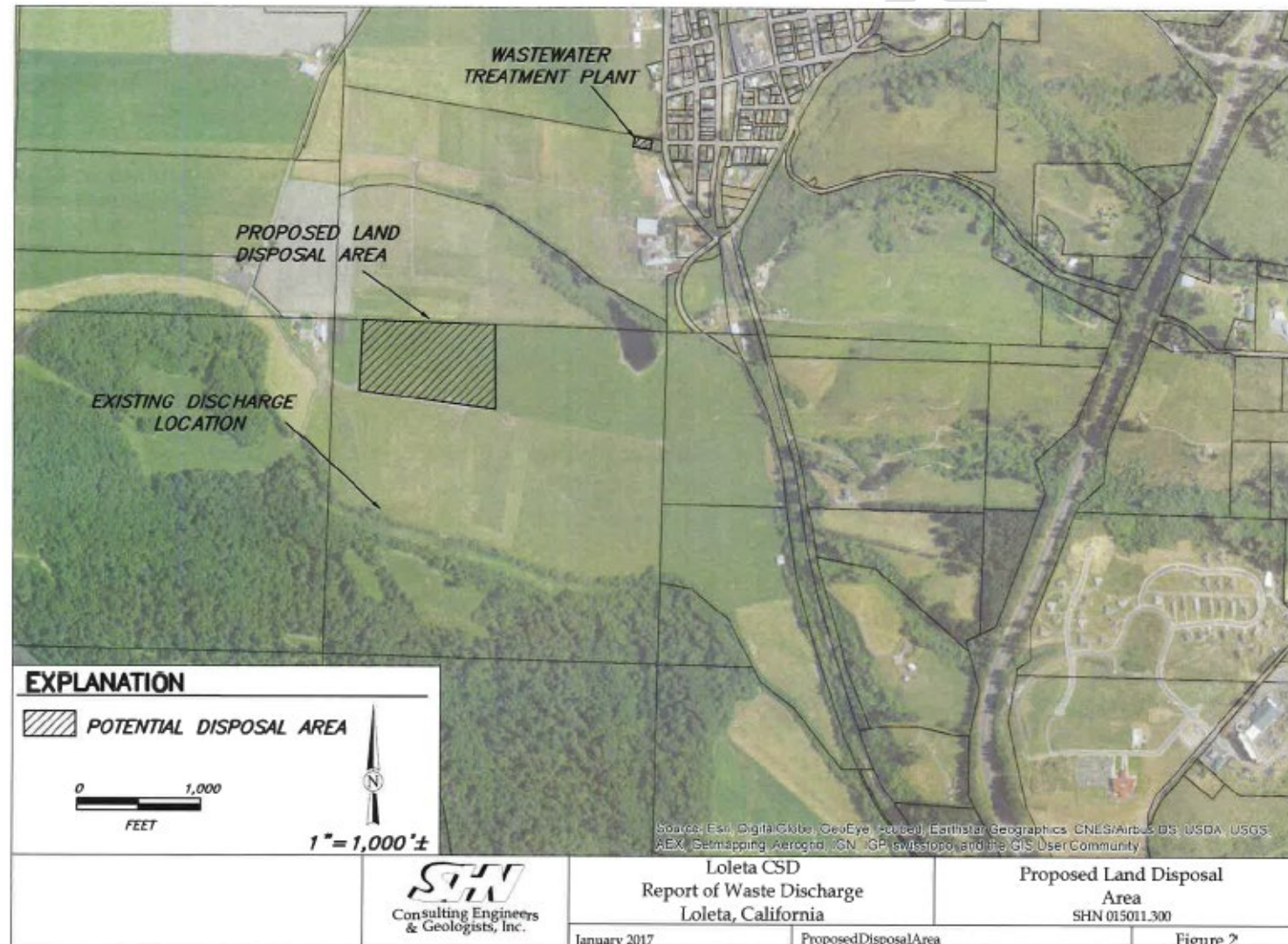
**Figure B-2. Existing Wastewater Treatment Facility Map**



**Figure B-3. Proposed Wastewater Treatment Facility Map**



**Figure B-4. Proposed Land Disposal Area after Treatment Upgrade**





## ATTACHMENT C – FLOW SCHEMATIC

Figure C-1. Existing Wastewater Treatment Flow Schematic

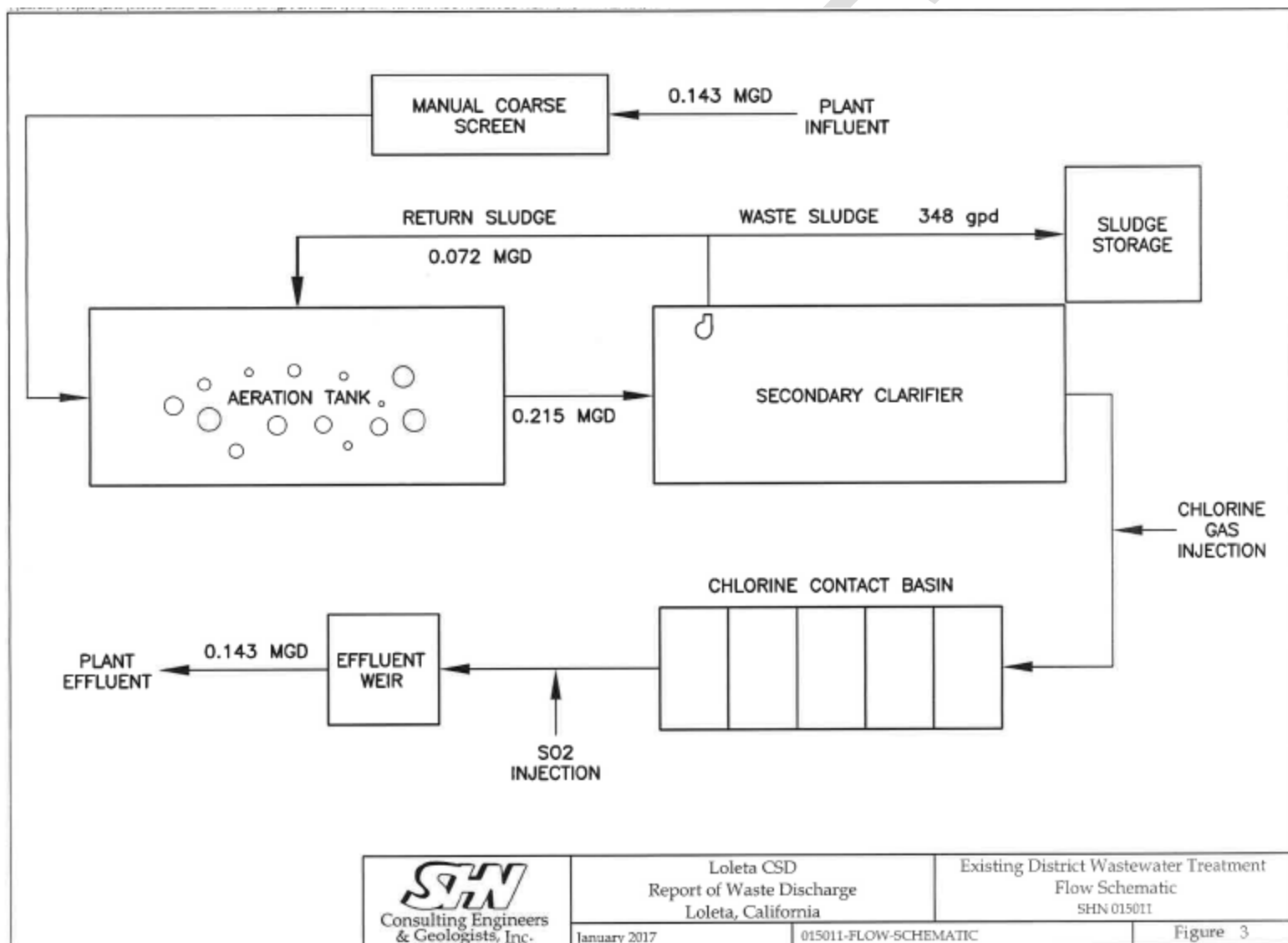
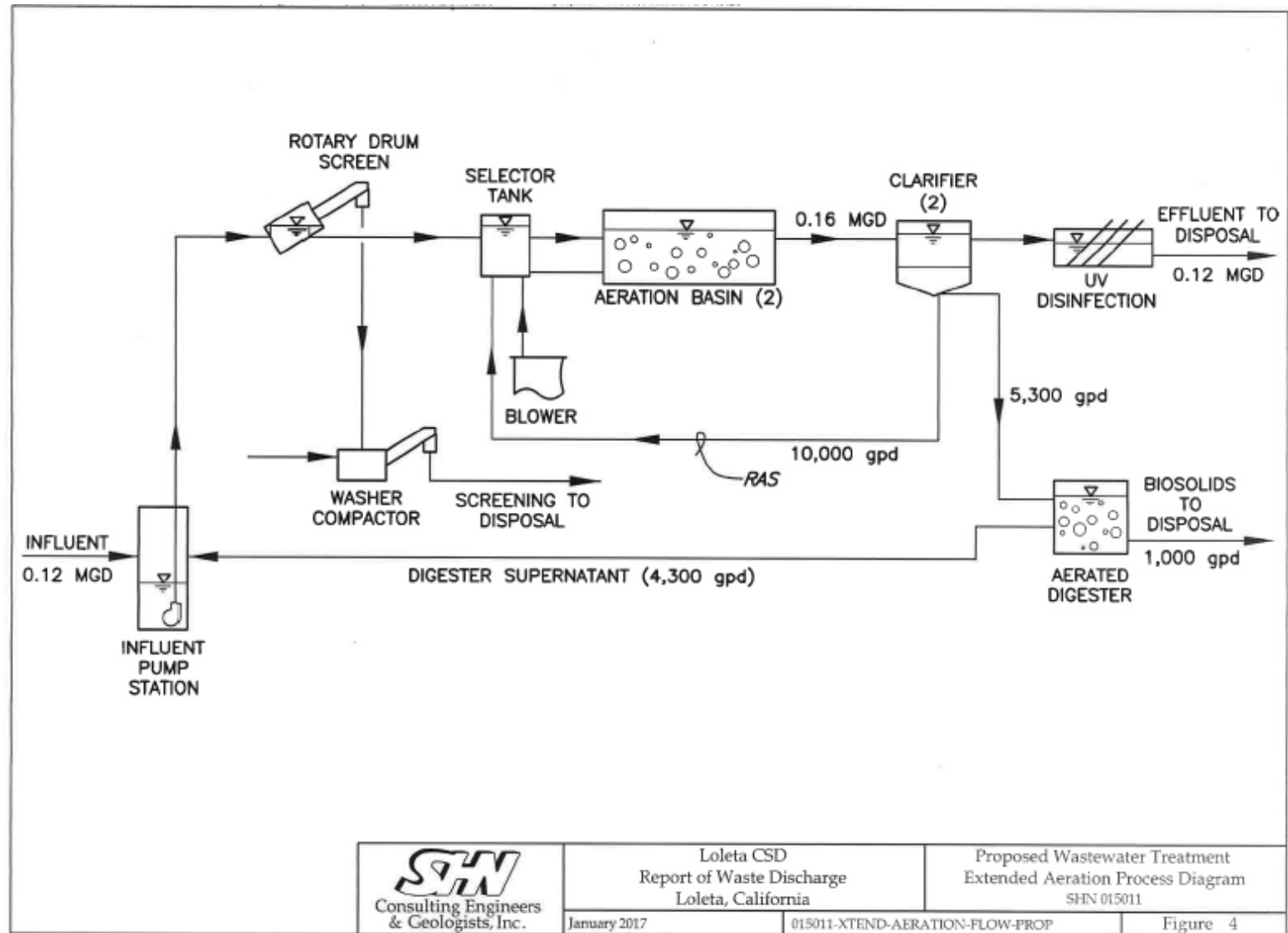


Figure C-2. Proposed Wastewater Treatment Flow Schematic



## **ATTACHMENT D – STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 130001, 13304, 13350, 13385.)
2. The Permittee shall comply with effluent standards or prohibitions established under Section 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. (40 C.F.R. § 122.41(a)(1).)

#### **B. Need to Halt or Reduce Activity Not a Defense**

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

#### **C. Duty to Mitigate**

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

#### **D. Proper Operation and Maintenance**

The Permittee 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 Permittee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

#### **F. Inspection and Entry**

The Permittee shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative),



upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

#### G. Bypass

##### 1. Definitions

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

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

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

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
- c. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. **Burden of Proof.** In any enforcement proceeding, the permittee seeking to establish the bypass defense has the burden of proof.
5. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
6. **Notice**
  - a. **Anticipated bypass.** If the Permittee knows in advance of the need for a bypass, it shall submit a prior notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
  - b. **Unanticipated bypass.** The Permittee shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

#### H. Upset

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

1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
  - a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
  - c. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
  - d. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. **Burden of Proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

## **II. STANDARD PROVISIONS – PERMIT ACTION**

### **A. General**

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

### **B. Duty to Reapply**

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

### **C. Transfers**

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

## **III. STANDARD PROVISIONS – MONITORING**

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

**B.** Monitoring must be conducted according to test procedures under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. 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 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 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 a facility’s discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

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

In the case of sludge use or disposal approved under 40 C.F.R. part 136, monitoring must be conducted according to test procedures in part 503 unless otherwise specified in 40 C.F.R. or other test procedures have been specified in this Order.

#### **IV. STANDARD PROVISIONS – RECORDS**

- A.** Except for records of monitoring information required by this Order related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. Records of monitoring information shall include:**
1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
  2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
  3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
  4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
  5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
  6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**
1. The name and address of any permit applicant or Permittee (40 C.F.R. § 122.7(b)(1)); and
  2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

#### **V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information**

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

**B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by 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 U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
  - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)
6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

**C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting

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 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, 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. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

#### **D. Compliance Schedules**

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

#### **E. Twenty-Four Hour Reporting**

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission 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. (40 C.F.R. § 122.41(l)(6)(i).)

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

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

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

- a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
  - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case by case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

**F. Planned Changes**

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Permittee'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 permit, 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 C.F.R. § 122.41(l)(1)(iii).)

**G. Anticipated Noncompliance**

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

**H. Other Noncompliance**

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

**I. Other Information**

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the

Regional Water Board, State Water Board, or U.S. EPA, the Permittee shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

**J. Initial Recipient for Electronic Reporting Data**

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

**VI. STANDARD PROVISIONS – ENFORCEMENT**

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

**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 C.F.R. § 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 C.F.R. § 122.42(b)(1)); and
2. 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 this Order (40 C.F.R. § 122.42(b)(2)).
3. 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 C.F.R. § 122.42(b)(3)).



## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### I. GENERAL MONITORING PROVISIONS

- A. Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.
- B. Supplemental Monitoring Provision.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.
- C. Laboratory Certification.** Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board) in accordance with the provisions of Water Code section 13176 and must include quality assurance/quality control data with their analytical reports.
- D. Instrumentation and Calibration Provision.** All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated no less than the manufacturer's recommended intervals or one year intervals, (whichever comes first) to ensure continued accuracy of the devices.
- E. Minimum Levels (ML) and Reporting Levels (RL).** Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 C.F.R. 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using U.S. EPA approved methods. For the purposes of the NPDES program, when more than one test procedure is approved under 40 C.F.R., part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule (CTR) shall also adhere to guidance and requirements contained in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) (SIP). 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, U.S. EPA 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. Similarly, U.S. EPA Method 245.7 for mercury is published with an ML of 5 ng/L.
- F. Discharge Monitoring Report Quality Assurance (DMR-QA) Study.** The Permittee shall ensure that the results of the 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 Permittee 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	Untreated influent wastewater collected at the plant headworks at a representative point preceding primary treatment.
--	INT-001 <sup>1</sup>	Treated wastewater from the chlorine contact chamber prior to dechlorination for purposes of measuring chlorine residual.
--	INT-002 <sup>2</sup>	Location for monitoring ultraviolet light (UV) radiation dose and UV transmittance of the UV disinfection system.
001	EFF-001	Treated effluent downstream of the disinfection processes and before the effluent comes in contact with the receiving water.
002	EFF-002 <sup>2</sup>	Treated effluent downstream of disinfection processes and before effluent application to recycled water use area(s).
	GW-00X	Groundwater monitoring network to be approved by the EO
--	RSW-001	Representative upstream receiving water monitoring location approved by the Executive Officer.
--	RSW-002	Representative downstream receiving water monitoring location approved by the Executive Officer.

**Table Notes:**

- Monitoring at Monitoring Location INT-001 will not be necessary once the treatment facility upgrades are complete and the existing chlorination system is replaced by the UV disinfection system.
- Monitoring at Monitoring Location INT-002 will be necessary once the treatment facility upgrades are complete and the new UV disinfection system is operational.

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location INF-001

- The Permittee shall monitor influent to the Facility at Monitoring Location INF-001 as follows:

**Table E-2. Influent Monitoring – Monitoring Location INF-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Flow <sup>1</sup>	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	24-hr Composite	Weekly	Part 136 <sup>2</sup>
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly	Part 136 <sup>2</sup>

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<b>Table Notes:</b> 1. The Permittee shall report the average daily and average monthly flows. 2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration).				

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location EFF-001

- During periods of surface water discharge, the Permittee shall monitor effluent to be discharged to the wetland tributary to the Eel River at Monitoring Location EFF-001, as follows:

**Table E-3. Effluent Monitoring – Monitoring Location EFF-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow <sup>1</sup>	mgd	Meter	Continuous	Meter
Dilution Rate	% of receiving water flow	Calculation	Daily	---
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	24-hr Composite	Weekly <sup>2</sup>	Part 136 <sup>3</sup>
	% Removal	Calculate	Monthly	---
pH	s.u.	Grab	Weekly <sup>4</sup>	Part 136 <sup>3</sup>
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly <sup>2</sup>	Part 136 <sup>3</sup>
	% Removal	Calculate	Monthly	---
Settleable Solids	ml/L	24-hr Composite	Weekly <sup>2</sup>	Part 136 <sup>3</sup>
Chlorine, Total Residual	mg/L	Grab	Daily <sup>5</sup>	Part 136 <sup>3</sup>
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly	Part 136 <sup>3</sup>
<i>E. coli</i>	cfu/100mL	Grab	Weekly	Part 136 <sup>3</sup>
Copper, Total Recoverable	µg/L	24-hr Composite	Monthly <sup>6,7</sup>	Part 136 <sup>3</sup>
Carbon Tetrachloride	µg/L	Grab	Monthly <sup>6</sup>	Part 136 <sup>3</sup>
Chlorodibromomethane	µg/L	Grab	Monthly <sup>6,15</sup>	Part 136 <sup>3</sup>
Dichlorobromomethane	µg/L	Grab	Monthly <sup>6,15</sup>	Part 136 <sup>3</sup>
Heptachlor	µg/L	Grab	Monthly <sup>6</sup>	Part 136 <sup>3</sup>
Mercury <sup>13</sup>	µg/L	24-hr Composite	Quarterly	Part 136 <sup>3,13</sup>
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly <sup>4,6,8</sup>	Part 136 <sup>3</sup>
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly <sup>6</sup>	Part 136 <sup>3</sup>
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	Grab	Annually <sup>7,9</sup>	Part 136 <sup>3</sup>

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature	°C	Grab	Weekly <sup>4</sup>	Part 136 <sup>3</sup>
Total Dissolved Solids	mg/L	24-hr Composite	Monthly <sup>6</sup>	Part 136 <sup>3</sup>
CTR Priority Pollutants <sup>10</sup>	µg/L	24-hr Composite <sup>11</sup>	Annually <sup>12</sup>	Part 136 <sup>3,13</sup>
Acute Toxicity <sup>14</sup>	% Survival, Pass or Fail, and % Effect	Grab	Annually <sup>6</sup>	See Section V.A Below
Chronic Toxicity <sup>14</sup>	Pass or Fail, and % Effect	Grab	Annually	See Section V.B Below
<p><b>Table Notes:</b></p> <ol style="list-style-type: none"> <li>The Permittee shall report the daily average and monthly average flows.</li> <li>Accelerated monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the 2 weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.</li> <li>Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration).</li> <li>Monitoring for effluent and receiving water pH and temperature shall be conducted concurrently with effluent sampling for ammonia. Monitoring for pH and temperature at RSW-001 must be conducted concurrently with the ammonia effluent sample in order for the AMEL and MDEL AIR to be calculated properly.</li> <li>Accelerated Monitoring (daily monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall increase monitoring frequency to a minimum of twice a day for a week to evaluate whether an exceedance is persisting. If two of more samples in a week exceed an effluent limitation, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.</li> <li>Accelerated monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.</li> <li>Monitoring for effluent and receiving water hardness shall be conducted concurrently with effluent sampling for copper.</li> <li>Monitoring for ammonia shall be conducted concurrently with acute whole effluent toxicity monitoring (section V.A.1 of this MRP).</li> <li>Monitoring for effluent and receiving water hardness shall be conducted concurrently with effluent and receiving water sampling for CTR priority pollutants.</li> <li>Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Holding times for unpreserved cyanide shall not exceed one hour. Effluent and receiving water monitoring shall occur concurrently.</li> <li>CTR priority pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile. Samples for volatile pollutants may be collected as a grab sample.</li> <li>Monitoring shall consist of a full CTR priority pollutant scan once per permit term to be completed in the first year of the permit term, with annual samples analyzed only for those pollutants detected in the full scan, thereafter. Hardness shall be monitored concurrently with the annual priority pollutant sample.</li> <li>Analytical methods must achieve the lowest ML specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result. Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of total mercury shall be by U.S. EPA method 1631 (Revision E) with a reporting limit of 0.5 ng/L (0.0005 µg/L).</li> <li>Whole effluent acute and chronic toxicity shall be monitored in accordance with the requirements of section V of this Monitoring and Reporting Program.</li> </ol>				

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
15. Once the UV disinfection system is operational, the chlorine disinfection system will no longer be used. Since chlorodibromomethane and dichlorobromomethane are disinfection by-products formed during chlorine disinfection, monitoring for these constituents may be discontinued once the chlorine disinfection system is offline. The Permittee will still be required to test for these constituents in the CTR sampling.				

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) in accordance with the following acute toxicity testing requirements.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-3, above.
2. **Discharge In-stream Waste Concentration (IWC) for Acute Toxicity.** The IWC for this discharge is 100 percent effluent.<sup>1</sup>
3. **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. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.
4. **Freshwater Test Species and Test Methods.** The Permittee shall conduct the following acute toxicity tests in accordance with species and test methods in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5<sup>th</sup> edition or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.
  - a. A 96-hour static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival Test Method 2002.0).
  - b. A 96-hour static renewal toxicity test with a vertebrate, the rainbow trout, *Oncorhynchus mykiss* (Survival Test Method 2019.0).
5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this Order's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct two acute toxicity tests using the invertebrate and fish species identified in section V.A.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the

<sup>1</sup> The acute toxicity test shall be conducted using 100 percent effluent collected at Monitoring Location EFF-001.

discharge IWC during species sensitivity screening shall be used for routine acute toxicity monitoring during the permit term.<sup>2</sup>

6. **Quality Assurance and Additional Requirements.** Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual referenced in section V.A.4, above. Additional requirements are specified below.
- a. The discharge is subject to determination of “Pass” or “Fail” and “Percent (%) Effect” from acute toxicity tests using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis ( $H_0$ ) for the TST approach is: Mean discharge IWC response  $\leq 0.80 \times$  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:  $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$ .
  - b. If the effluent toxicity test does not meet the minimum effluent test acceptability criteria (TAC) specified in the referenced test method, then the Permittee shall re-sample and re-test within 7 days.
  - c. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
  - d. Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the U.S. EPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.
  - e. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.
7. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing 14 days after receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification shall describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may

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<sup>2</sup> If the percent effect is equal to zero percent effect for each species, or all percent effect are the same value, in the species sensitivity test, the Permittee shall either use the species that was most sensitive during the previous permit term for routine monitoring or repeat the species sensitivity screening for all species to confirm the results of the first screening before selecting the most sensitive species to use for routine monitoring. If two consecutive species sensitivity screening tests demonstrate that the percent effect for all species exhibit less than or equal to zero percent, the Permittee may select the species to be used for routine monitoring during the permit term.

also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

8. **Accelerated Monitoring Requirements.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all TAC, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the additional samples do not comply with the three-sample median minimum limitation (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section V.C of the MRP. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all TAC, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.
9. **Reporting.** The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test (WET report). The WET report shall be prepared using the format and content of section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), including:
  - a. The toxicity test results in percent (%) survival for the 100 percent effluent sample.
  - b. The toxicity test results for the TST approach, reported as "Pass" or "Fail" and "Percent (%) Effect" at the acute toxicity IWC for the discharge.
  - c. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
  - d. TRE/Toxicity Identification Evaluation (TIE) results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.
  - e. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

#### B. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

1. **Test Frequency.** The Permittee shall conduct chronic toxicity testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-3, above.
2. **Discharge IWC for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 100 percent effluent.<sup>3</sup>
3. **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. All toxicity tests shall be conducted as soon as possible following sample collection. For toxicity tests requiring renewals, a minimum of three 24-hour

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<sup>3</sup> The chronic toxicity test shall be conducted using a series of five dilutions and a control. The series shall consist of the following dilutions: 12.5, 25, 50, 75, and 100 percent. Compliance determination will be based on the IWC (100 percent effluent) and a control as further described in Fact Sheet section IV.C.5.c.



composite samples shall be collected. The lapsed time (holding time) from sample collection to first use of each sample must not exceed 36 hours.

4. **Freshwater Test Species and Test Methods.** The Permittee shall conduct the following chronic toxicity tests in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (U.S. EPA Report No. EPA-821-R-02-013 or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.
  - a. A 7-day static renewal toxicity test with a vertebrate, the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).
  - b. A static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
  - c. A 96-hour static non-renewal toxicity test with a plant, the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).
5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this Order's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct three chronic toxicity tests using the fish, the invertebrate, and the algae species identified in section V.B.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.<sup>4</sup>
6. **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" for chronic toxicity tests using the TST approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis ( $H_0$ ) for the TST approach is mean discharge IWC response  $0.75 \times$  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:  $((\text{mean control response} - \text{mean discharge IWC response}) \div \text{mean control response}) \times 100$ .
  - b. If the effluent toxicity test does not meet the minimum effluent or reference toxicant TAC specified in the referenced test method, then the Permittee shall re-sample and re-test within 14 days.

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<sup>4</sup> If the percent effect is less than or equal to zero percent effect for each species, or all percent effect are the same value, in the species sensitivity screening test, the Permittee shall either use the species that was most sensitive during the previous permit term for routine monitoring or repeat the species sensitivity screening for all species to confirm the results of the first screening before selecting the most sensitive species to use for routine monitoring. If two consecutive species sensitivity screening tests demonstrate that the percent effect for all species exhibit less than or equal to zero percent, the Permittee may select the species to be used for routine monitoring during the permit term.

- c. Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water are different from test organism culture water, then a second control using culture water shall also be used.
- d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.
- e. 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 MRP and the rationale is explained in the Fact Sheet (Attachment F).
- f. **Ammonia Removal.** 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 the control of pH in the test.
  - i. 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.
  - ii. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
  - iii. Conduct graduated pH tests as specified in the TIE methods. For example, mortality should be higher at pH 8 and lower at pH 6.
  - iv. 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.

When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures that do not significantly alter the nature of the effluent.

- 7. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of a result of "Fail" during routine or accelerated monitoring.
- 8. **Accelerated Monitoring Requirements.** The trigger for accelerated monitoring for chronic toxicity is exceeded when a chronic toxicity test, analyzed using the TST approach, results in "Fail" and the "Percent (%) Effect" is  $\geq 0.50$ . Within 24 hours of the time the Permittee becomes aware of a summary result of "Fail", the Permittee shall implement an accelerated monitoring schedule consisting of four toxicity tests—consisting of 5-effluent concentrations (including the discharge IWC) and a control—conducted at approximately 2-week intervals, over an 8-week period. If each of the accelerated toxicity tests results is "Pass," the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated

toxicity tests results is “Fail”, the Permittee shall immediately implement the TRE Process conditions set forth in section V.C, below.

## 9. Reporting

- a. **Routine Reporting.** Chronic toxicity monitoring results shall be submitted with the annual SMR for the year in which chronic toxicity monitoring was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:
  - i. WET reports shall include the contracting laboratory’s complete report provided to the Permittee and shall be consistent with the appropriate “Report Preparation and Test Review” sections of the methods manual and this MRP. The WET test reports shall contain a narrative report that includes details about WET test procedures and results, including the following:
    - (a) Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia);
    - (b) The source and make-up of the lab control/diluent water used for the test;
    - (c) Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
    - (d) Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the No Observed Effect Concentration (NOEC), TUc, and IC25;
    - (e) Identification of any anomalies or nuances in the test procedures or results;
    - (f) WET test results shall include, at a minimum, for each test:
      - (1) Sample date(s);
      - (2) Test initiation date;
      - (3) Test species;
      - (4) Determination of “Pass” or “Fail” and “Percent (%) Effect” following the TST hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). The “Percent (%) Effect” shall be calculated as follows:  
$$\text{“Percent (\%) Effect” (or Effect, in \%)} = ((\text{Control mean response} - \text{IWC mean response}) \div \text{Control mean response}) \times 100$$
      - (5) End point values for each dilution (e.g., number of young, growth rate, percent survival);
      - (6) NOEC value(s) in percent effluent;
      - (7) IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
      - (8) TUc values (100/NOEC);

- (9) Mean percent mortality ( $\pm$ s.d.) after 96 hours in 100 percent effluent (if applicable);
- (10) NOEC and LOEC values for reference toxicant test(s);
- (11) IC50 or EC50 value(s) for reference toxicant test(s);
- (12) Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia);
- (13) Statistical methods used to calculate endpoints;
- (14) The statistical program (e.g., TST calculator, CETIS, etc.) output results, which includes the calculation of percent minimum significant difference (PMSD); and
- (15) Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

- b. **TRE/TIE results.** The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. TRE/TIE results shall be submitted to the Regional Water Board within 60 days of completion.

**C. Toxicity Reduction Evaluation (TRE) Process**

- 1. **TRE Work Plan.** The Permittee submitted a TRE Work Plan to the Regional Water Board in July 2017. The Permittee shall review the TRE Work Plan by **July 1, 2021** and update the Work Plan as necessary in order to remain current with permit requirements and applicable to the discharge and discharge facilities. The Permittee's TRE Work Plan shall be reviewed once every five years and updated as necessary.

The Permittee shall notify the Regional Water Board of this review and submit any revisions of the TRE Work Plan within 90 days of the notification, to be ready to respond to toxicity events. The TRE Work Plan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
  - b. A description of the facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this 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).
- 2. **Preparation and Implementation of a Detailed TRE Work Plan.** If one of the accelerated toxicity tests described in section V.A.8 (above) does not comply with the three sample

median minimum limitation (90 percent survival) or in section V.B.8 (above) results in "Fail", the Permittee shall immediately initiate a TRE using EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and within 30 days of receipt submit the accelerated monitoring result to the Regional Water Board Executive Officer. The Permittee shall also submit a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for the toxicity event described in section V.A.8 or V.B.8 of this MRP. The Detailed TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:

- a. Further actions by the Permittee to investigate, identify, and correct causes of toxicity.
  - b. Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.
  - c. A schedule for these actions, progress reports, and the final report.
3. **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 methods and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
4. 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.
5. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.
6. The Regional Water Board recognizes that toxicity may be episodic and identification of the causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage, pending Regional Water Board Executive Officer approval, if monitoring finds there is no longer toxicity.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges to land.

## VII. RECYCLING MONITORING REQUIREMENTS

### A. Recycled Water Monitoring Location EFF-002

1. The Permittee shall monitor treated wastewater to be recycled and used for irrigation at Monitoring Location EFF-002, as follows:

**Table E-4. Recycled Water Monitoring – Monitoring Location EFF-002**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow <sup>1</sup>	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	24-hr Composite	Monthly <sup>2</sup>	Part 136 <sup>3</sup>
pH	s.u.	grab	Monthly <sup>2</sup>	Part 136 <sup>3</sup>
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Monthly <sup>2</sup>	Part 136 <sup>3</sup>
Settleable Solids	ml/L	24-hr Composite	Weekly <sup>4</sup>	Part 136 <sup>3</sup>
Total Coliform Organisms	MPN/100 mL	Grab	Weekly <sup>4,5</sup>	Part 136 <sup>3</sup>
Ammonia Nitrogen, Total (as N) <sup>6</sup>	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Nitrate Nitrogen, Total (as N) <sup>6</sup>	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Nitrite Nitrogen, Total (as N) <sup>6</sup>	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Organic Nitrogen, Total <sup>6</sup>	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Total Dissolved Solids	mg/L	Grab	Monthly	Part 136 <sup>3</sup>

**Table Notes:**

1. Each month the Permittee shall report the number of days that treated wastewater was used for recycled water irrigation at the approved recycled water use site(s), as well as the average and maximum daily flow rate.
2. Accelerated Monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall take two more samples, one within 7 days and one within 14 days following receipt of the initial sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.
3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
4. Accelerated Monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the two weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps to return to compliance.
5. If animals that produce milk for human consumption are allowed to graze in the pasture areas where recycled water is applied for reuse, coliform sampling shall be increased to a minimum of daily sampling.
6. Monitoring for nitrate, nitrite, ammonia, and organic nitrogen is for the purpose of determining total nitrogen concentration for agronomic rate calculations in Table E-5.

2. The Permittee shall comply with Water Recycling Requirements and Provisions contained in Attachment G of this Order.

**B. Recycled Water Production and Use**

1. Recycled water quality characteristics and precipitation shall be used to ascertain nitrogen loading rates at each recycled water use site.
2. The frequency of use area inspections shall be based on the complexity and risk of each use area.
3. Reporting of the required monitoring shall be provided annually in the Annual Recycled Water Report to the Regional Water Board, and annually to recycled water users.
4. The following information shall be reported for each use site or use site type:

**Table E-5. Recycled Water Production and Use**

Parameter	Units	Sample Type	Monitoring Frequency	Reporting Frequency
Recycled Water User	--	--	--	Annually
Volume of Recycled Water <sup>1</sup>	gpd <sup>2</sup>	Meter <sup>3</sup>	Monthly	Annually
Total Area of Application	acres	Observe	Monthly	Annually
Application Rate	inches/acre/year	Calculate	--	Annually
Total Nitrogen Application Rate <sup>4,5</sup>	lbs/acre/year	Calculate	Monthly	Annually
Rainfall <sup>6</sup>	inches	Gauge	Monthly	Annually
Notification Signs <sup>7</sup>	--	Observe	Monthly	Annually
Visual Observations <sup>8</sup>	--	Observe	Monthly	Annually
<b>Table Notes:</b> <ol style="list-style-type: none"> <li>1. Estimation of the volume of recycled water shall not include other potable or non-potable "make-up" water used in conjunction with recycled water.</li> <li>2. gpd denotes gallons per day.</li> <li>3. Meter requires meter reading, a pump run time meter, or other approved method.</li> <li>4. Nitrogen application rate shall consider nitrogen content of the recycled water, based on effluent monitoring data.</li> <li>5. Nitrogen concentrations shall be calculated and reported "as N". For example, nitrate-nitrogen = 27 mg/L as NO<sub>3</sub> shall be converted and reported as nitrate-nitrogen = 6.1 mg/L as N using a conversion factor of 14.067 (N)/62.0049 (NO<sub>3</sub>)</li> <li>6. Rainfall shall be reported monthly to an accuracy of 0.1 inches for comparison to surface water flow and recycled water application rates.</li> <li>7. Notification signs shall be consistent with the requirements of California Code of Regulations, title 22, section 60310(g).</li> <li>8. During periods of discharge to the irrigation system, visual observations shall be conducted at least monthly for agronomic applications to verify compliance with recycled water requirements in Attachment G. The inspection frequency shall be increased for use sites with a history of non-compliance with water recycling requirements established in this Order. Visual monitoring shall confirm proper operation of the recycled water system and associated best management practices (BMPs) and include a record of any malfunctions or findings of improper operation, including, but not limited to soil saturation/ponding, nuisance odors, nuisance vectors, evidence of surface run-off, discharge off-site, or ponding that exceeds 24-hours. Visual observations may be performed by the irrigation users in accordance with the Permittee's user agreements. Reporting shall include the daily volume of treated wastewater discharged to the irrigation system and any observations indicating non-compliance with the provisions of the waste discharge requirements.</li> </ol>				

## VIII. RECEIVING WATER MONITORING REQUIREMENTS

### A. Monitoring Location RSW-001

1. The Permittee shall monitor upstream receiving water at Monitoring Location RSW-001 during periods of discharge as follows:

**Table E-6. Receiving Water Monitoring – Monitoring Location RSW-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Continuous	Daily <sup>1</sup>	Meter
pH	s.u.	Grab	Monthly <sup>2</sup>	Part 136 <sup>3</sup>
Dissolved Oxygen	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	Grab	Annually <sup>4</sup>	Part 136 <sup>3</sup>
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Part 136 <sup>3</sup>
Temperature	°C	Grab	Monthly <sup>2</sup>	Part 136 <sup>3</sup>
Total Dissolved Solids	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
Turbidity	mg/L	Grab	Monthly	Part 136 <sup>3</sup>
<i>E. coli</i>	cfu/100mL	Grab	Monthly	Part 136 <sup>3</sup>
CTR Priority Pollutants <sup>5</sup>	µg/L	Grab	Annually <sup>4,6</sup>	Part 136 <sup>3,7</sup>

**Table Notes:**

1. The flow rate shall be determined using the flow at USGS Gauge No. 11-4770.00 at Scotia and compared to the daily discharge rate to determine compliance with Discharge Prohibition III.J of the Order. For each month during the discharge season, peak daily and average daily flow shall be reported.
2. Monitoring for effluent and receiving water pH and temperature shall be conducted concurrently with effluent sampling for ammonia. Monitoring for pH and temperature at RSW-001 must be conducted concurrently with the ammonia effluent sample in order for the AMEL and MDEL AIR to be calculated properly.
3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration).
4. Monitoring for effluent and receiving water hardness shall be conducted concurrently with effluent and receiving water sampling for CTR priority pollutants.
5. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos. Holding times for unpreserved cyanide shall not exceed one hour. Effluent and receiving water monitoring shall occur concurrently.
6. Monitoring shall consist of a full CTR priority pollutant scan once per permit term to be completed in the first year of the permit term, with annual samples analyzed only for those pollutants detected in the full scan, thereafter.
7. Analytical methods must achieve the lowest ML specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result. Total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of total mercury shall be by U.S. EPA method 1631 (Revision E) with a reporting limit of 0.5 ng/L (0.0005 µg/L).

### B. Monitoring Location RSW-002



1. The Permittee shall monitor downstream receiving water at Monitoring Location RSW-002 during periods of discharge as follows:

**Table E-7. Receiving Water Monitoring – Monitoring Location RSW-002**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	Monthly	Part 136 <sup>1</sup>
Temperature	°C	Grab	Monthly	Part 136 <sup>1</sup>
Dissolved Oxygen	mg/L	Grab	Monthly	Part 136 <sup>1</sup>
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Part 136 <sup>1</sup>
Total Dissolved Solids	mg/L	Grab	Monthly	Part 136 <sup>1</sup>
Turbidity	mg/L	Grab	Monthly	Part 136 <sup>1</sup>
<i>E. coli</i>	cfu/100mL	Grab	Weekly	Part 136 <sup>1</sup>
<b>Table Notes:</b> 1. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration).				

**C. Groundwater Monitoring Locations GW-00X**

1. The Permittee shall monitor groundwater at Monitoring Locations GW-00X, GW-00x and GW-00X as follows:

**Table E-8. Groundwater Monitoring – Monitoring Locations GW-00X through GW-00X**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Surveyed Groundwater Level <sup>1</sup>	Feet	--	Quarterly <sup>2</sup>	--
pH	s.u.	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Chloride	mg/L	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Sodium	mg/L	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Temperature	°C	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Dissolved Oxygen	mg/L	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Specific Conductance @ 77°F	µmhos/cm	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Total Dissolved Solids	mg/L	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Quarterly <sup>2</sup>	Part 136 <sup>3</sup>
<b>Table Notes:</b> 1. Water table elevations shall be calculated to determine groundwater gradient and direction of flow. 2. Quarterly sampling shall occur in February, mid-May, July, and October. The mid-May sampling shall coincide with the annual sampling identified in Footnote 4 of this table. 3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current edition of <i>Standard Methods for Examination of Water and Wastewater</i> (American Public Health Administration).				

## IX. OTHER MONITORING REQUIREMENTS

### A. Disinfection Process Monitoring for Chlorine Disinfection System (INT-001)

1. The Permittee shall monitor the discharge from the chlorine contact chamber prior to dichlorination at Monitoring Location INT-001 as follows:

**Table E-9. Internal Effluent Monitoring – Monitoring Location INT-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chlorine, Total Residual	mg/L	Grab	Daily	Standard Methods <sup>1</sup>
<b>Table Notes:</b> 1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current procedures specified in 40 C.F.R. part 136.				

### B. Disinfection Process Monitoring for UV Disinfection System (Monitoring Location INT-002)

#### 2. Monitoring Location INT-002<sup>5</sup>

- a. **Monitoring.** The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded at Monitoring Location INT-002. The operational UV dose shall be calculated from UV transmittance and flow.
- b. **Compliance.** The UV transmittance shall not fall below 55 percent of maximum at any time, unless otherwise approved by DDW. Flow through the UV disinfection system shall not exceed 0.95 mgd as a daily average flow, unless otherwise approved by DDW.
- c. **Reporting.** The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its quarterly SMRs. The Permittee shall report daily average and maximum flow through the UV disinfection system. If the UV transmittance falls below 55 percent, the event shall be reported to the Regional Water Board by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment. In addition, if UVT drops below 55 percent, the Permittee shall investigate and identify the cause of the low UVT in its quarterly SMRs.

### C. Visual Monitoring (Monitoring Locations EFF-001, RSW-001, and RSW-002)

1. Visual observations of the discharge (Monitoring Location EFF-001) and the receiving water (Monitoring Locations RSW-001 and RSW-002) shall be recorded monthly and on the first day of each intermittent discharge. Visual monitoring shall include, but not be limited to, observations for floating materials, coloration, objectionable aquatic growths, oil and grease films, and odors. Visual observations shall be recorded and included in the Permittee's quarterly SMRs.

<sup>5</sup> These requirements are to take effect upon completion of the upgraded treatment plant and recycled water location.

## **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.

### **B. Self-Monitoring Reports (SMRs)**

1. The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.
2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit quarterly SMRs including the results of all required monitoring using U.S. EPA approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.
4. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table E-10. Monitoring Periods and Reporting Schedule<sup>1</sup>**

<b>Sampling Frequency</b>	<b>Monitoring Period Begins On...</b>	<b>Monitoring Period</b>	<b>SMR Due Date</b>
Continuous	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling	First day of second calendar month following the end of each quarter <sup>1</sup> (February 1, May 1, August 1, November 1)
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling	First day of second calendar month following the end of each quarter <sup>1</sup> (February 1, May 1, August 1, November 1)
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following the end of each quarter <sup>1</sup> (February 1, May 1, August 1, November 1)

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following the end of each quarter <sup>1</sup> (February 1, May 1, August 1, November 1)
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
<b>Table Notes:</b> 1. Quarterly monitoring periods are as follows: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.			

**5. Reporting Protocols.** The Permittee shall report with each sample result the applicable ML, the RL, and the current MDL, as determined by the procedure in 40 C.F.R. part 136.

The Permittee 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 reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, 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 as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). 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 ( $\pm$  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. The Permittee is 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 Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

**6. Self-Monitoring Reports.** The Permittee shall submit SMRs in accordance with the following requirements:

- a. The Permittee 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 reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee 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 Permittee shall electronically submit the data in a tabular format as an attachment.
- b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
  - i. Facility name and address;
  - ii. WDID number;
  - iii. Applicable period of monitoring and reporting;
  - iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
  - v. Corrective actions taken or planned; and
  - vi. The proposed time schedule for corrective actions.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>).

In the event that an alternate method for submittal of SMRs is required, the Permittee shall submit the SMR electronically via e-mail to [NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov) or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <http://waterboards.ca.gov/northcoast>.

- d. At any time during the term of this permit, the Regional Water Board may notify the Discharger to electronically submit both technical and Self-Monitoring Reports (SMRs) to the State Water Board's GeoTracker database in searchable Portable Document Format (pdf). In addition, analytical data will be required to be uploaded to the GeoTracker database under a site-specific global identification number that will be assigned to the Discharger. Information on the GeoTracker database is provided on the State Water Board website at:  
[https://www.waterboards.ca.gov/resources/data\\_databases/groundwater.shtml](https://www.waterboards.ca.gov/resources/data_databases/groundwater.shtml)

### **C. Discharge Monitoring Reports (DMRs)**

1. DMRs are U.S. EPA reporting requirements. The Permittee shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. DMRs shall be submitted quarterly on the first day of the second calendar month following the end of each quarter (February 1, May 1, August 1, and November 1). Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the [DMR website](#).

#### D. Other Reports

- 1. Special Study Reports and Progress Reports.** As specified in the Special Provisions contained in section VI of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

**Table E-11. Reporting Requirements for Special Provisions Reports**

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision VI.C.2.a	Ammonia Study Work Plan	<b>January 31, 2021</b>
Special Provision VI.C.2.a	Ammonia Study Final Report	<b>January 31, 2024</b>
Special Provision VI.C.2.b	Recycled Water BMP/Operations and Management Plan review, update, and submit (as necessary)	<b>December 31, 2021</b>
Special Provision VI.C.2.c	Disaster Preparedness Assessment Report and Action Plan	<b>June 1, 2022</b>
Special Provision VI.C.3.a.ii(e)	Pollutant Minimization Program, Annual Facility Report	<b>March 1</b> , annually, following development of Pollutant Minimization Program
Special Provision VI.C.5.b.i	Source Control and Pretreatment Provisions, Annual Report	<b>March 1</b> , annually
Special Provision VI.C.5.b.ii(a)	Source Control and Pretreatment Provisions, Notification of Discharges that Trigger Pretreatment Requirements	<b>Within 30 days</b> of discharges that trigger pretreatment requirements
Special Provision VI.C.5.b.ii(b)	Source Control and Pretreatment Provisions, Revised Report of Waste Discharge and Pretreatment Program	<b>Within 1 year</b> of discharges that trigger pretreatment requirements
Special Provision VI.C.5.f	Adequate Capacity Technical Report	<b>Within 120 days</b> of notification that the Facility will reach capacity within 4 years
MRP General Monitoring Provision I.F	DMR-QA Study Report	<b>Annually</b> , per State Water Board instructions
MRP Effluent Monitoring Requirement IV.A.1, Table E-3, Footnote 12 and MRP Receiving Water Monitoring Requirements VIII.A.1, Table E-6, Footnote 6	Once Per Permit Term CTR Priority Pollutant Monitoring	<b>No later than December 31, 2020</b>
MRP Effluent Monitoring Requirement V.B.9.b	Notification of TRE/TIE Results	<b>No later than 30 days</b> from completion of each aspect of the TRE/TIE analyses
MRP Effluent Monitoring Requirement V.B.9.b	TRE/TIE Results	<b>Within 60 days</b> of completion of TRE/TIE analyses

Order Section	Special Provision Requirement	Reporting Requirements
MRP Effluent Monitoring Requirement V.C.1	TRE Work Plan review and update (as necessary)	<b>January 1, 2021</b>
MRP Effluent Monitoring Requirement V.C.2	Detailed TRE Work Plan	<b>Within 30 days</b> of an accelerated monitoring test that results in "Fail"
MRP Reporting Requirement X.E.1	Notification of spills and unauthorized discharges	Oral reporting <b>within 24 hours</b> and written report <b>within 5 days</b>
MRP Reporting Requirement X.E.3.a.i	Notification of secondary recycled water spills greater than 1,000 gallons	Notification as soon as becoming aware of the discharge and notification is possible

- 2. Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. In the event that an alternate method for submittal of the annual report is required, the Permittee shall submit the annual report electronically via the email address in section X.B.6.c., above. The report shall be submitted by **March 1st** of the following year and be certified as required by Standard Provisions of this Order (Attachment D, section V.B). The report shall, at a minimum, include the following:
- a. Where appropriate, tabular and/or graphical summaries of the monitoring data and disposal records from the previous year. If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 C.F.R. part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted in the SMR.
  - b. A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
  - c. The names and general responsibilities of all persons employed at the Facility;
  - d. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and
  - e. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
  - f. **Source Control Activity Reporting.** The Permittee shall submit, as part of its Annual Report to the Regional Water Board, a description of the Permittee's source control activities, as required by Special Provision VI.C.5.b, during the past year. This annual report is due on March 1st of each year, and shall contain:
    - i. A copy of the source control standards, including a table presenting local limits.
    - ii. A description of the waste hauler permit system; if applicable.
    - iii. A summary of the compliance and enforcement activities taken by the Permittee during the past year, which ensures industrial user compliance. The summary shall include the names and addresses of any industrial or commercial users

under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.

- iv. An updated list of industrial users (by North American Industrial Classification/Standard Industrial Classification categories) which were issued permits and/or enforcement orders, and a status of compliance for each user.
- v. The name and address of each user that received a discharge limit.
- vi. A summary of any industrial waste survey results.
- vii. A summary of public outreach activities to educate industrial, commercial, and residential users about the importance of preventing discharges of industrial and toxic wastes to the Facility.
- g. **Sludge Handling and Disposal Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous 12 months. At a minimum, the report shall contain:
  - i. Annual sludge production, in dry tons and percent solids;
  - ii. Sludge monitoring results;
  - iii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram;
  - iv. Methods of final disposal of sludge:
    - (a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the landfill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs Order number for the regulated landfill, and the landfill classification.
    - (b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs Order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.
    - (c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.
  - v. Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective actions.
- h. **Storm Water Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's best



management practices (BMPs) to control the run-on of storm water to the Facility site, as well as activities to maintain and upgrade these BMPs.

- i. **Sanitary System Reporting.** The Permittee shall submit as part of the annual report to the Regional Water Board, a description of the Permittee's activities to correct deficiencies and reduce infiltration and inflow (I&I) into the collection system. The report shall include, but not be limited to the following:
    - i. A description of any assessment work to characterize the collection system and identify deficiencies;
    - ii. A description of replacement and rehabilitation of the collection system, including details about replaced/rehabilitated infrastructure, including pipeline, manholes, lift stations, etc.
    - iii. A description of any changes in the Permittee's ordinances and programs to address I&I.
    - iv. The financial resources spent on collection system assessment, rehabilitation, and repair work during the calendar year, and the amount of financial resources budgeted for the upcoming calendar year.
  - j. **Water Recycling System Annual Report.** The water recycling annual report shall include, but not be limited to, the following:
    - i. A compliance summary and discussion of the compliance record for the prior calendar year, including:
      - (a) If violations occurred, the report shall discuss the corrective actions taken and planned to bring the recycled water use into full compliance with this Order.
      - (b) An evaluation of hydraulic and nutrient application rates. This evaluation shall either demonstrate that treated wastewater is being applied at agronomic rates or that any application in excess of agronomic rates did not cause impacts to water quality. If actual or potential impacts to water quality are identified, the permittee shall identify and implement corrective actions, as necessary.
      - (c) Certification that all reasonable BMPs and management practices were implemented to ensure efficient and compliant operation of the irrigation system; and
      - (d) Identification of any other problems that occurred in the irrigation system during the prior year and plans to rectify these problems in the coming year.
    - ii. A summary of scheduled and non-scheduled maintenance of the irrigation system appurtenances and irrigation areas.
- Annual Biosolids Reporting.** The Permittee shall electronically certify and submit an annual biosolids report to U.S. EPA by **March 1** each year using U.S. EPA's Central Data Exchange (CDX) Web Site (<https://cdx.epa.gov/>). Information regarding registration and use of U.S. EPA's CDX system is also available at the Web Site.

## **E. Spill Notification**

- 1. Spills and Unauthorized Discharges.** Information regarding all spills and unauthorized discharges (except SSOs) that may endanger health or the environment shall be provided orally to the Regional Water Board<sup>6</sup> within 24 hours from the time the Permittee becomes aware of the circumstances and a written report shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances, in accordance with section V.E of Attachment D.

Information to be provided verbally to the Regional Water Board includes:

- a. Name and contact information of caller;
  - b. Date, time, and location of spill occurrence;
  - c. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
  - d. Surface water bodies impacted, if any;
  - e. Cause of spill, if known at the time of the notification;
  - f. Cleanup actions taken or repairs made at the time of the notification; and
  - g. Responding agencies.
- 2. Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows is conducted in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated herein by reference, and any revisions thereto.
- 3. Recycled Water Spills.** Notification and reporting of spills and unauthorized discharges of recycled water discharged in or on any waters of the state, as defined in Water Code section 13050, shall be conducted in accordance with the following:
  - a. Secondary Recycled Water<sup>7</sup>**
    - i. For unauthorized discharges of more than 1,000 gallons of secondary recycled water, the Permittee shall immediately notify the Regional Water Board as soon as (a) the Permittee has knowledge of the discharge or probable discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures.

<sup>6</sup> The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to the California Governor's Office of Emergency Services Warning Center (CalOES) will satisfy the 24 hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalOES is (800) 852-7550.

<sup>7</sup> Title 22, Chapter 3, Article 1, Section 60301.225 of the California Code of Regulations defines Secondary Recycled Water as, "Recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period."

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section I, 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 Permittee. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Permittee.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	1B800810HUM
<b>Permittee</b>	Loleta Community Services District
<b>Name of Facility</b>	Loleta Wastewater Treatment Facility
<b>Facility Address</b>	2656 Eel River Drive
	Loleta, CA 95551
	Humboldt County
<b>Facility Contact, Title and Phone</b>	Marcus Drumm, General Manager, (707) 733-1717
<b>Authorized Person to Sign and Submit Reports</b>	Marcus Drumm, General Manager, (707) 733-1717
<b>Mailing Address</b>	358 Main St., Loleta, CA 95551
<b>Billing Address</b>	P.O. Box 236, Loleta, CA 95551
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW)
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	2
<b>Complexity</b>	B
<b>Pretreatment Program</b>	Not Applicable
<b>Recycling Requirements</b>	Producer
<b>Facility Permitted Flow</b>	0.081 million gallons per day (mgd) (average dry weather flow) 0.55 mgd (peak wet weather flow)
<b>Current Facility Design Flow</b>	0.081 mgd (average dry weather design flow) 0.55 mgd (peak wet weather design flow)
<b>Proposed Upgraded Facility Design Flow</b>	0.120 mgd (average dry weather design flow) 0.48 mgd (peak wet weather design flow)
<b>Watershed</b>	Lower Eel River Hydrologic Unit, Ferndale Hydrologic Subarea
<b>Receiving Water</b>	Wetland tributary to the Eel River
<b>Receiving Water Type</b>	Inland surface water

- A. The Loleta Community Services District (hereinafter Permittee) is the owner and operator of the Loleta Wastewater Treatment Facility (hereinafter Facility), a POTW.

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 Permittee herein.

The Permittee is authorized to discharge subject to waste discharge requirements (WDRs) in this Order at the discharge locations described in Table 2 on the cover page of this Order. The Code of Federal Regulations at 40 C.F.R. section 122.46 limits the duration of National Pollutant Discharge Elimination System (NPDES) permits to be effective for a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorized by this Order. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on continuation of expired permits are complied with.

- B. The Facility discharges secondary treated wastewater to an unnamed wetland tributary to the Eel River, both waters of the United States. The Permittee was previously regulated by Order No. R1-2014-0013 and NPDES Permit No. CA0023671 adopted on May 8, 2014, with an expiration date of May 31, 2019. Attachment B provides a map of the area around the Facility. Attachment C provides flow schematics of the existing and proposed Facility. A site visit was conducted on November 14, 2017 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- C. The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on January 30, 2017. Supplemental information was provided on January 10, 2019 and February 5, 2019. The application was deemed complete on **February 5, 2019**.

## II. FACILITY DESCRIPTION

The Permittee owns and operates a municipal wastewater treatment facility (WWTF) and associated wastewater collection, and disposal facilities that serve a population of approximately 750 residential and four commercial users including the Loleta Cheese Factory, a laundromat, a small deli, and a brewery. The Facility is located in Humboldt County off Highway 101 approximately 13 miles south of Eureka.

Wastewater from the Loleta Cheese Factory has the ability to impact the performance of the Facility as a result of discharges into the system of high strength (BOD<sub>5</sub>) wastewater characterized by high and low pH and elevated total dissolved solids. The Permittee is currently working with the Loleta Cheese Factory authority to collect data and evaluate pre-treatment standards. This discharge from the factory into the WWTF is regulated under District Ordinance No. 76-01, Article 8, Section 3.8.

### A. Description of Wastewater and Biosolids Treatment and Controls

#### 1. Collection System

The Permittee maintains approximately 2.9 miles of sewer mains. The entirety of the collection and conveyance system consists of gravity sewer mains, 41 sanitary manholes, and several privately-owned lift stations. Gravity sewer lines range in diameter from 4 to 8 inches, with the majority of the system (68%) comprised of 6-inch diameter lines. The sewer line materials include vitrified clay pipe (VCP), cured-in-place pipe (CIPP), cast iron pipe

(CIP), and polyvinyl chloride (PVC) pipe. Sanitary manholes are generally constructed of cast-in-place concrete bases with manhole barrels that are of concrete and brick construction. Most of the system is approximately 60 years old and is in need of rehabilitation. In an effort to reduce inflow and infiltration (I&I) into the Facility, the Permittee plans to replace 4,000 feet of pipe, 57 lateral connections along rehabilitated sections of the mainline, lateral connections along previously repaired CIPP mainlines, and one manhole in 2020.

## **2. Current Wastewater Treatment Facility**

The current wastewater treatment facility has an average dry weather design treatment capacity of 0.081 mgd and an average wet weather treatment capacity of 0.143 mgd. The treatment system consists of a headworks with a manual coarse screen, a 78,000-gallon concrete aeration basin, a 43,000-gallon secondary clarifier, a chlorine contact chamber, and chlorine gas and sulfur dioxide flow-proportioning equipment. The Facility is equipped with an emergency alarm system and generator, that is utilized often due to frequent power outages in the area. Effluent is discharged, via a subsurface pipe at Discharge Point 001, to a wetland located approximately 0.66 miles southwest and downgradient from the Facility. The wetland is tributary to Ropers Slough, a slough that discharges directly to the Eel River during wet weather conditions.

Biosolids from the clarifier are stored in a 32,000-gallon covered concrete tank. Treatment solids are wasted to the tank on a daily basis to maintain solids equilibrium in the secondary system. Solids are thickened by gravity settling and manual supernatant removal. Solids are introduced at an approximate concentration of 5,500 milligrams per liter (mg/L) and thickened to approximately 20,000 mg/L. A private septage hauler removes sludge on a weekly basis and transports it to an offsite permitted facility for dewatering and disposal.

## **3. Upgraded Wastewater Treatment Facility**

The Permittee has plans to upgrade the wastewater treatment facility to comply with Cease and Desist Order (CDO) R1-2015-0008, which required the Facility to upgrade or replace the existing WWTF to achieve compliance with all limits in Order No. R1-2014-0013 by December 31, 2019. The Permittee requested an extension of the CDO final compliance date from December 31, 2019 to December 31, 2021. The Permittee had difficulty finding a long-term lease for the recycled water use site. The use site was agreed upon later than originally anticipated and this caused a subsequent delay in the funding approval. A delay in the funding caused further delay in final design and construction of the Upgraded Facility. Therefore, the existing CDO will be rescinded and a new Time Schedule Order No. R1-2019-0041 will be issued, with tasks and a new compliance schedule, concurrent with the adoption of this Order.

The upgraded Facility will include an influent pump station, a rotary drum screen, extended aeration, and an ultraviolet light (UV) disinfection system. Effluent will be discharged at Discharge Point 001 between October 1 and May 14 and will be discharged for Recycled Water at Discharge Point 002 between May 15 and September 30.

Biosolids produced will continue to be removed by a private septage hauler for dewatering and disposal. The septage hauler transports the biosolids to the nearby City of McKinleyville where the biosolids are mixed with other sources, polymer is added and dewatered in bins.

The leachate is discharged to the McKinleyville sewer system and the polymer sludge is transported to a landfill located outside the North Coast Region.

**B. Discharge Points and Receiving Waters**

1. The Facility is located in the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area, within the Eel River Hydrologic Unit.
2. Under the current facility operation, Secondary treated wastewater is discharged at Discharge Point 001 and is conveyed along via subsurface pipe to a wetland, which is tributary to the Eel River. The discharge to the wetland occurs at a point on the north bank approximately ¼ mile south of Dungan Road. Upon completion of the Upgrade Project, the discharge will be recycled to adjacent farm land from May 15 through September 30 each year.
3. In accordance with the Basin Plan, discharges to the Eel River are permitted only during the period of October 1 through May 14 of each year, and the discharge flow must be less than or equal to one percent of the receiving water flow. Compliance with the discharge rate shall be evaluated based on flow measurements taken in the Eel River at United States Geological Survey (USGS) Gauge No. 11-4770.00.
4. Historically, the Facility had been allowed to discharge year-round at Discharge Point 001 to the conveyance pipe which flows to the wetland, and this methodology was viewed as compliant with the Basin Plan seasonal discharge prohibition because the overland hydraulic connection between the wetland and the Eel River is dry for all or most of the period between May 15 and September 30 each year.

However, upon further review, despite the dry season conditions, the wetland retains a “significant nexus” to waters that are navigable, because the wetland overflows directly into the Eel River during the wet season. Because of this significant nexus, the wetland itself is considered a water of the United States. As a result, discharges to the wetland are subject not only to the Clean Water Act, but also to the Basin Plan requirements and prohibitions applicable to inland surface waters; specifically, those applicable to the Eel River and its tributaries. Effluent discharges to the wetland continue to occur year-round in violation of the Basin Plan’s seasonal prohibition and Discharge Prohibition III.I of the Order.

During the term of Order No. R1-2014-0013, the Permittee has undertaken several measures to upgrade the existing Facility and help the Facility comply with existing discharge requirements and effluent limitations.

5. Cease and Desist Order No R1-2015-0008 was adopted on March 12, 2015 to provide interim effluent limitations, tasks and compliance schedules to bring the Permittee back into compliance with Order R1-2014-0013 and the Basin Plan’s seasonal prohibition.
6. Upon Completion of the Upgrade Project, during the dry weather season from May 15 through September 30, secondary treated effluent will be recycled for irrigation of an agricultural area adjacent to the Facility at Discharge Point 002.

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

Effluent limitations contained in Order No. R1-2014-0013 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order No. R1-2014-0013 are as follows:



**Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001**

Parameter	Units	Effluent Limitation			Monitoring Data (March 2015 – November 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow	mgd	0.081 <sup>1</sup>	--	0.143 <sup>2</sup>	NR	--	0.672
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	30	45	--	83	285	285
	lbs/day <sup>3</sup>	36	54	--	216	789	789
	% Removal	85	--	--	NR	--	NR
Total Suspended Solids (TSS)	mg/L	30	45	--	170	582	582
	lbs/day <sup>3</sup>	36	54	--	444	1612	1612
	% Removal	85	--	--	NR	--	--
pH	s.u.	--	--	6.5 – 8.5	--	--	5.8 – 8.4
Settleable Solids	ml/L	0.1	--	0.2	7.6	--	25
Total Coliform Organisms	MPN/100 mL	23 <sup>4</sup>	--	230	130	--	1,600
Total Residual Chlorine	mg/L	--	--	<0.10	--	--	ND
Copper, Total Recoverable	µg/L	7.6	--	15.3	25	--	25
Carbon Tetrachloride	µg/L	0.25	--	0.50	2.5	--	2.5
Chlorodibromo-methane	µg/L	0.40	--	0.80	7.5	--	8.8
Dichlorobromo-methane	µg/L	0.56	--	1.12	40	--	40
Nitrate Nitrogen, Total (as N)	mg/L	10	--	20.1	50	--	50
Acute Toxicity	% Survival	70 <sup>5</sup> /90 <sup>6</sup>	--	--	100 <sup>7</sup>	--	--
Chronic Toxicity	--	8			--	--	--
NR=Not Reported							
Table Notes:							
1. The average dry weather flow of waste through the treatment facility shall not exceed 0.081 mgd, measured over a calendar month.							
2. The average wet weather flow of waste through the treatment facility shall not exceed 0.143 mgd, measured daily and averaged over a calendar month.							
3. Based on the wet weather design capacity of the wastewater treatment system of 0.143 mgd.							
4. The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 mL, using the bacteriological results of the last 30 calendar days for which analyses have been completed.							
5. Minimum for any one bioassay.							
6. Median for any three or more consecutive bioassays.							
7. Represents the minimum observed percent survival.							
8. See Table F-8 for a summary of the Chronic Toxicity results.							

#### **D. Compliance Summary**

On April 24, 2018, the Assistant Executive Officer issued Administrative Civil Liability (ACL) Complaint No. R1-2018-0026 (June 1, 2014 through February 28, 2019) for one hundred twenty five (125) violations of effluent limits for Biochemical Oxygen Demand (BOD), total suspended solids (TSS), pH, settleable solids, total coliform, total residual chlorine, copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, nitrate, BOD percent removal, and TSS percent removal in Order No. R1-2014-0013 and Cease and Desist Order (CDO) No. R1-2015-0008. The ACL Complaint assessed a penalty of \$375,000 for these violations.

On November 20, 2014, the Permittee submitted a statement of noncompliance for the Facility indicating concerns about non-compliance issues with discharge prohibitions F, G, and H and final effluent limitations for copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, and nitrate in Order No. R1-2014-0013. The statement of noncompliance contained proposed actions and compliance schedules to comply with Order No. R1-2014-0013. On March 12, 2015, the Regional Water Board issued CDO No. R1-2015-0008, requiring the Permittee to comply with interim effluent limitations for copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, and nitrate by December 31, 2019.

#### **E. Planned Changes**

Due to the existing Facility's inability to meet the requirements of Order No. R1-2014-0013 the Regional Water Board adopted CDO No. R1-2015-0008, which includes interim effluent limits for constituents the current Facility is unable to treat effectively and requires the Permittee to upgrade or replace the existing Facility to achieve compliance with all limits in Order No. R1-2014-0013 by December 31, 2019. The existing 2015 CDO will be rescinded and a new Time Schedule Order No. R1-2020-0003 will be issued, with tasks and a compliance schedule, concurrent with the adoption of this Order.

The Permittee conducted a study and identified the preferred alternative for achieving compliance in a 2016 Wastewater Facilities Plan. The preferred alternative includes installation of a new extended aeration package facility, including an ultraviolet light disinfection system, and use of recycled water for irrigation during the discharge prohibition season (May 15 through September 30). The Permittee also plans to rehabilitate the collection system in an effort to reduce infiltration and inflow into the Facility. Accordingly, the Permittee intends to replace 4,000 feet of pipe, 57 lateral connections along rehabilitated sections of the mainline, lateral connections along previously repaired CIPP mainlines, and one manhole.

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

section 13260) and Master Recycling Permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13500).

**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. This action also involves the re-issuance of waste discharge requirements for an existing facility that discharges treated wastewater to land and as such, is also exempt from CEQA pursuant to title 14, CCR, section 15301 as an existing facility for which no expansion of design flow is being permitted.

When approving proposals for new recycled water sites, the Regional Water Board's action is subject to CEQA. Regional Water Board compliance with CEQA shall be addressed during the approval process for recycled water expansion areas set forth in Attachment G to this Order. The approval process requires demonstration that a CEQA analysis has been conducted for the recycled water use type and/or the geographical area of the recycled water use. The Permittee must also submit technical information necessary to demonstrate that any proposed recycled water use areas will be irrigated using the most stringent of the hydraulic and nutrient agronomic rate and include best management practices that are protective of surface and ground water quality, as described in Attachment G to this Order.

If a local agency (e.g., Permittee or other approved lead agency pursuant to CEQA regulations) has conducted an appropriate CEQA analysis, the Regional Water Board may review the CEQA document prepared by the local agency and make findings based on that document. If the local agency does not prepare a CEQA document, and the project is not otherwise exempt from CEQA requirements, the Regional Water Board could act as the lead agency under CEQA and prepare any necessary document to comply with CEQA, however, this could result in delays in project approval until such time that a proper CEQA analysis can be conducted by the Regional Water Board.

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

- 1. Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Eel River and its tributaries within the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area are summarized in Table F-3, below:

**Table F-3. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Wetland tributary to the Eel River, within the Ferndale Hydrologic Subarea of the Lower Eel River Hydrologic Area	<p><u>Existing:</u>            Municipal and domestic supply (MUN);            Agricultural supply (AGR);            Industrial service supply (IND);            Groundwater recharge (GWR);            Freshwater replenishment (FRSH);            Navigation (NAV);            Water contact recreation (REC-1);            Non-contact water recreation (REC-2);            Commercial and sport fishing (COMM);            Cold freshwater habitat (COLD);            Wildlife habitat (WILD);            Rare, threatened, or endangered species (RARE);            Migration of aquatic organisms (MIGR);            Spawning, reproduction, and/or early development (SPWN);            Shellfish Harvesting (SHELL);            Estuarine Habitat (EST); and            Native American Culture (CUL); and            Wetland Habitat (WET).</p> <p><u>Potential:</u>            Industrial process supply (PRO);            Marine Habitat (MAR);            Hydropower generation (POW);            Aquaculture (AQUA);            Flood Peak Attenuation/Flood Water Storage (FLD); and            Water Quality Enhancement (WQE).</p>
002	Groundwater	<p><u>Existing:</u>            Municipal and domestic supply (MUN);            Agricultural supply (AGR);            Industrial service supply (IND);            Freshwater Replenishment (FRSH); and            Native American culture (CUL).</p> <p><u>Potential:</u>            Industrial process supply (PRO); and            Aquaculture (AQUA).</p>

In addition to the beneficial uses set out in the Basin Plan, there are several implementation plans that include actions intended to meet water quality objectives and protect beneficial uses of the North Coast Basin. For the Eel River and its tributaries, no point source waste discharges are allowed during the period of May 15 through September 30 and for all other periods the receiving stream's flow must be at least 100 times greater than the waste flow unless an exception to the requirement is granted by the Regional Water Board.

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
4. **Human Right to Water.** 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 meet maximum contaminant levels (MCLs) implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.
5. **Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008.

This Order does not include compliance schedules or interim effluent limitations.
6. **Antidegradation Policy.** 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.
7. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-

backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Some effluent limitations from the previous Order have been removed or are less stringent than those in the previous Order. As discussed in detail in section IV.D.1 of this Fact Sheet, removal or relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- 8. Endangered Species Act Requirements.** This Order does not authorize an 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 limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

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

Section 303(d) of the federal CWA requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies every two years. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) or alternate program of implementation for each 303(d) listed pollutant and water body to remedy the impairment. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On April 6, 2018, the U.S. EPA provided final approval of the 2014 and 2016 303(d) List of Impaired Water Bodies prepared by the state. The list identifies the Lower Eel River as impaired by aluminum, dissolved oxygen, sedimentation/siltation, and temperature. On December 18, 2007, the U.S. EPA approved a TMDL addressing sediment and temperature in the Lower Eel River. Pursuant to CWA section 303(d), the Regional Water Board will develop a TMDL or alternate program of implementation to address the impairment for aluminum and dissolved oxygen, which will be implemented through various programs, including through provisions of NPDES permits.

Regarding temperature, the TMDL concludes that most sources of heat in the Lower Eel River are from diffuse, nonpoint sources and result from such factors as removal of stream shade, longer travel time, changes in timing and volume of natural stream flow due to water diversions and impoundments, and increased sediment loads that cause widening of streams. As the critical time period for temperature is in the summer, the TMDL was established for that critical time period, which is also the time period when point source discharges from the Facility are prohibited. The TMDL concludes that, because of the summer discharge prohibition, area facilities such as the Facility do not contribute to temperature loadings to the Lower Eel River Watershed during critical periods, and therefore, the TMDL establishes a “zero” waste load allocation (WLA) to

mean that, as long as the Permittee adheres to the summer discharge prohibition, it will be in compliance with the approved TMDL for temperature.

Regarding sediment, the TMDL establishes a maximum loading of 125 percent of the natural sediment loading for the watershed and further defines that loading rate as 2.5 tons of sediment per square mile of watershed per day on a long-term basis. Although the TMDL found that nonpoint sources were primarily responsible for excessive sediment loadings to the Lower Eel River, the TMDL establishes WLAs for area wastewater treatment facilities at levels corresponding to existing permit limitations for suspended solids and a monthly average WLA for settleable solids of 0.1 mg/L. As discussed in section IV.D.1 of the Fact Sheet and consistent with anti-backsliding requirements, this Order retains effluent limitations for TSS and settleable solids from Order No. R1-2014-0013.

#### **E. Other Plans, Policies and Regulations**

1. On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems and on August 6, 2013 adopted Order No. WQ 2013-0058-EXEC Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage was November 2, 2006. The Permittee applied for coverage and is separately subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any future revisions thereto for operation of its wastewater collection system.
2. Storm water that falls within the confines of the Facility is not returned to the headworks. However, coverage under the State Water Board Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit) is not required based on the size of the Facility (less than 1 mgd).
3. On July 22, 2004, the State Water Board adopted State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Recycled Water Activities. Order No. R1-2020-0002 requires the Permittee to obtain coverage under Order No. 2004-0012-DWQ prior to any removal of biosolids from the Facility that will be land disposed on property owned or controlled by the Permittee.
4. In 1996, the State Water Board and the California Department of Health Services (now State Water Board Division of Drinking Water) set forth principles, procedures, and agreements to which the agencies committed themselves relative to the use of recycled water in California, in a document titled *Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water* (MOA). This Order is consistent with the MOA.
5. On February 3, 2009, the State Water Board adopted Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy) (amended in 2013 and again in 2018) for the purpose of increasing the use of recycled water from municipal wastewater sources in a manner that implements state and federal water quality laws. The Recycled Water Policy provides direction to the regional water boards regarding

the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline, and provide consistency for, the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the Policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

The Recycled Water Policy recognizes the fact that some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives in the applicable Basin Plans, and that not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. The Recycled Water Policy further recognizes that these conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water, and water supply augmentation using surface or recycled water, and that regulation of recycled water alone will not address these conditions. It is the intent of the Recycled Water Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The Recycled Water Policy finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional Salt and Nutrient Management Plans (SNMPs) rather than through imposing requirements solely on individual recycled water projects. This Order is consistent with the requirements of the Recycled Water Policy to implement an SNMP.

The Recycled Water Policy currently requires monitoring for priority pollutants annually. This Order implements this requirement through the annual CTR priority pollutant monitoring requirement in the MRP that is required of the Permittee pursuant to the SIP.

6. 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 the 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.

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits.

There are two principal bases for effluent limitations in the Code of Federal Regulations:

40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exist.

##### **A. Discharge Prohibitions**

1. **Discharge Prohibition III.A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This prohibition is based on the Basin Plan, the previous Order, and State Water Board Order No. WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East



Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders but should be interpreted to apply only to constituents that are not disclosed by the Permittee and are not reasonably anticipated to be present in the discharge. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those that were “*disclosed to the permitting authority and...can be reasonably contemplated.*” [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24.] In that Order, the State Water Board cited a case that held the Permittee is liable for the discharge of pollutants “*not within the reasonable contemplation of the permitting authority...whether spills or otherwise...*” [*Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland* (4<sup>th</sup> Cir. 2001) 268 F. 3d 255, 268.] Thus, the State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

2. **Discharge Prohibition III.B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

This prohibition has been retained from Order No. R1-2014-0013 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

3. **Discharge Prohibition III.C.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).

This prohibition has been retained from Order No. R1-2014-0013 and is based on restrictions on the disposal of sewage sludge found in federal regulations [40 C.F.R. part 503 (Biosolids), part 527, and part 258] and title 27 of the CCR.

4. **Discharge Prohibition III.D.** The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions G (Bypass) and H (Upset).

This prohibition has been retained from Order No. R1-2014-0013 with a minor modification. The term “reclamation” has been replaced with the term “recycling.” This prohibition is based on the Basin Plan to protect the beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the state without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

5. **Discharge Prohibition III.E.** Any SSO that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

This prohibition is retained from Order No. R1-2014-0013. The prohibition applies to spills related to SSOs and is based on state standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the state's antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

This prohibition is stricter than the prohibitions stated in State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the state and land for a more complete protection of human health. The rationale for this prohibition is based on the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

6. **Discharge Prohibition III.F.** The discharge of waste to land that is not owned by the Permittee, governed by District ordinance, or under agreement to use by the Permittee, or for which the Permittee has explicitly permitted such use, is prohibited, except for use for fire suppression as provided in title 22, sections 60307(a) and 60307(b) of the CCR.

This prohibition is retained from Order No. R1-2014-0013. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater.

7. **Discharge Prohibition III.G.** The discharge of waste at any point not described in Finding II.B of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited.

This prohibition has been retained from Order No. R1-2014-0013. This prohibition is a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

8. **Discharge Prohibition III.H.** The average dry weather flow of waste through the Facility shall not exceed 0.081 million gallons per day (mgd) measured daily and averaged over a calendar month. The peak wet weather flow of waste through the Facility shall not exceed 0.55 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections VII.K and VII.L of this Order.

The average dry weather flow prohibition is retained from Order No. R1-2014-0013 and is based on the treatment capacity of the Facility. The peak daily wet weather flow prohibition is established in this Order and is based on the peak wet weather treatment capacity of the Facility. Exceedance of these capacities on a daily basis may result in effluent violations and/or the need to bypass untreated effluent blended with treated effluent, which is prohibited.

- 9. Discharge Prohibition III.I.** The discharge of waste to the Eel River and its tributaries is prohibited during the period from May 15 through September 30 of each year.

This prohibition is retained from Order No. R1-2014-0013 and is required by the Basin Plan. The Basin Plan prohibits discharges to the Eel River and its tributaries during the period May 15 through September 30 (chapter 4, Waste Discharge prohibitions for the North Coast Basin). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Eel River and its tributaries experience the heaviest water-contact recreation use.

- 10. Prohibition III.J.** During the period of October 1 through May 14, discharges of wastewater to the wetland, tributary to an unnamed slough and thence to the Eel River, shall not exceed one percent of the flow of the Eel River at Scotia, as measured at United States Geological Survey (USGS) Gauge No. 11-4770.00. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

- a. The discharge of secondary treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Eel River at Scotia, at USGS Gauge No. 11-4770.00. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,
- b. In no case shall the total volume of treated wastewater discharged in a calendar month exceed one percent of the total volume of the Eel River at Scotia, measured at USGS Gauge No. 11-4770.00 in the same calendar month. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume comparisons shall be based on the first day of the calendar month to the date when the discharge ceased for the season.

This prohibition has been retained from Order No. R1-2014-0013 and is required by the Basin Plan (chapter 4, North Coastal Basin Discharge Prohibition No. 4). The Basin Plan prohibits discharges to the Eel River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 4 does not specify how compliance with the one-percent flow requirement will be determined. This prohibition specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season if a reading at USGS Gauge No. 11-4770.00 is taken at least once daily, and the discharge flow rate shall not be set for greater than one percent of the flow of the river at the time of the daily reading.

- 11. Prohibition III.K.** The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

This prohibition is retained from Order No. R1-2014-0013 and is based on the discharge prohibitions contained in section 13375 of the Water Code.

- 12. Prohibition III.L.** The acceptance of septage to a location other than an approved septage receiving station is prohibited.

This prohibition is newly established by this Order and is necessary to ensure that septage is not accepted in the absence of a septage management program to ensure that pollutants

associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133.

In addition, 40 C.F.R. section 122.45(d)(2) states that technology-based permit limits shall be stated as average weekly and average monthly discharge limitations, unless impracticable, for POTWs. 40 C.F.R. section 103.102 provides detailed specifications for establishing effluent limitations for the technology-based constituents, BOD<sub>5</sub>, TSS, and pH. Effluent limitations for BOD<sub>5</sub>, TSS, and pH in Effluent Limitations IV.A.1.a, Table 4 and IV.A.1.b of this Order were established as required by 40 C.F.R. section 133.102 and have been retained in this Order.

Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator.

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD<sub>5</sub>, TSS, and pH, as follows:

#### **a. BOD<sub>5</sub> and TSS**

- i.** The 30-day average shall not exceed 30 mg/L.
- ii.** The 7-day average shall not exceed 45 mg/L.
- iii.** The 30-day average percent removal shall not be less than 85%.

#### **b. pH**

The pH shall be maintained within the limits of 6.0 to 9.0.

The effluent limitation for pH required to meet the water quality objective for hydrogen ion concentration (pH) is contained in the Basin Plan, Table 3-1.

In addition, 40 C.F.R. section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or

other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

## 2. Applicable Technology-Based Effluent Limitations

The effluent limitations in this Order for BOD<sub>5</sub>, TSS, and pH not only meet the technology-based requirements for secondary treatment set forth in section 133.102, but they also are required to meet the water quality-based requirements set forth in the Basin Plan.

- a. **BOD<sub>5</sub> and TSS.** As described above, the secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment in terms of BOD<sub>5</sub>, TSS.

In addition to concentration limitations, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal of BOD<sub>5</sub> and TSS shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD<sub>5</sub> and TSS over each calendar month. These effluent limitations are retained from Order No. R1-2014-0013.

- b. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 require that pH be maintained between 6.0 and 9.0 standard units. Note that a more stringent effluent limitation range of 6.5 – 8.5 for pH is required to meet the water quality objective for hydrogen ion concentration (pH) in the Lower Eel River contained in Basin Plan, Table 3-1.

- c. **Mass-Based Effluent Limitations.** Federal regulations at 40 C.F.R. section 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Among the conditions exempting the application of mass-based limitations is 40 C.F.R. section 122.45(f)(1)(i), which states “for pH, temperature, and radiation, or other pollutants which cannot appropriately be expressed by mass” and 40 C.F.R. section 122.45(f)(1)(ii), which states “when applicable standards and limitations are expressed in terms of other units of measurement.”

This Order does not include mass-based effluent limitations for the following pollutants pursuant to the exceptions in 40 C.F.R. section 122.45(f)(1)(i) and (ii):

- i. BOD<sub>5</sub> and TSS, because these two parameters are expressed in terms of concentration and percent removal; and
- ii. pH, because this parameter cannot appropriately be expressed by mass.

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

### 1. Scope and Authority

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

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for

a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator 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).

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. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.C.1 of this Fact Sheet.
- b. **Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Eel River and its tributaries. For waters designated for use as MUN, the Basin Plan establishes as applicable water quality criteria the MCLs established by DDW for the protection of public water supplies at title 22 of the CCR section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).
- c. **SIP, CTR, and NTR.** Water quality criteria and objectives applicable to this receiving water are established by the CTR, established by the U.S. EPA at 40 C.F.R. section 131.38; and the NTR, established by the U.S. EPA at 40 C.F.R. section 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

The SIP, which is described in section III.C.3 of this Fact Sheet, includes procedures for determining the need for, and the calculation of, WQBELs and requires Permittees to submit data sufficient to do so.

At title 22, division 4, chapter 15 of the CCR, DDW has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply.

Aquatic life freshwater and saltwater criteria are identified as criterion maximum concentrations (CMC) and criterion continuous concentrations (CCC). The CTR defines the CMC as the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects and the CCC as the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects. The CMC is used to calculate an acute or 1-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation. Aquatic life freshwater criteria were used for the RPA.

Human health criteria are further identified as “water and organisms” and “organisms only”. “Water and organism” criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the “water and organisms” column of CTR were used for the RPA because the Basin Plan identifies that the receiving water, the Eel River, has the beneficial use designation of municipal and domestic supply.

### 3. Determining the Need for WQBELs

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants that are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard.

For WQBELs for toxic pollutants, Section 5.2.3 of the EPA *Technical Support Document for Water Quality-based Toxic Controls* states “in lieu of an Average Weekly Limit (AWL) for POTWs, EPA recommends establishing a Maximum Daily Limit (MDL) (or a maximum test result for chronic toxicity) for toxic pollutants and pollutant parameters in water quality permitting. This is appropriate for at least two reasons. First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s potential for causing acute toxic effects would be missed. A MDL, which is measured by a grab sample, would be toxicologically protective of potential acute toxicity impacts.”

Section 1.4 of the SIP states that maximum daily effluent limitations (MDEL) shall be used for POTWs in place of average weekly effluent limitations (AWEL) for WQBELs. The SIP procedure of calculating an AMEL and an MDEL applies to all CTR pollutants, both those that are for protection of aquatic life and those that are for the protection of human health.

Effluent limitations that are based on state and federal drinking water MCLs (e.g., specific conductance) are established as average monthly limits only, because the MCLs are based on long-term exposure.

The RPA for this Facility was conducted as follows.

#### a. Non-Priority Pollutants

- i. **pH.** The effluent limitation for pH of 6.5 to 8.5 is retained from Order No. R1-2014-0013. This limitation is based on the water quality objective for all surface waters established in Chapter 3, Table 3-1 of the Basin Plan. Federal technology-based requirements prescribed in 40 C.F.R. part 133 are not sufficient to meet these Basin Plan water quality standards.
- ii. **Settleable Solids.** High levels of settleable solids can have an adverse effect on aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of settleable solids. The Lower Eel River and its tributaries are listed as impaired for sediment and settleable solids. Monthly average and maximum daily effluent limitations for settleable solids of 0.1 ml/L and 0.2 ml/L have been retained from Order No. R1 2014-0013. These limitations reflect levels of treatment attainable by secondary treatment facilities. This limitation is based on the levels of treatment that are attainable from secondary treatment facilities, on

the water quality objective prohibiting bottom deposits for all surface waters of the North Coast Region established by the Basin Plan, and on the fact that the Lower Eel River is on the 303(d) list for sediment impairment.

- iii. **Chlorine Residual.** The Basin Plan establishes a narrative water quality objective for toxicity, stating that “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” The Regional Water Board considers any chlorinated discharge as having the reasonable potential to cause or contribute to exceedances of this water quality objective for toxicity, and therefore, the Order establishes effluent limitations for chlorine. USEPA has established the following criteria for chlorine-produced oxidants for protection of fresh water aquatic life in *Quality Criteria for Water 1986* (The Gold Book, 1986, EPA 440/5/-86-001).

Chronic Criterion	Acute Criterion
0.011 mg/L	0.019 mg/L

The effluent limitations established in this Order are more stringent than the previous chlorine residual effluent limitations in Order No. R1-2014-0013, which required no detectable level of chlorine in the effluent at the point of discharge. The chlorine residual effluent limitations are based on the above U.S. EPA and have been translated to an AMEL of 0.01 mg/L and an MDEL of 0.02 mg/L in this Order.

- iv. **Total Dissolved Solids.** Total dissolved solids are known to cause adverse effects to human welfare. For waters designated as domestic or municipal supply, the Basin Plan (chapter 3) adopts the SMCLs, established by DDW for the protection of public water supplies by community water systems in title 22 of the CCR, sections 64449-A (Consumer Acceptance Contaminant Levels) and 64449-B (Consumer Acceptance Contaminant Level Ranges), as applicable water quality criteria. The recommended SMCL for total dissolved solids (500 mg/L) is therefore applicable as a water quality criterion for the Eel River.

The Permittee sampled its discharge monthly between June 2014 and February 2019. Monitoring results ranged from 32 mg/L to 840 mg/L based on 58 samples. Because total dissolved solids levels in the effluent have been measured above 500 mg/L, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water for total dissolved solids. In order to protect water quality, an AMEL of 500 mg/L for total dissolved solids has been established.

- v. **Pathogens (*E. coli*).** On August 7, 2018, the State Water Board adopted 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* (Statewide Bacteria Provisions), which establishes water quality objectives for reasonable protection of people that recreate within all surface waters, enclosed bays, and estuaries of the state that have the water contact recreation beneficial use (REC-1). In accordance with the water quality objectives outlined in the Statewide Bacteria Provisions for the protection of freshwaters



used for water contact recreation, disinfected effluent shall not contain *E. coli* bacteria exceeding the following limitations:

- (a) The concentration of *E. coli* shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL) as a six-week rolling geometric mean, calculated weekly.
- (b) A statistical threshold value (STV) of 320 cfu/100 mL shall not be exceeded by more than 10 percent of the samples collected in a calendar month and calculated in a static manner.

As discussed in section IV.B.2.d of this Fact Sheet, this Order contains effluent limitations for total coliform bacteria that reflect standards for disinfected secondary-23 recycled water as adopted by the State Water Board, DDW in title 22 of the CCR. Because *E. coli* is a subset of the total coliform group, the *E. coli* limitations established in the Statewide Bacteria Provisions are not as stringent as the title 22 total coliform standards implemented in this Order. Section IV.E.1 of the Statewide Bacteria Provisions states that “where a permit, WDR, or waiver of WDR includes an effluent limitation or discharge requirement derived from a water quality objective, guideline, or other requirement to control bacteria that is a more stringent value than the applicable bacteria water quality objective, the bacteria water quality objective shall not be implemented in the permit, WDR, or waiver of WDR.”. The effluent limitations established for total coliform will ensure that bacterial standards for water contact recreation are maintained throughout the receiving water.

- vi. **Nitrogen Compounds.** Untreated domestic wastewater contains ammonia nitrogen. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving stream. The Facility is designed to use nitrification to remove ammonia from the waste stream and denitrification to reduce nitrate in the waste stream culminating in an overall reduction in total nitrogen.

- (a) **Nitrate.** Nitrate is known to cause adverse health effects in humans. For waters designated as domestic or municipal supply, the Basin Plan (Chapter 3) adopts the MCLs, established by DDW for the protection of public water supplies at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. The Permittee sampled its discharge at Monitoring Location EFF-001 monthly between June 2014 and February 2019. Monitoring results ranged between 0.1 mg/L and 50 mg/L based on 58 samples. Because nitrate levels in effluent have been measured at concentrations greater than 10 mg/L as N, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water for nitrate. In order to protect

water quality an AMEL of 10 mg/L of nitrate has been retained from Order No. R1-2014-0013.

- (b) **Ammonia.** Ammonia is known to cause toxicity to aquatic organisms in surface waters. The Basin Plan establishes a narrative water quality objective for toxicity, stating that “[a]ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Due to concerns regarding ammonia toxicity, the Regional Water Board relies on U.S. EPA’s recommended water quality criteria for ammonia to interpret the Basin Plan’s narrative objective for toxicity. For freshwater, the recommended criteria are from the April 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater*, EPA 822-R-13-001 (2013 Freshwater Criteria). The 2013 Freshwater Criteria is an update to the December 1999 *Update of Ambient Water Quality Criteria for Ammonia* (1999 Freshwater Criteria).

The 2013 Freshwater Criteria recommends acute and chronic water quality criteria for the protection of aquatic life, including salmonids and sensitive freshwater mussel species in the Family Unionidae that are more sensitive to ammonia than salmonids. Like the 1999 Freshwater Criteria document, the 2013 Freshwater Criteria document recommends acute (1-hour average) criteria based on pH and the presence/absence of salmonids and chronic (30-day average) criteria based on pH and temperature and that no 4-day average concentration should exceed 2.5 times the 30-day chronic criterion. In addition, the 2013 Freshwater Criteria document recommends these same criteria for the sensitive mussel species.

Adequate information is not available to determine if these freshwater mussels are present in the receiving water. The 2013 Freshwater Criteria document states, “*In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.*”

For this Order, the Regional Water Board has changed its approach for evaluating ammonia toxicity. This Order establishes an Ammonia Impact Ratio (AIR) for determining compliance with ammonia effluent limitations. The AIR is calculated as the ratio of the ammonia concentration in the effluent to the applicable 2013 Freshwater Criteria which is based on the receiving water pH and temperature at the time that each effluent sample is collected. See Attachment I of this Order for a sample log to help calculate and record the AIR values and Attachment H for applicable pH- and temperature-dependent criteria. The Permittee is required to perform an Ammonia Study, as stated in section VI.C.2.a of this Order, to determine the presence of freshwater mussels.

Effluent monitoring results ranged from non-detect to 24 mg/L based on 58 samples collected at Monitoring Location EFF-001 between June 2014 and

February 2019. Receiving water monitoring for ammonia was not conducted during the term of Order No. R1-2014-0013.

Because ammonia levels in the effluent have been measured at concentrations greater than EPA's 2013 Freshwater Criteria, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of the Basin Plan's applicable narrative water quality criterion for toxicity. Therefore, this Order includes effluent limitations for ammonia for the protection of aquatic life. This Order establishes an average monthly effluent limitation (AMEL) of 1 and a maximum daily effluent limitation of 1 as an AIR. Fact Sheet section IV.C.4 provides calculations of the ammonia AMEL and MDEL.

**b. Priority Pollutants**

The SIP establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above state water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants showing reasonable potential.

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. During the term of Order No. R1-2014-0013, priority pollutant sampling was conducted in June 2014, and August 2018 (effluent). Additional data for copper, carbon tetrachloride, chlorodibromomethane, and, dichlorobromomethane collected between June 2014 and February 2019, was also used in conducting the RPA.

**Hardness:** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness; the lower the hardness, the lower the water quality criteria. The SIP requires water quality criteria be properly adjusted for hardness, using the hardness of the receiving water. The hardness-dependent metal criteria include cadmium, copper, chromium (III), lead, nickel, silver, and zinc. The Permittee was not required to monitor for upstream receiving water hardness during the term of Order No. R1-2014-0013, so, consistent with Order No. R1-2014-0013, a hardness of 110 mg/L, based on effluent hardness measurements made by the Permittee between 2008 and June 2013, was used to calculate hardness-based metals criteria.

To conduct the RPA, Regional Water Board staff identified the maximum effluent concentration (MEC) and maximum background (B) concentration for each priority, toxic pollutant from effluent and receiving water data provided by the Permittee and compared this information to the most stringent applicable water quality criterion (C) for each pollutant with applicable water quality criteria from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

**Trigger 1.** If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

**Trigger 2.** If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

**Trigger 3.** After a review of other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

**c. Reasonable Potential Determination**

The reasonable potential analysis (RPA) demonstrated reasonable potential for discharges of copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, heptachlor, ammonia, nitrate, and total dissolved solids from the Facility to cause or contribute to exceedances of applicable water quality criteria. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for 121 of the 126 priority pollutants.

Table F-4 summarizes the RPA for each pollutant that was reported in detectable concentrations in the effluent or the receiving water. The MECs, most stringent water quality objectives/water quality criteria (WQO/WQCs), and background concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No and which trigger) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Permittee. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

**Table F-4. Summary of Reasonable Potential Analysis Results**

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL <sup>1,2</sup>	B or Minimum DL <sup>1,2</sup>	RPA Results <sup>3</sup>
1	Antimony	µg/L	6	0.512	Not Available	No
2	Arsenic	µg/L	10	0.41	Not Available	No
6	Copper	µg/L	10	25	Not Available	Yes (Trigger 1)
7	Lead	µg/L	3.6	0.258	Not Available	No
9	Nickel	µg/L	57	2.15	Not Available	No
13	Zinc	µg/L	130	49.9	Not Available	No
21	Carbon tetrachloride	µg/L	0.25	2.5	Not Available	Yes (Trigger 1)
23	Chlorodibromomethane	µg/L	0.40	8.8	Not Available	Yes (Trigger 1)
26	Chloroform	µg/L	No Criteria	180	Not Available	Ud
27	Dichlorobromomethane	µg/L	0.56	40	Not Available	Yes (Trigger 1)

CTR #	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL <sup>1,2</sup>	B or Minimum DL <sup>1,2</sup>	RPA Results <sup>3</sup>
39	Toluene	µg/L	150	1.50	Not Available	No
93	Isophorone	µg/L	8.4	0.512	Not Available	No
117	Heptachlor	µg/L	0.00021	0.023	Not Available	Yes (Trigger 1)
Not Applicable	Ammonia	mg/L	4.61	24	Not Available	Yes (Trigger 1)
Not Applicable	Nitrate	mg/L	10	50	Not Available	Yes (Trigger 1)
Not Applicable	Total Dissolved Solids	mg/L	500	840	Not Available	Yes (Trigger 1)
<b>Table Notes:</b> 1. The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND). 2. The MEC or B is "Not Available" when there are no monitoring data for a constituent. 3. RPA Results: = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected. = No, if MEC and B or < WQO/WQC or all effluent data are undetected. = Undetermined (UD). 4. Ammonia criteria are determined on a sliding scale based upon temperature and pH. The criterion represented in this table is based upon chronic exposure and a temperature of 22°C and a pH of 7.5.						

Additional details regarding the priority pollutant constituent for which reasonable potential was found are included in the following paragraphs:

Copper. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are expressed in dissolved concentrations. U.S. EPA recommends conversion factors to translate dissolved concentrations to total concentrations. The U.S. EPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. The default WER used for calculating criteria for copper is 1.0. Using the worst-case hardness from the receiving water, based on effluent hardness measurements made by the Permittee between 2008 and June 2013, (110 mg/L), the U.S. EPA recommended dissolved-total translator of 0.96, and the default WER of 1.0, the applicable chronic criterion (maximum 4-day average concentration) is 10 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is 15 µg/L.

During the term of Order No. R1-2014-0002, the Permittee sampled for copper in the effluent 58 times. Copper was detected in the effluent in all 58 effluent samples, with results ranging from 5.2 µg/L to 25 µg/L. A determination of reasonable potential has been made based on the MEC of 25 µg/L exceeding the most stringent water quality objective of 10 µg/L.

Carbon Tetrachloride. Order No. R1-2014-0013 included effluent limitations for carbon tetrachloride. The CTR establishes a water quality objective for the protection of human health for carbon tetrachloride of 0.25 µg/L. The Permittee sampled the effluent for carbon tetrachloride 58 times during the term of Order No. R1-2014-0013. Carbon tetrachloride

was detected in four of the samples with results ranging from non-detect to 2.5 µg/L. A determination of reasonable potential has been made based on the MEC of 2.5 µg/L exceeding the most stringent water quality objective of 0.25 µg/L.

Chlorodibromomethane. Order No. R1-2014-0013 included effluent limitations for chlorodibromomethane. The CTR establishes a water quality objective for the protection of human health for chlorodibromomethane of 0.40 µg/L. The Permittee sampled the effluent for chlorodibromomethane 58 times during the term of Order No. R1-2014-0013. Chlorodibromomethane was detected in 33 of the samples with results ranging from non-detect to 8.8 µg/L. A determination of reasonable potential has been made based on the MEC of 8.8 µg/L exceeding the most stringent water quality criterion of 0.40 µg/L.

Dichlorobromomethane. Order No. R1-2014-0013 included effluent limitations for dichlorobromomethane. The CTR establishes a water quality objective for the protection of human health for dichlorobromomethane of 0.56 µg/L. The Permittee sampled the effluent for dichlorobromomethane 58 times during the term of Order No. R1-2014-0013. Dichlorobromomethane was detected in 25 of the samples with results ranging from non-detect to 40 µg/L. A determination of reasonable potential has been made based on the MEC of 40 µg/L exceeding the most stringent water quality objective of 0.56 µg/L.

Heptachlor. The CTR establishes a water quality objective for the protection of human health for heptachlor of 0.00021 µg/L. The Permittee sampled the effluent for heptachlor once during the term of Order No. R1-2014-0013. Heptachlor was detected in the effluent at a concentration of 0.023 µg/L. A determination of reasonable potential has been made based on the MEC of 0.023 µg/L exceeding the most stringent water quality objective of 0.00021 µg/L.

#### 4. WQBEL Calculations

Final WQBELs have been determined using the methods described in Section 1.4 of the SIP.

**Step 1:** To calculate the effluent limits, an effluent concentration allowance (ECA) is calculated for each pollutant found to have reasonable potential using the following equation, which takes into account dilution and background concentrations:

$$ECA = C + D (C - B),$$

Where:

C = the applicable water quality criterion (adjusted for effluent hardness and expressed as the total recoverable metal, if necessary)

D = dilution credit (here D= 0, as the discharge does not qualify for a dilution credit)

B = background concentration

Here, no credit for dilution is allowed, which results in the ECA being equal to the applicable criterion (ECA = C).

**Step 2:** For each ECA based on an aquatic life criterion/objective (copper and ammonia) the long-term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier depends 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 values of the CV. When the data set contains less than 10 sample results, or when 80 percent or more of the data set is reported as non-detect (ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in Section 1.4 of the SIP.

The SIP procedure assumes a 4-day averaging period for calculating the LTA. However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA for ammonia corresponding to the 30-day CCC was calculated assuming a 30-day averaging period.

From Table 1 in the SIP, the ECA multipliers for calculating LTAs at the 99<sup>th</sup> percentile occurrence probability for copper are 0.47 (acute multiplier) and 0.67 (chronic 4-day multiplier). From Table 1 in the SIP, the ECA multipliers for calculating LTAs at the 99<sup>th</sup> percentile occurrence probability for ammonia are 0.0937 (acute multiplier), 0.353 (chronic 4-day multiplier), and 0.147 (chronic 30-day multiplier). The LTAs are determined as follows.

**Table F-5. Determination of Long-Term Averages**

Pollutant	Units	ECA			ECA Multiplier			LTA		
		Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day	Acute	Chronic 4-Day	Chronic 30-Day
Copper, Total Recoverable	µg/L	15.31	10.12	--	0.47	0.67	--	7.14	6.74	--
Ammonia (as N)	mg/L	13.28	4.61	11.52	0.0937	0.353	0.147	1.25	1.63	1.69

**Step 3:** WQBELs, including an AMEL and MDEL, are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. For copper, the CV is set equal to 0.37. The sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-day criterion. The 99<sup>th</sup> percentile occurrence probability was used to determine the MDEL multiplier and a 95<sup>th</sup> percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier for copper is 2.15 and the AMEL multiplier is 1.33. Final WQBELs for copper are determined as follows.

**Table F-6. Determination of Final WQBELs Based on Aquatic Life Criteria**

Pollutant	Unit	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Copper, Total Recoverable	µg/L	6.74	2.15	1.33	14	8.9

For ammonia, the CV is set equal to 2.93 and the sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic criterion, and 30 (n = 30) for the chronic 30-day criterion. The 99<sup>th</sup> percentile occurrence probability was used to determine the MDEL multiplier and a 95<sup>th</sup> percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier for ammonia is 10.67, and the AMEL multiplier is 3.28. Final WQBELs are determined by calculating the AIR for each of the ammonia standards (AMEL and MDEL). Attachment H of this Order includes two tables that

display the AMEL and MDEL ammonia standards. The ammonia standards are calculated by taking the variable ammonia criteria and multiplying it by the ECA multiplier and the appropriate AMEL and MDEL multiplier. The 2013 ammonia criteria are dependent on the pH and temperature of the receiving water. For example:

$$\text{AMEL Ammonia Standard} = (2013 \text{ Ammonia Criteria (Attachment H)}) * \text{AMEL Multiplier (3.28)} * \text{ECA Multiplier (0.09)}$$

$$\text{MDEL Ammonia Standard} = (2013 \text{ Ammonia Criteria (Attachment H)}) * \text{MDEL Multiplier (10.67)} * \text{ECA Multiplier (0.09)}$$

The AIR, or final WQBEL, is determined by dividing the ammonia concentration in each sample by the appropriate ammonia standard (AMEL and MDEL). If the AIR is greater than 1.0 then the Permittee is not in compliance with the AIR effluent limitation.

**Step 4:** When the most stringent water quality criterion/objective is a human health criterion/objective (as for carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, heptachlor, nitrate, and total dissolved solids), the AMEL is set equal to the ECA. From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55 (for carbon tetrachloride and heptachlor). From Table 2 of the SIP, when CV = 1.0 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 4.97, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.96 (for chlorodibromomethane). From Table 2 of the SIP, when CV = 0.87 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 4.33, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.82 (for dichlorobromomethane). From Table 2 of the SIP, when CV = 0.55 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 2.90, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.51 (for nitrate). From Table 2 of the SIP, when CV = 0.39 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 2.23, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.35 (for total dissolved solids). The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. Final WQBELs for carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, heptachlor, nitrate, and total dissolved solids are determined as follows.

**Table F-7. Determination of Final WQBELs Based on Human Health Criteria**

Pollutant	ECA (µg/L)	MDEL/AMEL	MDEL (µg/L)	AMEL (µg/L)
Carbon Tetrachloride	0.25	2.0	0.50	0.25
Chlorodibromomethane	0.40	2.5	1.0	0.40
Dichlorobromomethane	0.56	2.4	1.3	0.56
Heptachlor	0.00021	2.0	0.00042	0.00021
Nitrate Nitrogen, Total (as N) <sup>1</sup>	10	1.9	19	10
Total Dissolved Solids	500	1.7	826	500



## 5. Whole Effluent Toxicity (WET)

Whole effluent toxicity testing protects the receiving water from the aggregate effect of a mixture of pollutants that may be present in the effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states, “*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life.*” Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Permittee to conduct WET testing for acute and chronic toxicity, as specified in the MRP (Attachment E, section V).

### a. Acute Aquatic Toxicity

Consistent with Order No. R1-2014-0013, this Order includes an effluent limitation for acute toxicity in accordance with the Basin Plan, which requires that the average survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring the Permittee to conduct acute toxicity tests on a fish species and on an invertebrate species to determine the most sensitive species. According to the U.S. EPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*. This Order requires the Permittee to conduct a screening test using a vertebrate and invertebrate species. After the screening test is completed, monitoring can be reduced to the most sensitive species. Attachment E of this Order requires annual acute WET monitoring.

### b. Chronic Aquatic Toxicity

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*). Attachment E of this Order requires annual chronic WET monitoring to demonstrate compliance with the narrative toxicity objective.

The Permittee conducted chronic toxicity testing using *P. promelas*, *C. dubia*, and *S. capricornutum*. The following table summarizes the chronic toxicity testing results from the term of Order No. R1-2014-0013.

**Table F-8. Summary of Chronic Toxicity Results**

Date	<i>Pimephales promelas</i>		<i>Ceriodaphnia dubia</i> <sup>1</sup>		<i>Selenastrum capricornutum</i>
	Survival (TUC)	Growth (TUC)	Survival (TUC)	Reproduction (TUC)	Growth (TUC)
February 3, 2015	--	--	--	--	8 <sup>2</sup> /1 <sup>3</sup>
March 3, 2015	1 <sup>2</sup> /1 <sup>3</sup>	1.3 <sup>2</sup> /1 <sup>3</sup>	1	1	--
April 26, 2016	1	1	1 <sup>4</sup> /1 <sup>5</sup>	1.3 <sup>4</sup> /1 <sup>5</sup>	1
May 23, 2017	1	1	1	4	1
April 23, 2018	1	1	1	1.3	1

**Table Notes:**

1. Per the analytical laboratory reports, statistical analyses indicated that one or more of the test replicates at certain treatments (e.g., receiving water control, 12.5% effluent treatment) were statistical outliers. Per the U.S. EPA method manual identified in section V.B.4 of Attachment E to this Order, the laboratory report provided analyses both with and without the outlier data. The reports did not provide an explanation for the cause of the outliers. Section 3.1 of Appendix A of the method manual states, "An outlier is an inconsistent or questionable data point that appears unrepresentative of the general trend exhibited by the majority of the data. Outliers may be detected by tabulation of the data, plotting, and by an analysis of the residuals. An explanation should be sought for any questionable data points. Without an explanation, data points should be discarded only with extreme caution. If there is no explanation, the analysis should be performed both with and without the outlier, and the results of both analyses should be reported." Results reported in the table reflect analyses with and without outliers.
2. Analysis conducted using the receiving water control.
3. Analysis conducted using the laboratory water control.
4. Outliers included in results.
5. Outliers excluded from results.

Based on the observed chronic toxicity to *P. promelas* growth on March 3, 2015 and *C. dubia* reproduction on April 26, 2016, May 23, 2017 and April 23, 2018 the Regional Water Board concludes that the discharge has reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective. Therefore, this Order establishes a narrative effluent limitation for chronic toxicity.

Numeric chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in basin plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) in the event that persistent toxicity is detected. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works, that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for

*chronic toxicity contained in these permits.”* A statewide toxicity plan is under development to address this issue. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision, it is infeasible to develop numeric effluent limitations for chronic toxicity at this time. The SIP revision may require a permit modification to incorporate new statewide toxicity criteria established by the upcoming SIP revision.

This Order includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a revised acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan’s narrative toxicity objective, the Permittee is required to conduct annual chronic WET testing at Discharge Point 001, as specified in the MRP (Attachment E, section V). Furthermore, the MRP (Attachment E, section V.C) requires the Permittee to investigate the causes of and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity with a result of “Fail” in 100 percent effluent, the Permittee is required to initiate a TRE in accordance with an approved TRE work plan. The “Pass/Fail” trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

**c. Test of Significant Toxicity (TST)**

Order No. R1-2014-0013 established a numeric chronic toxicity trigger of  $1.0 \text{ TUc} = 100/\text{NOEC}$ , using a five-concentration hypothesis test. In 2010, U.S. EPA endorsed the peer-reviewed *Test of Significant Toxicity (TST) two-concentration hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA’s toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) mean response of regulatory management concern—than the No Observed Effect Concentration (NOEC) hypothesis-testing approach. The TST hypothesis testing approach more reliably identifies toxicity – in relation to the acute (0.20 or more) mean responses of regulatory management concern – than the NOEC approach used previously to establish effluent limitations for acute toxicity.

Since the TST approach has not previously been applied for determining reasonable potential or establishing effluent limitations for acute toxicity, this Order does not include effluent limitations for acute or chronic toxicity based on the TST approach. However, this Order does require the Permittee to monitor and report results in a manner that will allow the Regional Water Board to conduct an RPA in accordance with the TST approach at the time of the next permit renewal.

The State Water Board is developing a toxicity amendment to the Water Quality Control Plan for Enclosed Bays and Estuaries of California that will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA’s TST approach is an essential component of this draft toxicity amendment as it forms the

basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations.

In a letter dated February 12, 2014, the State Water Board submitted an alternative test process (ATP) request to U.S. EPA Region 9 for the statewide use of a two-concentration toxicity test design when using the TST approach. This two-concentration test design is composed of a single effluent concentration and a control concentration. U.S. EPA approved the ATP request on March 17th, 2014. In June 2014, the approval was challenged in court on procedural grounds under the Administrative Procedures Act by the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the Central Valley Clean Water Association (CVCWA). The U.S. EPA withdrew the approval and notified the State Water Board in a memo dated February 11, 2015.

It is important to note that U.S. EPA's rescission of its approval of the ATP is not based on the substantive TST statistical analysis or the scientific validity of a two-concentration test design. The withdrawal letter also states that currently there is a proposed rulemaking to change the language in the ATP regulations at 40 C.F.R. part 136.

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test and simplifying the analysis as compared to the traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical analyses. Toxicity tests shall be run using a multi-concentration test design in accordance with 40 C.F.R. section 136.3, and the TST shall be utilized with the biological responses from the permitted in-stream waste concentration (IWC) and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the Permittee, lab, and permit manager. This Order requires application of the TST for statistical analysis of whole effluent toxicity data.

#### Tests of Significant Toxicity Design

The TST's null hypothesis for chronic toxicity is:

$H_0$ : Mean response (IWC in % effluent)  $\leq$  0.75 mean response (control)

Results are analyzed using the TST approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

The chronic IWC (in % effluent) for Discharge Point 001 is 100%. The chronic toxicity trigger for Discharge Point 001 is expressed as a null hypothesis ( $H_0$ ) and regulatory management decision (b value) of 0.75 for the chronic toxicity methods in the MRP.

The null hypothesis for this discharge is:

$H_0$ : Mean response (100% effluent)  $\leq$  0.75 mean response (control)

Results shall be analyzed using the TST hypothesis testing approach in section V.B.6.a of the MRP. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

When the chronic toxicity test results in a “Fail” or “F,” the Permittee must initiate accelerated monitoring as specified in the MRP (Attachment E, section V). After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Permittee will be required to conduct a TRE, as described by the MRP.

Notification requirements for chronic WET testing include a 72-hour verbal notification requirement and a 14-day written report requirement, if test results indicate toxicity. The 14-day written notification is established in the U.S. EPA WET Guidance documents cited in the MRP. The 72-hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72-hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

This Order includes a requirement for the Permittee to conduct a screening test using at least one vertebrate, invertebrate, and plant species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

Chronic WET limitations will be established if future monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

**d. Ammonia-Related Toxicity**

The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity. Ammonia toxicity in water is due mostly to its unionized fraction which is primarily a function of the temperature and the pH of the water being tested. As the pH and temperature increase so does the toxicity of a given concentration of ammonia. In static WET tests, the pH in the test concentrations often increases (drifts) due to the loss of carbon dioxide (CO<sub>2</sub>) from the test concentrations as the test chambers are incubated over the test period. This upward drift results in pH values in the test concentrations that often exceed those pH values that could reasonably be expected to be found in the effluent or in the mixing zone under ambient conditions. Unionized ammonia toxicity caused by pH drift is considered to be an artifact of test conditions and is not a true measure of the ammonia toxicity likely to occur as the discharge enters the receiving waters. In order to reduce the occurrence of artifactual unionized ammonia toxicity, it may be necessary to control the pH in toxicity tests, provided the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide. This Order authorizes the use of pH control procedures where the procedures are consistent with USEPA methods and do not significantly alter the test water chemistry so as to mask other sources of toxicity.

**D. Final Effluent Limitation Considerations**

**1. Anti-Backsliding Requirements**

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit,

with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2014-0013, with the exception of total coliform and mass-based effluent limitations for BOD<sub>5</sub> and TSS.

Order No. R1-2014-0013 included effluent limitations for total coliform that included a maximum daily effluent limitation of 230 MPN/100 mL. This Order revises the maximum daily total coliform effluent limitation to 240 MPN/100 mL, based on the title 22 requirements for disinfected secondary-23 treated effluent. CWA section 402(o)(1) prohibits the establishment of less stringent WQBEL's "except in compliance with Section 303(d)(4)." CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

- a. For waters where standards are not attained, CWA section 304(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDL's or WLA's will assure the attainment of such water quality standards.
- b. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

The Eel River is considered an attainment water for total coliform because the receiving water is not listed as impaired on the 303 (d) list for these constituents. Relaxation of the effluent limitations for total coliform complies with federal and state antidegradation requirements and meets the exception in CWA section 303 (d)(4)(B).

Order No. R1-2014-0013 established final mass-based effluent limitations for BOD<sub>5</sub> and TSS at Discharge Point 001. Historically, the Regional Water Board routinely incorporated mass-based limits (in addition to concentration-based limits) for BOD<sub>5</sub> and TSS in NPDES permits to encourage correction of inflow and infiltration (I&I). Applied in this way, mass-based limitations effectively restrict a POTW's wet weather influent flows to less than or equal to the Facility's design capacity in situations where POTWs experience excessive I&I as a result of climate conditions and/or aging infrastructure. The application of mass-based effluent limitations for BOD<sub>5</sub> and TSS is not necessary to limit wet weather inflow to the Facility because the Order includes flow limitations (Discharge Prohibition III.H) that require the Permittee to control influent flow to stay below the design capacity of the Facility, and because the Permittee has recognized sources of I&I and has planned improvements to the collection system to reduce I&I into the Facility. The Permittees plans include replacement of 4,000 feet of pipe, 57 lateral connections along rehabilitated sections of the mainline, lateral connections along previously repaired CIPP mainlines, and one manhole.

Mass limitations for BOD<sub>5</sub> and TSS for discharges of treated wastewater have been removed because Regional Water Board staff misinterpreted the exception of 40 C.F.R. section 122.45(f)(2), which states that mass limitations are not required "*when applicable standards and limitations are expressed in terms of other units of measure.*" Secondary treatment standards for BOD<sub>5</sub> and TSS in 40 C.F.R. section 133.102, on which the effluent limitations in previous permits were based, are expressed in terms of concentration and percent removal (i.e., other units of measure). The relaxation of effluent limitations for BOD<sub>5</sub> and TSS in this Order is permissible under CWA section 402(o)(2)(B)(ii), because Regional Water Board staff has determined that mass-based limitations for BOD<sub>5</sub> and TSS were

applied in the previous permits as a result of a mistaken interpretation of law when issuing those previous permits.

In addition, Regional Water Board staff previously held that anti-backsliding regulations prevented the removal of mass-based limitations for BOD<sub>5</sub> and TSS because they were appropriate and necessary to protect water quality and prevent water quality degradation in receiving waters. While it is conceivable that the absence of mass-based limitations for these pollutants may result in an increased pollutant loading to surface waters, recent self-monitoring reports indicate that compliance with concentration-based effluent limitations for BOD<sub>5</sub> and TSS effectively maintain the Permittee's mass emission rates for BOD<sub>5</sub> and TSS well below permitted mass-based limitations. In addition, even if there is a resulting increase in pollutant loading, there is no evidence that the increase will result in degradation of water quality. Therefore, relaxation of effluent limitations for BOD<sub>5</sub> and TSS in this Order is also permissible under CWA section 402(o)(2)(B)(i), based on new information available to the Regional Water Board.

## **2. Antidegradation Policies**

State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality Waters in California (the Antidegradation Policy) requires that disposal of waste into waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires that (1) higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial use of the water, and will not result in water quality less than that prescribed in the policies; and (2) any activity that produces a waste or may produce waste or increased volume or concentration of waste and discharges to existing high quality water will be required to meet waste discharge requirements that will result in the best practicable treatment or control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

Discharges from the Facility are required to maintain protection of the beneficial uses of the receiving water and comply with applicable provisions of the Basin Plan.

This Order is consistent with applicable federal and state antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2014-0013.

## **3. Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD<sub>5</sub>, pH, and TSS. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations for pH, settleable solids, chlorine residual, total dissolved solids, total coliform bacteria, nitrate,

ammonia, copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, and heptachlor that are more stringent than the minimum federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section IV.C.3 of the Fact Sheet.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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

This Order does not establish interim effluent limitations or schedules for compliance with final limitations. However, Time Schedule Order No. R1-2020-0003 establishes interim effluent limitations for copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane and nitrate. Time Schedule Order No. R1-2020-0003 is proposed to be issued concurrently with this Order.

**F. Land Discharge Specifications and Requirements – Not Applicable**

This Order does not authorize discharges to land.

**G. Water Recycling Specifications and Requirements**

The Permittee has a recycled water system to irrigate neighboring agricultural land from May 15 through September 30. These requirements are to take effect upon completion of the upgraded treatment plant and recycled water location.

**1. Scope and Authority**

Section 13263 of the Water Code requires the Regional Water Board to prescribe requirements for proposed discharges, existing discharges, or material changes in an existing discharge based upon the conditions of the disposal area or receiving waters upon or into which the discharge is made or proposed. The prescribed requirements shall implement any relevant water quality control plans that have been adopted and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241. In prescribing requirements, the Regional Water Board is not obligated to authorize the full waste assimilation capacities of the receiving water.

Water Code section 13241 requires the Regional Water Board to establish water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and prevention of nuisance, recognizing that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. The Basin Plan establishes water quality objectives specific to the North Coast Region for the protection of past, present, and probable future beneficial uses of



water. Factors required for consideration during development of applicable water quality objectives, such as the characteristics of the hydrographic unit under consideration, economic considerations, and other factors required in accordance with section 13241 were considered during the Basin Planning and adoption process.

Here, the Regional Water Board considered all of these factors when developing the waste discharge requirements for the recycled water discharge at Discharge Point 002. Limitations for BOD<sub>5</sub>, pH, TSS, and settleable solids were scientifically derived to implement water quality objectives that protect beneficial uses. Both beneficial uses and the water quality objectives have been approved pursuant to state law. In addition, discharge prohibitions were included to prohibit the discharge or recycling use of untreated or partially treated waste, in order to protect public health and prevent nuisance.

The Regional Water Board considered the factors set forth in Water Code section 13241, including the consideration of past, present, and probable future beneficial uses of the receiving water, which the Regional Water Board anticipates to be the same as set forth in the Basin Plan. The Regional Water Board considered the environmental characteristics, including water quality of the Ferndale Hydrologic Subarea of the Eel River Hydrologic Unit, the coordinated control of all factors that affect water quality in the area, and the need to develop and use recycled water, which this Order supports. The Permittee did not submit any evidence regarding whether the waste discharge requirements for recycled water discharges would interfere with the development of needed housing within the region or the cost of compliance, particularly anything to show that the cost of compliance with the order would be unmanageable.

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

- a. Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include municipal and domestic supply (MUN), industrial service supply (IND), industrial process supply (PRO), agricultural supply (AGR), freshwater replenishment to surface waters (FRSH), native American culture (CUL), and aquaculture (AQUA).
- b. Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for taste and odor, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

## **3. Determining the Need for Requirements for Water Recycling**

- a.** Section IV.C of this Order contains Water Recycling Specifications and Requirements to ensure that the recycled water produced and used by this Facility meets minimum requirements for the protection of groundwater and surface water. The Water Recycling Specifications are established in this Order to conform to requirements contained in title 22, division 4, chapter 3 of the CCR for the recycling use of disinfected secondary-23 effluent. The Permittee is required to comply with applicable state and local requirements regarding the production and use of recycled wastewater, including requirements of Water Code sections 13500 – 13577 (Water Reuse) and DDW regulations at title 22, sections 60301 – 60357 of the CCR (Water Recycling Criteria). Specific water recycling requirements are enumerated in Attachment G to this Order. The requirement to comply with title 22 requirements is newly established in this Order.

- b. BOD<sub>5</sub> and TSS.** This Order establishes recycled water specifications for BOD<sub>5</sub> and TSS that consist of an AMEL of 30 mg/L and an MDEL of 45 mg/L. These levels are technically achievable based on the capability of the secondary treatment system. These specifications are included in the Order to ensure discharges to the recycled water system receive proper treatment.
- c. pH.** This Order establishes instantaneous minimum and maximum effluent limitations for pH of 6.0 and 9.0, respectively, based on the technology-based effluent limitations required by U.S. EPA pursuant to 40 C.F.R. part 133. These pH limitations are included in the Order to ensure that pH levels are appropriate for the protection of groundwater when discharging to the recycled water system.
- d. Settleable Solids.** This Order establishes recycled water specifications for settleable solids that consist of an AMEL of 0.1 ml/L and a MDEL of 0.2 ml/L. These limitations reflect levels of treatment attainable by secondary treatment facilities.
- e. Coliform Bacteria.** This Order includes recycled water specifications for total coliform bacteria that reflect standards for secondary treated recycled water in the Basin Plan (Section 4, Implementation Plans) as adopted by the DDW in title 22 of the CCR. These specifications are included to ensure that recycled water quality is protective of human health. The specific limitations are those levels of bacteria required for the recycled water use of treated wastewater for surface irrigation of (i) pasture used for animals producing milk for human consumption and (ii) any nonedible vegetation where access is controlled.

#### **H. Other Requirements – Not Applicable**

### **V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

#### **A. Surface Water**

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan.

The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, specific conductance, suspended material, tastes and odors, temperature, total dissolved solids, toxicity, and turbidity.

The dissolved oxygen limitation in this Order reflects the new Basin Plan dissolved oxygen limit that was adopted by the Regional Water Board on June 18, 2015, and effective beginning April 24, 2017, after receiving approval from U.S. EPA. The new Basin Plan dissolved oxygen limitation specifies limits for the WARM, COLD, and SPWN beneficial uses. The COLD and SPWN beneficial uses occur in the Eel River and its tributaries. This Order includes only the SPWN limitations because it is the most restrictive and protective limit and the SPWN beneficial use is present throughout the entire discharge season.

## **B. Groundwater**

Groundwater limitations are included in the Order to protect the beneficial uses of the underlying groundwater. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater. Groundwater data must be evaluated using appropriate statistical tools to determine when groundwater degradation is occurring.

The Order includes a new groundwater toxicity limitation that was adopted by the Regional Water Board on June 18, 2015, and effective beginning July 18, 2016 after receiving approval from the California Office of Administrative Law. This new Basin Plan limit requires that groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, or that adversely affects beneficial uses. This limitation applies regardless of whether the toxicity is caused by a single substance or the synergistic effect of multiple substances.

## **VI. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

#### **1. Federal Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to the Order. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The rationale for the special conditions contained in the Order is provided in section VI.B, below.

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

#### **2. Regional Water Board Standard Provisions**

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions VI.A.2 of the Order.

- a.** Order Provision VI.A.2.a identifies the state's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).
- b.** Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable

to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

## **B. Special Provisions**

### **1. Reopener Provisions**

- a. Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:
  - i.** When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of 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 revised standards.
  - ii.** When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.
- b. Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.
- c. Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.
- d. 303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.
- e. Water Effects Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a WER or metal translator to a water quality objective for one or more priority pollutants.
- f. Nutrients (Special Provision VI.C.1.f).** This Order contains effluent limitations for ammonia and nitrate and effluent monitoring requirements for nutrients (ammonia and nitrate). This provision allows the Regional Water Board to reopen this Order if future monitoring data indicates the need for new or revised effluent limitations for any of these parameters.
- g. Salt and Nutrient Management Plans (Special Provision VI.C.1.g).** This provision allows the Regional Water Board to reopen this Order if needed to incorporate provisions consistent with any Regional or sub-regional salt and nutrient management

plan(s) adopted by the Regional Water Board or any amendments to the Recycled Water Policy that are applicable to the Permittee.

- h. Title 22 Engineering Report (Special Provision VI.C.1.h).** This provision allows the Regional Water Board to reopen this Order to adequately implement title 22, if necessary based on the Permittee's title 22 engineering report.

## **2. Special Studies and Additional Monitoring Requirements**

- a. Ammonia Study (Special Provision VI.C.2.a).** The 2013 Freshwater Criteria for ammonia vary based on pH and temperature, and reflect the latest scientific knowledge on the toxicity of ammonia to freshwater aquatic life, including new data on sensitive freshwater mussels and gill-breathing snails. Under most conditions, the 2013 Freshwater Criteria are more stringent than the 1999 Freshwater Criteria when mussels are present in the receiving water. Adequate information is not available to determine if these freshwater mussels are present in the receiving water. The 2013 Freshwater Criteria document states, *"In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site."* The 2013 Freshwater Criteria document contains recalculation procedures for situations where mussels are not present in the receiving water. This Order requires the Permittee to conduct a study to determine the presence of mussels in the receiving water and allows the Permittee to conduct the study on its own or in collaboration with other dischargers. The Regional Water Board shall use the results of this study to inform the determination of ammonia effluent limitations, if necessary, during the next permit renewal.
- b. Recycled Water BMP/Operations and Management Plan (Special Provision VI.C.2.b).** This Plan is newly established in this Order and is necessary to ensure that the recycled water irrigation system is operated at appropriate hydraulic and nutrient agronomic rates, utilizing appropriate BMPs and operations practices.
- c. Disaster Preparedness Assessment Report and Action Plan (Special Provision VI.C.2.c).** Natural disasters, extreme weather events, sea level rise, and shifting precipitation patterns, some of which are projected to intensify due to climate change, have significant implications for wastewater treatment and operations. Some natural disasters are expected to become more frequent and extreme according to the current science on climate change. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, this Order requires the Permittee to submit a Disaster Preparedness Assessment Report and Action Plan.
- d. New/Upgraded Facility Certification Report (Special Provision VI.C.4.c).** This provision requires the Permittee to certify any treatment plant upgrade or expansion.

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

- a. Pollutant Minimization Program (Special Provision VI.C.3.a).** This provision is included in this Order pursuant to section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

**4. Construction, Operation, and Maintenance Specifications**

- a. Operation and Maintenance (Special Provisions VI.C.4.a and b).** 40 C.F.R. section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of this Order, is an integral part of a well-operated and maintained facility.

**5. Special Provisions for Municipal Facilities (POTWs Only)**

**a. Wastewater Collection Systems (Special Provision VI.C.5.a)**

- i. Statewide General WDRs for Sanitary Sewer Systems.** On May 2, 2006, the State Water Board adopted General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order). The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all SSOs, among other requirements and prohibitions.

On February 20, 2008, the State Water Board adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, to ensure adequate and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities in case of sewage spills. On August 6, 2013, the State Water Board adopted Order No. WQ 2013-0058-EXEC Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. WQ 2013-0058-EXEC addressing compliance and enforceability of the Monitoring and Reporting Program and superseding the amendments in Order No. WQ-2008-0002-EXEC. Notification and reporting of SSOs is conducted in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC, and any revisions thereto for operation of its wastewater collection system.

**b. Source Control and Pretreatment Provisions (Special Provision VI.C.5.b).**

Pursuant to Special Provision VI.C.5.b.i, the Permittee shall implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system, and inspect facilities connected to the system.

40 C.F.R. section 403.8(a) requires POTWs with a total design flow greater than 5 mgd and receiving pollutants which pass through or interfere with the operation of the POTW to establish a POTW Pretreatment Program. The Regional Water Board may also require that a POTW with a design flow of 5 mgd or less develop a POTW Pretreatment Program if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant in order to prevent interference or pass through. The average dry weather design flow of the Facility is less than 5 mgd; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through

of pollutants to the receiving water, the Order requires the Permittee to implement a source control program.

Water Code section 13263.3(d)(1) allows the Regional Water Board to require a discharger to complete and implement a pollution prevention plan if pollution prevention is necessary to achieve a water quality objective, to include, pursuant to Water Code section 13263.3(d)(3), an analysis of the methods that could be used to prevent the discharge of the pollutants into the POTW. These methods can include application of local limits to industrial or commercial dischargers, pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of pollutants to the POTW. The analysis also shall identify sources, or potential sources, not within the ability or authority of the POTW to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible. This Order includes requirements for the Permittee to implement a source identification and reduction program.

A key component of an effective source control program is the identification and location of possible industrial users within the POTW's wastewater collection system. This information is typically obtained by the POTW through industrial waste surveys. The following types of resources can be consulted in compiling a master list of industrial users:

- i. Water and sewer billing records
- ii. Applications for sewer service
- iii. Local telephone directories
- iv. Chamber of Commerce and local business directories
- v. Business license records
- vi. POTW and wastewater collection personnel and field observations
- vii. Business associations
- viii. The internet
- ix. Industrial and non-residential sewer use permit records

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the Facility, the safety of Facility staff, and to ensure that pollutants do not pass through the treatment Facility to impair the beneficial uses of the receiving water. The proposed Order includes prohibitions for the discharge of pollutants that may interfere, pass through, or be incompatible with treatment operations, interfere with the use of disposal of sludge, or pose a health hazard to personnel.

- c. **Sludge Disposal and Handling Requirements (Special Provision VI.C.5.c).** The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 C.F.R. parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. The Permittee has indicated that all screenings, sludges, and solids removed from the liquid waste stream

are currently disposed of off-site at a permitted point of disposal (typically a municipal solid waste landfill) in accordance with all applicable regulations. See Fact Sheet section II.A for more detail.

- d. Biosolids Management (Special Provision VI.C.5.d).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. The Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.
- e. Operator Certification (Special Provision VI.C.5.e).** This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.
- f. Adequate Capacity (Special Provision VI.C.5.f).** The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

#### **6. Other Special Provisions**

- a. Storm Water (Special Provision VI.C.6.a).** This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, for Discharges of Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001). Currently, the Facility is exempted from these requirements based on the size of the Facility (less than 1 mgd).

#### **7. Compliance Schedules – Not Applicable**

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

### **VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 of 40 C.F.R. requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code section 13383 authorizes the Regional Water Board to require technical and monitoring reports. The MRP, Attachment E, establishes monitoring and reporting 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**

- 1.** Influent monitoring requirements at Monitoring Location INF-001 for BOD<sub>5</sub> and TSS are retained from Order No. R1-2014-0013 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.
- 2.** Influent monitoring requirements for flow at Monitoring Location INF-001 are newly established in this Order and are necessary to determine compliance with Discharge Prohibition III.H.



## **B. Effluent Monitoring**

1. Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Location EFF-001 is necessary to demonstrate compliance with effluent limitations and demonstrate whether the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.
  - a. Effluent monitoring frequencies and sample types for flow, dilution rate, BOD<sub>5</sub>, pH, TSS, settleable solids, chlorine residual, total coliform bacteria, hardness, temperature, and total dissolved solids have been retained from Order No. R1-2014-0013.
  - b. Effluent monitoring data collected during the term of Order No. R1-2014-0013 indicates that the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality objectives for copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, heptachlor, nitrate, ammonia, and total dissolved solids. Therefore, this Order retains monitoring requirements for copper, carbon tetrachloride, chlorodibromomethane, dichlorobromomethane, nitrate, ammonia, and total dissolved solids, from Order No. R1-2014-0013, and establishes monthly monitoring requirements for heptachlor.
  - c. Weekly effluent monitoring for *E. coli* has been established in this Order to verify that total coliform limits are protective of water contact recreation use consistent with the Statewide Bacteria Provisions.
  - d. Quarterly effluent monitoring for total mercury has been established in this Order to verify that the SUB beneficial use is being protected and is consistent with the Statewide Mercury Provisions.
  - e. Consistent with Order No. R1-2014-0013, this Order requires a full CTR priority pollutant scan once per permit term, with annual effluent monitoring for detected CTR priority pollutants thereafter, in order to generate adequate data to perform an RPA.

## **C. Whole Effluent Toxicity Testing Requirements**

WET monitoring requirements are retained from Order No. R1-2014-0013 with modifications to evaluate and report chronic toxicity using TST methods (see section IV.C.5 of this Fact Sheet). The WET requirements are included in this Order to determine compliance with effluent limitations and thereby protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth.

In addition to routine toxicity monitoring, this Order requires the Permittee to maintain and update their TRE Work Plan in accordance with appropriate U.S. EPA guidance to ensure that the Permittee has a plan to immediately move forward with the initial tiers of a TRE in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

**D. Recycled Water Monitoring Requirements**

1. This Order requires the Permittee to comply with applicable state and local requirements regarding the production and use of recycled water.
2. Recycled water monitoring requirements at Monitoring Location EFF-002 for BOD<sub>5</sub>, pH, TSS, settleable solids, total coliform, ammonia, nitrate, nitrite, total organic nitrogen, and total dissolved solid are newly established in this Order.
3. Recycled water production and use requirements in Table E-5 have been established in accordance with requirements in the State Water Board Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use.

**E. Receiving Water Monitoring**

**1. Surface Water**

**a. Monitoring Location RSW-001**

- i. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations. Upstream receiving water monitoring requirements for flow, pH, dissolved oxygen, hardness, specific conductance, temperature, total dissolved solids, turbidity, and CTR priority pollutants at Monitoring Location RSW-001 have been retained from Order No. R1-2014-0013.

**b. Monitoring Location RSW-002**

- i. Downstream receiving water monitoring requirements for pH, temperature, dissolved oxygen, specific conductance, total dissolved solids, and turbidity at Monitoring Location RSW-002 have been retained from Order No. R1-2014-0013.

**F. Other Monitoring Requirements**

1. **Disinfection Process Monitoring for UV Disinfection System (Monitoring Location INT-002).** UV disinfection system monitoring requirements at Monitoring Location INT-002 are included to assess compliance with UV disinfection specifications in section IV.D.2 of the Order.
2. **Visual Monitoring (Monitoring Locations EFF-001, RSW-001 and RSW-002).** Visual monitoring requirements at Monitoring Locations EFF-001, RSW-001 and RSW-002 are established in this Order and are necessary to ensure compliance with receiving water limitations in section V. of the Order.
3. **Discharge Monitoring Report Quality Assurance (DMR-QA) Study Program.** Under the authority of section 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires all permittees 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 Permittee can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Permittee 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 Permittee shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

4. **Accelerated Monitoring Requirements.** Table E-3 includes accelerated monitoring requirements for parameters that are required to be monitored weekly and monthly.
5. **Flow Monitoring.** Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.
6. **Spill Notification.** The MRP that is part of this Order establishes requirements for reporting spills and unauthorized discharges, with the exception of SSOs which must be reported in accordance with the requirements of State Water Board Order No. 2006-0003-DWQ and WQ-2013-0058-EXEC.

## VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Loleta Community Services District, Wastewater Treatment Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

### A. Notification of Interested Parties

The Regional Water Board notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at:  
[http://www.waterboards.ca.gov/northcoast/public\\_notices/public\\_hearings/npdes\\_permits\\_and\\_wdrs.shtml](http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml).

### B. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs as provided through the notification process. Comments were due to the Regional Water Board Executive Office electronically via e-mail to [NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov) or on disk (CD or DCD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <http://www.waterboards.ca.gov/northcoast>.

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 **December 5, 2019**.

### C. Public Hearing

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

Date: **February 6 and 7, 2020**  
Time: 8:30 a.m.  
Location: 5550 Skylane Boulevard, Suite A, Santa Rosa, California

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

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/northcoast> where you can access the current agenda for changes in dates and locations.

**D. Waste Discharge Requirements Petitions**

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 instruction on how to file a petition for review see [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

**E. Information and Copying**

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address identified in section VIII.C, above, at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

**F. Register of Interested Persons**

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

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Justin McSmith at [Justin.McSmith@Waterboards.ca.gov](mailto:Justin.McSmith@Waterboards.ca.gov) or (707) 576-2082.

# Attachment F-1 – Loleta Community Services RPA Summary

Constituent	Units	Qualifier	MEC	Qualifier	B <sup>1</sup>	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Antimony	µg/L	=	0.512	--	--	6.0	--	--	14	--	6.0	No
Arsenic	µg/L	=	0.41	--	--	10	340	150	--	--	10	No
Beryllium	µg/L	<	1	--	--	4.0	--	--	--	--	4.0	No
Cadmium	µg/L	<	1	--	--	2.7	5.0	2.7	--	--	5.0	No
Chromium (VI)	µg/L	<	1	--	--	11	16	11	--	--	50	No
Copper	µg/L	=	25	--	--	10	15	10	1,300	--	--	Yes
Lead	µg/L	=	0.258	--	--	3.6	92	3.6	--	--	--	No
Mercury	µg/L	<	1 <sup>1</sup>	--	--	0.0040 <sup>2</sup>	--	--	0.050	--	2.0	No
Nickel	µg/L	=	2.15	--	--	57	510	57	610	--	100	No
Selenium	µg/L	<	1	--	--	5.0	--	5.0	--	--	50	No
Silver	µg/L	<	1	--	--	4.8	4.8	--	--	--	--	No
Thallium	µg/L	<	1	--	--	1.7	--	--	1.7	--	2.0	No
Zinc	µg/L	=	49.9	--	--	130	130	130	--	--	--	No
Cyanide	µg/L	<	0.02	--	--	5.2	22	5.2	700	--	150	No
Asbestos	MFL	<	1.1	--	--	7.0	--	--	7.0	--	7.0	No
2,3,7,8 TCDD	µg/L	<	0.724	--	--	1.3 x 10 <sup>-8</sup>	--	--	1.3 x 10 <sup>-8</sup>	--	3.0 x 10 <sup>-5</sup>	No
Acrolein	µg/L	<	2	--	--	320	--	--	320	780	--	No
Acrylonitrile	µg/L	<	5	--	--	0.059	--	--	0.059	--	--	No
Benzene	µg/L	<	1	--	--	1.0	--	--	1.2	--	1	No
Bromoform	µg/L	<	5	--	--	4.3	--	--	4.3	--	--	No
Carbon Tetrachloride	µg/L	=	2.5	--	--	0.25	--	--	0.25	--	0.5	Yes
Chlorobenzene	µg/L	<	1	--	--	70	--	--	680	--	70	No
Chlorodibromomethane	µg/L	=	8.8	--	--	0.40	--	--	0.40	--	--	Yes
Chloroethane	µg/L	<	1	--	--	No Criteria	--	--	--	--	--	Uo
2-Chloroethylvinyl ether	µg/L	<	1	--	--	No Criteria	--	--	--	--	--	Uo
Chloroform	µg/L	=	180	--	--	No Criteria	--	--	--	--	--	Uo
Dichlorobromomethane	µg/L	=	40	--	--	0.56	--	--	0.56	--	--	Yes
1,1-Dichloroethane	µg/L	<	0.5	--	--	5.0	--	--	--	--	5.0	No
1,2-Dichloroethane	µg/L	<	0.5	--	--	0.38	--	--	0.38	--	0.50	No
1,1-Dichloroethylene	µg/L	<	0.5	--	--	0.057	--	--	0.057	--	6.0	No
1,2-Dichloropropane	µg/L	<	0.5	--	--	0.52	--	--	0.52	--	5.0	No
1,3-Dichloropropylene	µg/L	<	0.5	--	--	0.50	--	--	10	--	0.50	No
Ethylbenzene	µg/L	<	0.5	--	--	300	--	--	3,100	--	300	No
Methyl Bromide	µg/L	<	0.5	--	--	48	--	--	48	--	--	No
Methyl Chloride	µg/L	<	2	--	--	No Criteria	--	--	--	--	--	Uo
Methylene Chloride	µg/L	<	0.5	--	--	4.7	--	--	4.7	--	5.0	No
1,1,2,2-Tetrachloroethane	µg/L	<	0.5	--	--	0.17	--	--	0.17	--	1.0	No
Tetrachloroethylene	µg/L	<	0.001	--	--	0.80	--	--	0.80	--	5.0	No
Toluene	µg/L	=	1.5	--	--	150	--	--	6,800	--	150	No

Constituent	Units	Qualifier	MEC	Qualifier	B <sup>1</sup>	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
1,2-Trans-Dichloroethylene	µg/L	<	0.5	--	--	10	--	--	700	--	10	No
1,1,1-Trichloroethane	µg/L	<	1	--	--	200	--	--	--	--	200	No
1,1,2-Trichloroethane	µg/L	<	0.5	--	--	0.60	--	--	0.6	--	5.0	No
Trichloroethylene	µg/L	<	0.5	--	--	2.7	--	--	2.7	--	5.0	No
Vinyl Chloride	µg/L	<	0.5	--	--	0.50	--	--	2.0	--	0.50	No
2-Chlorophenol	µg/L	<	2	--	--	120	--	--	120	--	--	No
2,4-Dichlorophenol	µg/L	<	1	--	--	93	--	--	93	--	--	No
2,4-Dimethylphenol	µg/L	<	2	--	--	540	--	--	540	--	--	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<	10	--	--	13	--	--	13	--	--	No
2,4-Dinitrophenol	µg/L	<	5	--	--	70	--	--	70	--	--	No
2-Nitrophenol	µg/L	<	9.6	--	--	No Criteria	--	--	--	--	--	Uo
4-Nitrophenol	µg/L	<	10	--	--	No Criteria	--	--	--	--	--	Uo
3-Methyl 4-Chlorophenol	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Pentachlorophenol	µg/L	<	5	--	--	0.28	4.0	3.0	0.28	--	1.0	No
Phenol	µg/L	<	1	--	--	21,000	--	--	21,000	--	--	No
2,4,6-Trichlorophenol	µg/L	<	9.6	--	--	2.1	--	--	2.1	--	--	No
Acenaphthene	µg/L	<	0.27	--	--	1,200	--	--	1,200	--	--	No
Acenaphthylene	µg/L	<	0.011	--	--	No Criteria	--	--	--	--	--	Uo
Anthracene	µg/L	<	0.029	--	--	9,600	--	--	9,600	--	--	No
Benzidine	µg/L	<	5	--	--	0.00012	--	--	0.00012	--	--	No
Benzo(a)Anthracene	µg/L	<	0.023	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(a)Pyrene	µg/L	<	0.03	--	--	0.0044	--	--	0.0044	--	0.20	No
Benzo(b)Fluoranthene	µg/L	<	0.03	--	--	0.0044	--	--	0.0044	--	--	No
Benzo(ghi)Perylene	µg/L	<	0.029	--	--	No Criteria	--	--	--	--	--	Uo
Benzo(k)Fluoranthene	µg/L	<	0.029	--	--	0.0044	--	--	0.0044	--	--	No
Bis(2-Chloroethoxy)Methane	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Bis(2-Chloroethyl)Ether	µg/L	<	1	--	--	0.031	--	--	0.031	--	--	No
Bis(2-Chloroisopropyl)Ether	µg/L	<	9.6	--	--	1,400	--	--	1,400	--	--	No
Bis(2-Ethylhexyl)Phthalate	µg/L	<	1.5	--	--	1.8	--	--	1.8	--	4.0	No
4-Bromophenyl Phenyl Ether	µg/L	<	9.6	--	--	No Criteria	--	--	--	--	--	Uo
Butylbenzyl Phthalate	µg/L	<	9.6	--	--	3,000	--	--	3,000	--	--	No
2-Chloronaphthalene	µg/L	<	9.6	--	--	1,700	--	--	1,700	--	--	No
4-Chlorophenyl Phenyl Ether	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Chrysene	µg/L	<	0.028	--	--	0.0044	--	--	0.0044	--	--	No
Dibenzo(a,h)Anthracene	µg/L	<	0.027	--	--	0.0044	--	--	0.0044	--	--	No
1,2-Dichlorobenzene	µg/L	<	0.5	--	--	600	--	--	2,700	--	600	No
1,3-Dichlorobenzene	µg/L	<	0.5	--	--	400	--	--	400	--	--	No
1,4-Dichlorobenzene	µg/L	<	0.5	--	--	5.0	--	--	400	--	5.0	No
3,3 Dichlorobenzidine	µg/L	<	5	--	--	0.040	--	--	0.040	--	--	No
Diethyl Phthalate	µg/L	<	2	--	--	23,000	--	--	23,000	--	--	No
Dimethyl Phthalate	µg/L	<	2	--	--	313,000	--	--	313,000	--	--	No

Constituent	Units	Qualifier	MEC	Qualifier	B <sup>1</sup>	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Di-n-Butyl Phthalate	µg/L	<	10	--	--	2,700	--	--	2,700	--	--	No
2,4-Dinitrotoluene	µg/L	<	5	--	--	0.11	--	--	0.11	--	--	No
2,6-Dinitrotoluene	µg/L	<	5	--	--	No Criteria	--	--	--	--	--	Uo
Di-n-Octyl Phthalate	µg/L	<	9.6	--	--	No Criteria	--	--	--	--	--	Uo
1,2-Diphenylhydrazine	µg/L	<	1	--	--	0.040	--	--	0.04	--	--	No
Fluoranthene	µg/L	<	0.15	--	--	300	--	--	300	--	--	No
Fluorene	µg/L	<	9.6	--	--	1,300	--	--	1,300	--	--	No
Hexachlorobenzene	µg/L	<	1	--	--	0.00075	--	--	0.00075	--	1.0	No
Hexachlorobutadiene	µg/L	<	9.6	--	--	0.44	--	--	0.44	--	--	No
Hexachlorocyclopentadiene	µg/L	<	5	--	--	50	--	--	240	--	50	No
Hexachloroethane	µg/L	<	1	--	--	1.9	--	--	1.9	--	--	No
Indeno(1,2,3-cd)Pyrene	µg/L	<	0.035	--	--	0.0044	--	--	0.0044	--	--	No
Isophorone	µg/L	=	0.512	--	--	8.4	--	--	8.4	--	--	No
Naphthalene	µg/L	<	0.018	--	--	No Criteria	--	--	--	--	--	Uo
Nitrobenzene	µg/L	<	10	--	--	17	--	--	17	--	--	No
N-Nitrosodi-n-Propylamine	µg/L	<	5	--	--	0.0050	--	--	0.0050	--	--	No
N-Nitrosodiphenylamine	µg/L	<	9.6	--	--	5.0	--	--	5.0	--	--	No
Phenanthrene	µg/L	<	9.6	--	--	No Criteria	--	--	--	--	--	Uo
Pyrene	µg/L	<	0.04	--	--	960	--	--	960	--	--	No
1,2,4-Trichlorobenzene	µg/L	<	0.5	--	--	5.0	--	--	--	--	5.0	No
Aldrin	µg/L	<	0.0016	--	--	0.00013	3.0	--	0.00013	--	--	No
alpha-BHC	µg/L	<	0.0016	--	--	0.0039	--	--	0.0039	--	--	No
beta-BHC	µg/L	<	0.0018	--	--	0.014	--	--	0.014	--	--	No
gamma-BHC	µg/L	<	0.0018	--	--	0.019	0.95	--	0.019	--	0.2	No
delta-BHC	µg/L	<	0.0014	--	--	No Criteria	--	--	--	--	--	Uo
Chlordane	µg/L	<	0.034	--	--	0.00057	2.4	0.0043	0.00057	--	0.1	No
4,4'-DDT	µg/L	<	0.001	--	--	0.00059	1.1	0.0010	0.00059	--	--	No
4,4'-DDE	µg/L	<	0.002	--	--	0.00059	--	--	0.00059	--	--	No
4,4'-DDD	µg/L	<	0.0099	--	--	0.00083	--	--	0.00083	--	--	No
Dieldrin	µg/L	<	0.0018	--	--	0.00014	0.24	0.056	0.00014	--	--	No
alpha-Endosulfan	µg/L	<	0.0017	--	--	0.056	0.22	0.056	110	--	--	No
beta-Endosulfan	µg/L	<	0.00092	--	--	0.056	0.22	0.056	110	--	--	No
Endosulfan Sulfate	µg/L	<	0.0023	--	--	110	--	--	110	--	--	No
Endrin	µg/L	<	0.0019	--	--	0.036	0.086	0.036	0.76	--	2.0	No
Endrin Aldehyde	µg/L	<	0.0002	--	--	0.76	--	--	0.76	--	--	No
Heptachlor	µg/L	=	0.23	--	--	0.00021	0.52	0.0038	0.00021	--	0.010	Yes
Heptachlor Epoxide	µg/L	<	0.0015	--	--	0.00010	0.52	0.0038	0.00010	--	0.010	No
Toxaphene	µg/L	<	0.052	--	--	0.00020	0.73	0.00020	0.00073	--	3.0	No
Ammonia (mussels present)	mg/L	=	24	--	--	1.2	7.8	1.2	--	--	--	Yes
Ammonia (mussels absent)	mg/L	=	24	--	--	4.6	13	4.6	--	--	10	Yes
Nitrate	mg/L	=	50	--	--	10	--	--	--	--	1.0	Yes

Constituent	Units	Qualifier	MEC	Qualifier	B <sup>1</sup>	C	CMC	CCC	Water & Org	Org. Only	MCL	Reasonable Potential
Total Dissolved Solids	mg/L	=	840	--	--	500	--	--	--	--	500	Yes

Table Notes:

1. In accordance with the implementation procedures specified in section IV.D.2.c of the State Water Board's *Final 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* (Statewide Mercury Objectives), this value represents the maximum observed annual average concentration for comparison with the water column concentration.
2. Represents the water column concentration for translation of the fish tissue Water Quality Objective for protection of the COMM, WILD, and RARE beneficial uses applicable to the Russian River, a flowing waterbody, established in the Statewide Mercury Objectives.



## **ATTACHMENT G – RECYCLED WATER FINDINGS, USE REQUIREMENTS, PROVISIONS, AND TECHNICAL REPORT REQUIREMENTS**

The Recycled Water Findings, Use Requirements, Provisions, and Technical Report Requirements in this Attachment apply to the Permittee's recycled water system, including storage, distribution, and use.

### **A. Recycled Water Findings**

The North Coast Regional Water Quality Control Board (Regional Water Board) finds that:

#### **BACKGROUND INFORMATION**

1. "Recycled water" means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource. (Wat. Code, § 13050(n).)
2. In 1977, the State Water Board adopted Resolution No. 77-1, titled "Policy with Respect to Water Reclamation in California" (Resolution No. 77-1). Resolution No. 77-1, in part, encourages the use of recycled water in the state.
3. In 1996, the State Water Board and DDW set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled Memorandum of Agreement between the *Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water (MOA)*. This Order is consistent with the MOA.
4. Prior to July 1, 2014, CDPH provided public health recommendations to the Water Boards through review and approval of title 22 Engineering Reports prepared pursuant to California Code of Regulations, title 22, section 60323. The Water Boards then issue permits. Effective July 1, 2014, the administration of the Drinking Water Program, including responsibility for review of title 22 Engineering Reports was transferred from the CDPH to the State Water Board.
5. On February 3, 2009, the State Water Board adopted Resolution No. 2009-0011, Adoption of a Policy for the Water Quality Control of Recycled Water (Recycled Water Policy) (Revised January 22, 2013, effective April 25, 2013). The goal of Resolution No. 2009-0011 is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), as identified in Finding A.1, above. In accordance with the Recycled Water Policy, activities involving recycled water use that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
6. On June 3, 2014, the State Water Resources Control Board (State Water Board) adopted Order WQ 2014-0090, Waste Discharge Requirements for Recycled Water Use. On June 7, 2016, the State Water Board adopted Order WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use (General Order), amending and replacing Order WQ 2014-0090. The General Order was adopted to facilitate recycled water use and reduce demand on potable water supplies and encourages recycled water projects by maintaining a streamlined approach in permitting new recycled water users through a water recycling program. This Order (Order No. R1-

2018-0002) incorporates language from the General Order and supports the streamlined approach that allows the Permittee to add recycled water projects through the Permittee's recycled water program and in accordance with requirements of this Order.

7. The Uniform Statewide Recycling Criteria was established for the protection of public health and are codified in the California Code of Regulations, title 22, division 4, chapter 3 (herein referred to as Uniform Statewide Recycling Criteria). Approved uses of recycled water under the Uniform Statewide Recycling Criteria depend on the level of treatment and potential for public contact. Under the Uniform Statewide Recycling Criteria, recycled water is categorized based on treatment levels. There are four categories of recycled water relevant to this Order; they are listed here and defined in the indicated regulations section:

- a. Undisinfected secondary recycled water (Cal. Code Regs., tit. 22, § 60301.900.)
- b. Disinfected secondary-23 recycled water (Cal. Code Regs., tit. 22, § 60301.225.)
- c. Disinfected secondary-2.2 recycled water (Cal. Code Regs., tit. 22, § 60301.220.)
- d. Disinfected tertiary recycled water (Cal. Code Regs., tit. 22, § 60301.230.)

An approved title 22 Engineering Report addressing protection of public health is required before authorization to use recycled water is granted by the Regional Water Board Executive Officer.

8. Recycled water shall only be used consistent with the Uniform Statewide Recycling Criteria and requirements specified in this Order, including:
  - a. Written approval of a title 22 Engineering Report prior to delivery of recycled water for all use types proposed by the Permittee;
  - b. Use of recycled water are subject to backflow prevention, cross connection tests, and setback requirements to surface impoundments, wells, etc. as contained in the Uniform Statewide Recycling Criteria and the California Code of Regulations, title 17, division 1, article 2.
9. New uses of recycled water not identified at the time that this Order is adopted, may be authorized after Order adoption, as long as such new uses meet the requirements of this Order and an approved title 22 Engineering Report.
10. When used in compliance with the Recycled Water Policy, the Uniform Statewide Recycling Criteria, and all applicable state and federal water quality laws, the Regional Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to raw and potable water supplies for approved uses.
11. This Order authorizes beneficial, non-potable recycled water uses consistent with the Uniform Statewide Recycling Criteria and any additional requirements specified in the Permittee's ROWD and approved by DDW.
12. There are many sources of salts and nutrients in surface and groundwater, including leaching of naturally occurring salts in soils as a result of irrigation and precipitation, animal wastes, fertilizers and other soil amendments, municipal use including water softeners, and industrial wastewater.

13. The use of recycled water has the potential to increase nutrients in groundwater supplies. In order to minimize the nutrient loading, this Order requires that recycled water used for irrigation purposes be applied at agronomic rates.
14. The use of recycled water for irrigation has the potential to increase salts and other constituents in groundwater, but is not expected to be a significant source of salt loading relative to other potential sources, particularly when recycled water is used in the same watershed in which it would otherwise be discharged. Basin-specific salt and nutrient management plans, however, will provide definitive information on where assimilative capacity is available.
15. The Recycled Water Policy calls on local water and wastewater entities together with other stakeholders who contribute salt and nutrients to a groundwater basin or sub-basin, to fund and develop Salt and Nutrient Management Plans to comprehensively address all sources of salts and nutrients. The State and Regional Water Boards assert the need for comprehensive salt and nutrient management planning and directs that salinity and nutrient increases should be managed in a manner consistent with the Recycled Water Policy. It is the intent of the Recycled Water Policy that every groundwater basin/sub-basin in California ultimately has a consistent Salt and Nutrient Management Plan. The appropriate way to address salt and nutrient issues is through the development of regional or subregional Salt and Nutrient Management Plans.
16. According to Paragraph 7(b)(4) of the Recycled Water Policy, irrigation projects that qualify for streamlined permitting are not required to conduct project-specific receiving water and groundwater monitoring unless otherwise required by an applicable salt and nutrient management plan. This Order requires the Permittee to comply with any future salt and nutrient management plan adopted by the Regional Water Board. Until a salt and nutrient management plan is adopted, groundwater monitoring could be required as needed for development of the salt and nutrient management plan or if necessary to assess impacts of effluent disposal to the recycled water system.
17. The Recycled Water Policy includes monitoring requirements for Constituents of Emerging Concern<sup>1</sup> (CECs) for the use of recycled water for groundwater recharge by surface and subsurface application methods. The monitoring requirements and criteria for evaluating monitoring results in the Recycled Water Policy are based on recommendations from a Science Advisory Panel.<sup>2</sup> Because this General Order is limited to non-potable uses and does not authorize groundwater replenishment activities, monitoring for CECs is not required.
18. The Recycled Water Policy requires permits for landscape irrigation with recycled water to include priority pollutant monitoring at the recycled water production facility. Annual monitoring is required for design production flows greater than one million gallons per day; a five year monitoring frequency is required for flows less than one million gallons per day. Priority pollutants are listed in Appendix A of 40 Code of Federal Regulations (C.F.R.) Part 423.

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<sup>1</sup> For this Policy, CECs are defined to be chemicals in personal care products, pharmaceuticals including antibiotics, antimicrobials; industrial, agricultural, and household chemicals; hormones; food additives; transformation products, inorganic constituents; and nanomaterials.

<sup>2</sup> The Science Advisory Panel was convened in accordance with provision 10.b of the Recycled Water Policy. The panel's recommendations were presented in the report; *Monitoring Strategies for Chemicals of Emerging Concern (CECs) in Recycled Water - Recommendations of a Science Advisory Panel*, dated June 25, 2010.

- 19.** This Order requires the Permittee to minimize the potential for surface runoff of recycled water, but recognizes that even with diligent implementation of best management practices (BMPs), incidental runoff events may occur on occasion. Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas where agronomic rates and appropriate best management practices are being implemented. Examples of incidental runoff include unintended, minimal over-spray from sprinklers that escapes the recycled water use area or accidental breakage of a sprinkler head on a properly maintained irrigation system. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff events are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed. The Regional Water Board recognizes that such minor violations are unavoidable and present a low risk to water quality. All runoff incidents, including incidental runoff, shall be summarized in the Permittee's quarterly recycled water monitoring report. Enforcement action shall be considered for runoff that is not incidental, inadequate response by the Permittee to incidental runoff incidents, repeated runoff incidents that were within the Permittee's control, where incidental runoff directly causes violations of water quality objectives, incidents that create a condition of pollution or nuisance, and discharges that reach surface water in violation of Discharge Prohibitions in section III of the Order and/or Recycled Water Requirements in Attachment G, section B.4 or B.6.

#### **STATUTORY AND REGULATORY ISSUES**

- 20.** Pursuant to Water Code section 13523, the Regional Water Board, after consulting with and receiving the recommendation of the State Water Board DDW, may prescribe recycled water requirements for water that is used or proposed to be used as recycled water. The requirements shall be established in conformance with the Uniform Statewide Recycling Criteria pursuant to Water Code section 13521. Pursuant to Water Code section 13523 (b), the requirements for use of recycled water not addressed by the Uniform Statewide Recycling Criteria will be considered on a case-by-case basis by Regional Water Boards, after consulting with and receiving the recommendations of the State Water Board DDW. The State Water Board DDW provides such recommendations and conditions of approval through acceptance letters for title 22 Engineering Reports.
- 21.** This Order implements Water Code section 13523.1 which authorizes issuance of a Master Recycled Water Permit to suppliers or distributors, or both, of recycled water in lieu of issuing individual water recycled water requirements to each recycled water user.
- 22.** Effluent Limitations included in Order No. R1-2020-0002 will ensure compliance with requirements contained in title 22 and the DDW/State Water Board MOA.
- 23.** Recycled water shall only be used on areas that have been evaluated in compliance with the California Environmental Quality Act (CEQA). Future CEQA documents must evaluate the potential environmental impacts of recycled water use on a proposed use site and identify mitigation measures for the protection of water quality to be implemented.

Mitigation measures and BMPs must be clearly identified in an Operations and Management Plan as identified in Recycled Water Technical Report Requirement D.2.

- 24.** The uses of recycled water authorized by this Order are exempt from the requirements of Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste in California Code of Regulations, title 27, division 2, subdivision 1, section 20005, et seq. The activities are exempt from the requirements of title 27 so long as the activity meets, and continues to meet, all preconditions listed below. (Cal Code Regs., tit. 27, § 20090.)
- a.** Sewage—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to California Code of Regulations, title 23, division 3, chapter 9, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludge or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable State Water Board promulgated provisions of this division. (Cal. Code Regs., tit. 27, § 20090(a).)
  - b.** Wastewater—Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields if the following conditions are met: (1) the applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance; (2) the discharge is in compliance with the applicable water quality control plan; and (3) the wastewater does not need to be managed according to, California Code of Regulations, title 22, division 4.5, chapter 11, as a hazardous waste. (Cal. Code Regs., tit. 27, § 20090(b).)
  - c.** Reuse – Recycling of other use of materials salvaged from waste or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of Title 27 regulations.(Cal. Code Regs., tit. 27, § 20090(h).)
- 25.** Pursuant to Water Code section 106.5, 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 encouraging uses of recycled water. Such uses must be consistent with the requirements of California Code of Regulations (including the Uniform Statewide Recycling Criteria). This Order furthers the human right to water by encouraging use of recycled water, thus reducing demand on other sources, including use of potable water used for non-potable uses where recycled water is available.
- 26.** The Regional Water Board consulted with DDW, the Sonoma County Health Department, and the Marin Sonoma Mosquito and Vector Control District and considered any recommendations regarding public health aspects for this use of recycled water.

## **B. Recycled Water Use Requirements**

- 1.** The delivery of recycled water shall cease as soon as possible if:
  - a.** Disinfection of wastewater ceases at any time; or
  - b.** Recycled water specifications are violated or threaten to be violated.

2. The use of recycled water shall not result in unreasonable waste of water.
3. The use of recycled water shall not create a condition of pollution or nuisance as defined in Water Code section 13050(m).
4. The incidental runoff of recycled water shall not result in water quality less than that prescribed in water quality control plans or policies unless authorized through time schedule provisions in WDRs, waivers of WDRs, or conditional prohibitions regulating agricultural discharges from irrigated lands.
5. All recycled water provided pursuant to this Order shall be treated and managed in conformance with all applicable provisions of the Recycled Water Policy.
6. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of section IV.C of the Order and that all users of recycled water comply with the terms and conditions of this Order and with any rules, ordinances, or regulations adopted by the Permittee.
7. The Permittee shall discontinue delivery of recycled water during any period in which there is reason to believe that the quality of the delivered recycled water is not meeting the Uniform Statewide Recycling Criteria and any other requirements specified in this Order. Notification requirements are as follows:
  - a. The Permittee shall notify recycled water users if recycled water that does not meet the recycled water quality requirements of this Order is released into the recycled water system.
  - b. The Permittee shall notify the Regional Water Board and State Water Board DDW within one (1) business day of determining that delivery of off-specification recycled water has taken place.
  - c. In circumstances where the emergency requires termination of delivery to recycled water users, the Permittee shall copy the Regional Water Board and State Water Board DDW on any correspondence concerning non-compliance between the Permittee and its users. This notification does not supersede any notification requirements contained in Order Provision VI.A.2.b and Attachment D section V.E.
  - d. The delivery of recycled water shall not resume until all conditions have been corrected.
8. The Permittee shall require each recycled water user to report all violations of recycled water regulations identified in this Order, including runoff incidents. All reported violations of recycled water regulations shall be included in the Permittee's quarterly recycled water monitoring report, including incidental runoff events that the Permittee is aware of.
9. Uses of recycled water with frequent or routine application (i.e., agricultural or landscape irrigation uses) shall be at agronomic rates and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by plants. The Permittee is required to maintain and update an Implementation or Operations and Management Plan specifying agronomic rates and nutrient application for

the use area(s) and a set of reasonably practicable measures to ensure compliance with this General Order.

- a.** Hydraulic loading to any individual recycled water use site shall be at reasonable agronomic rates designed to minimize percolation of wastewater constituents below the evaporative and root zone.
  - b.** The Permittee must communicate to recycled water users the nutrient levels in the recycled water at least monthly during the irrigation season so that the recycled water users can appropriately evaluate fertilizer needs prior to application of fertilizers. If the Permittee demonstrates that the recycled water nutrient concentrations are low and consistent from month to month, then the Permittee may reduce the frequency of notifications upon approval by the Regional Water Board Executive Officer.
- 10.** Uses of recycled water that are infrequent (i.e., dust control, frost protection, firefighting, hydrostatic testing, etc.) shall be addressed by a set of reasonably practicable measures within an Implementation or Operations and Management Plan.
- 11.** Recycled water shall not be applied on water-saturated or frozen ground or during periods of precipitation such that runoff is induced.
- 12.** Recycled water shall not be allowed to escape the recycled use area(s) as surface flow that could either pond and/or enter surface waters. [CCR title 22, section 60310(e)] However, incidental runoff of recycled water, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area, or accidental breakage of a sprinkler head on a properly maintained irrigation system, is not a violation of this Order. Practices and strategies to prevent the occurrence of runoff shall include, where appropriate, but not be limited to:
  - a.** All new recycled water use sites shall include a 100-foot setback to all surface waters or provide written documentation of appropriate best management practices that will be implemented in order to prevent or minimize the potential for runoff discharging to surface water;
  - b.** Urban recycled water use sites shall maintain appropriate setbacks to the street gutter and other inlets to the storm drain system based on site conditions or implement alternative means to prevent the discharge of runoff to surface waters. [Urban]
  - c.** Implementation of an Operations and Maintenance Plan that provides for detection of leaks (for example, from sprinkler heads), and correction within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever comes first.
  - d.** Proper design and aim of sprinkler heads;
  - e.** Proper design and operation of the irrigation system;
  - f.** Refraining from application during precipitation events;
  - g.** Application of recycled water at an agronomic rate that does not exceed the water or nutrient demand of the crop or vegetation being irrigated;
  - h.** Use of repeat start times and multiple water days to increase irrigation efficiency and reduce runoff potential;

- i. Maintenance of recycled water infrastructure (pipelines, pumps, etc.) to prevent and minimize breakage and leaks; and
  - j. Adequate protection of all recycled water reservoirs and ponds against overflow, structural damage, or a reduction in efficiency resulting from a 25-year, 24-hour storm or flood event or greater, and notification of the Regional Water Board Executive Officer, if a discharge occurs.
- 13. Use areas that are spray irrigated and allow public access shall be irrigated during periods of minimal use. Consideration shall be given to allow maximum drying time prior to subsequent public use.
- 14. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities, roadways, or any other area where the public would be accidentally exposed to recycled water. [CCR title 22, section 60310(e)(3)]
- 15. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff. [CCR title 22, section 60310(e)(3)]
- 16. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.
- 17. The Permittee shall implement the requirements of the California Health and Safety Code (CHSC), section 116815 regarding the installation of purple pipe. CHSC section 116815 requires that *"all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape."* Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use. The Permittee shall document compliance with this requirement on an annual basis in its annual monitoring report. The Permittee shall continue to implement the requirements of CHSC section 116815 during the term of this Order. [Urban]
- 18. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access. [CCR title 22, section 60310(I)] [Urban]
- 19. There shall be no cross-connection between potable water supply and piping containing recycled water. [22 CCR, section 60310(h)] All Users of recycled water shall provide for appropriate backflow protection for potable water supplies as specified in California Code of Regulations, title 17, section 7604 or as determined by the State Water Board on a case-by-case basis to protect public health.
- 20. Disinfected tertiary recycled water shall not be irrigated within 50 feet of any domestic water supply well or domestic water supply surface intake, unless the technical requirements specified in CCR title 22, section 60310(a) have been met and approved by DDW.
- 21. The use of recycled water shall not cause degradation of any water supply.
- 22. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and



to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.

23. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide that include the following wording: 'RECYCLED WATER – DO NOT DRINK'. [CCR title 22, section 60310(g)] Each sign shall display an international symbol similar to that shown in CCR title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road. DDW may accept alternative signage and wording, or an educational program, provided that applicant demonstrates to DDW that the alternative approach will assure an equivalent degree of public notification.
24. DDW Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines provides guidance for the separation of new potable water mains and recycled water pipelines which shall be implemented as follows: [Urban]
  - a. There shall be at least a 4-foot horizontal separation between all pipelines transporting recycled water and those transporting disinfected tertiary recycled water and new potable water mains.
  - b. There shall be at least a 1-foot vertical separation at crossings between all pipelines transporting recycled water and potable water mains, with the potable water main above the recycled water pipeline, unless approved by the DDW.
  - c. All portions of the recycled water pipeline that cross under a potable water main shall be enclosed in a continuous sleeve.
  - d. Recycled water pipelines shall not be installed in the same trench as new water mains.
  - e. Where site conditions make it impossible to comply with the above conditions, any variation shall be approved by DDW and comply with alternative construction criteria for separation between sanitary sewers and potable water mains as described in the DDW document titled "Criteria for Separation of Water Mains and Sanitary Sewers", treating the recycled water line as if a sanitary sewer.
25. A minimum freeboard, consistent with pond design, but not less than 2 feet, shall be maintained under normal operating conditions in any reservoir or pond containing recycled water. When extraordinary operating conditions necessitate a freeboard of less than 2 feet, the Permittee will document the variance in the monthly self-monitoring report. The report will include an explanation of the circumstances under which the variance is required, the estimated minimum freeboard during the extraordinary period, and any permit violations occurring as a result of the variance.
26. The use of recycled water for dust suppression shall only occur during periods of dry weather, shall be limited to periods of short duration, and shall be limited to areas under the control of the Permittee.
27. The Permittee shall comply with any salt and nutrient management plan that is adopted by the Regional Water Board in the future.

#### **C. Recycled Water Provisions**

1. The Permittee shall manage recycled water, and shall develop, establish and enforce administrative procedures, engineering standards, rules, ordinances and/or

regulations governing the design and construction of recycled water systems and use facilities and the use of recycled water in accordance with the criteria established in CCR title 22 and this Order. The Permittee shall develop user agreements requiring user compliance with CCR title 22 and this Order. Recycled water engineering standards, rules, ordinances and/or regulations shall be approved by the Regional Water Board Executive Officer and DDW.

Upon approval of the Permittee's procedures, engineering standards, rules, ordinances, and/or regulations, the Permittee may authorize specific additional recycled water projects, in accordance with the approved program and agreements and in accordance with the technical report requirements in section D of this attachment (Attachment G).

2. The Permittee shall conduct periodic inspections of the recycled water use areas, facilities, and operations to monitor and assure compliance with the conditions of this Order. The Permittee shall take whatever actions are necessary, including termination of delivery of recycled water, to correct any user violations.
3. Where dual-plumbed systems are utilized, the Permittee shall, upon prior notification to the user, conduct regular inspections to assure cross-connections are not made with potable water systems and DDW approved backflow prevention devices are installed and operable. Reports of testing and maintenance shall be maintained by the Permittee. The Permittee may use a third party agent to perform cross-connection testing, however, the Permittee is solely responsible for compliance with conditions of this Order and the approved water recycling program.
4. The Permittee shall be responsible for ensuring that recycled water meets the quality standards of this Order and for the operation and maintenance of transport facilities and associated appurtenances. If an entity other than the Permittee has actual physical and ownership control over the recycled water transport facilities, the Permittee may delegate operation and maintenance responsibilities for such facilities to that entity through use agreements. The Permittee shall require the use of the recycled water to be in accordance with the Uniform Statewide Recycling Criteria and to comply with all requirements of this Order, including requirements to apply only at agronomic rates and not cause unauthorized degradation, pollution, or nuisance. If not the same entity, the Permittee shall provide water quality data and communicate to recycled water users the nutrient levels in the recycled water.
5. All persons involved in the operation and/or maintenance of the recycled water system shall attend training regarding the safe and efficient operation of recycled water use facilities.
6. The Permittee shall require recycled water users to comply with the Permittee's use area conditions. Use area requirements shall be consistent with requirements identified in this Attachment (Attachment G).
7. If recycled water will be transported by truck for uses consistent with the Uniform Statewide Recycling Criteria such as dust control, the Permittee shall provide notification and control measures for Users consistent with the provisions of the approved title 22 Engineering Report that addresses protection of public health.
8. A copy of the Water Recycling Use Permit must be provided to recycled water users by the Permittee (electronic format is acceptable). The recycled water users must have the

documents available for inspection by State and Regional Water Board staff, State/County officials, and/or the Permittee.

9. The Permittee shall comply with the recycled water monitoring and reporting requirements in Attachment E of this Order. This monitoring program shall be consistent with any applicable Salt and Nutrient Management Plan for the basin/sub-basin. The Permittee is responsible for collecting reports from the recycled water users. Where applicable, recycled water users are responsible for submitting on-site observation reports and use data to the Permittee, who will compile and file an annual report with the Regional Water Board. The Permittee, at its discretion, may assume any of its recycled water users' responsibility for on-site observation reports and use data.
10. The Permittee and Users shall maintain in good working order and operate as efficiently as possible any facility or control system to achieve compliance with this Order. The Permittee may use a third party agent to perform this task, however, the Permittee is solely responsible for compliance with conditions of this permit and the approved water recycling program.
11. The Permittee shall require that personnel receive training to assure proper operation of recycling facilities, worker protection, and compliance with this Order. The Permittee shall require Recycled Water Supervisor(s)<sup>3</sup> to be familiar with the conditions in this Order that apply to recycled water. The Recycled Water Use Supervisor(s) shall have authority to ensure recycled water use complies with this Order and the Uniform Statewide Recycling Criteria.
12. The Permittee shall assure that all above ground equipment, including pumps, piping, storage reservoir, and valves which may at any time contain recycled water are identified with appropriate notification as required by the Uniform Statewide Recycling Criteria and California Health and Safety Code section 116815. The Permittee may use a third party agent to perform this task, however, the Permittee is solely responsible for compliance with conditions of this permit and the approved water recycling program.
13. If, in the opinion of the Regional Water Board Executive Officer, recycled water use at proposed new locations cannot be adequately regulated under the Master Recycled Water Permit, a Report of Waste Discharge may be requested and individual Recycled Water Requirements may be adopted.
14. If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), the Permittee shall notify DDW and the Regional Water Board of any incidents of backflow from the dual-plumbed recycled water system into the potable water system within 24 hours of the discovery of the incident.
15. If the Permittee delivers recycled water to any dual-plumbed recycled water system(s), any backflow prevention device installed to protect the public water system serving the dual-plumbed recycled water system shall be inspected and maintained in accordance with section 7605 of title 17, CCR and MRP section VII.B.
16. Future dual-plumbed use areas shall comply with the following requirements:
  - a. Prior to the initial operation of the dual-plumbed recycled water system, the Permittee shall document that there are no cross-connections on-site within the

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<sup>3</sup> A person designated by the Permittee that acts as the coordinator between the Permittee (as the supplier of recycled water) and the recycled water users.

proposed dual-plumbed use area. A description of how the initial separation (cross-connection) test will be performed (pressure, dye, or other method) shall be provided to DDW. The dual-plumbed recycled water system shall be retested for possible cross-connection at least once every four years.

- b. The Permittee shall notify DDW prior to conducting the cross-connection control test. DDW staff may witness the test.
- c. Provide documentation to describe the method for cross-connection testing (pressure, dye, or other method) and the steps to be taken during the cross-connection control test.
- d. Annually thereafter, the Permittee shall ensure that the recycled water system (indoor and outdoor) is inspected for possible cross-connection with the potable watersystem.
- e. The inspectors and the testing shall be performed by a cross-connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. Please identify that person in a notification provided to DDW
- f. Each dual-plumbed use area must have an adequately trained use area supervisor in order to control the on-site piping and prevent any cross-connections. The use area supervisor must keep as-built plans up to date and on the site.
- g. The use area supervisor must be adequately trained on the use of recycled water. The use area supervisor must complete the training before recycled water is delivered.
- h. Verify that appropriate backflow prevention devices are installed and have been tested annually in accordance with California Code of Regulations Title 17. Devices must be located on the potable water line, downstream of the meter.
- i. The results of the cross-connection inspections and tests must be documented and submitted to DDW.
- j. Indicate whether any proposed dual-plumbed use area will receive supplemental water and provide details of properly designed air gap.

**D. Recycled Water Technical Report Requirements**

The Permittee shall maintain up-to-date recycled water technical reports, as follows:

- 1. The Permittee shall submit and maintain a DDW-approved title 22 Recycled Water Engineering Report that demonstrates and defines compliance with the Uniform Statewide Recycling Criteria (and any future amendments thereto);
- 2. The Permittee shall submit revised and/or additional engineering report(s) to the Regional Water Board and DDW, prior to initiating any recycled water use (e.g., new industrial use, recreational surface impoundments, water cooling, new dual-plumbed system, etc.) not addressed in any previously submitted CCR title 22 engineering report(s). The Permittee shall also submit any approval letters prepared by DDW to the Regional Water Board Executive Officer. Engineering report(s) shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain (1) a description of the design of the recycled water system; (2) a contingency plan which will assure that no untreated or inadequately

treated wastewater will be delivered to the use areas; and (3) a cross-connection control program (title 17 of the CCR) where a dual-plumbed system is used. Engineering reports shall clearly indicate the means for compliance with CCR title 22 regulations and this Order.

- 3.** Prior to the initial operation of any dual-plumbed recycled water system, and annually thereafter, the Permittee shall ensure that the dual-plumbed system within each facility and use area is inspected for possible cross connections with the potable water system. The recycled water system shall also be tested for possible cross connections at least once every four years. The testing shall be conducted in accordance with the method described in the Engineering Report. The inspections and the testing shall be performed by a cross connection control specialist certified by the California-Nevada section of the American Water Works Association or an organization with equivalent certification requirements. A written report documenting the result of the inspection or testing for the prior year shall be submitted to DDW and the Regional Water Board by March 1 of each year. [CCR title 22, section 60316]
- 4.** The Permittee shall submit and maintain an up-to-date Recycled Water Irrigation Operation and Management Plan that includes the following:

  - a.** A list of all recycled water users receiving or proposing to receive recycled water, the type of use for each user, the acreage and estimated amount of recycled water use at each use site; the method(s) of conveyance to each user; name(s) of the Recycled Water Use Supervisor at each use site, and maps of each use area.

    - i.** Table G-1 of this Order provides a list of existing recycled water use sites; and
    - ii.** Table G-1 will be updated by the Regional Water Board Executive Officer to include new use sites if and when the Permittee submits the required CEQA and technical information for proposed new use sites and receives approval from the Regional Water Board Executive Officer.
  - b.** For uses with frequent or routine application (such as irrigation), the Plan shall specify hydraulic and nutrient agronomic rates and demonstrate that the use areas will not exceed these rates, and identify BMPs that are protective of groundwater and surface water quality and human health. At a minimum, the Permittee shall implement the required BMPs identified in Recycled Water Requirement B.11 and implement other BMPs as appropriate.
  - c.** For uses with infrequent or non-routine applications (such as frost protection), the Plan shall specify a list of practices to ensure compliance with this Order.
  - d.** The Plan may include a water and nutrient budget for use area(s), use area supervisor training, periodic inspections, or other appropriate measures.
  - e.** A description of the recycled water operations and maintenance program, including a description of maintenance of equipment and emergency backup systems to maintain compliance with the use area requirements of this Order.; and
  - f.** Emergency procedures and notification.
- 5.** The Permittee shall submit and maintain a Water Recycling Administration report that includes:

- a.** A full description of the Permittee's water recycling program, including:
  - i.** Description of the Permittee's authority, rules, and/or regulations;
  - ii.** Design and implementation of the recycled water program;
  - iii.** Cross-connection testing responsibilities and procedures;
  - iv.** Monitoring and reporting program (MRP), if different from the MRP specified in this Order;
  - v.** Recycled water use area inspection program;
  - vi.** Compliance program;
  - vii.** The Permittee's training program for its employees and use area supervisors; and
  - viii.** Methods used to document that recycled water program procedures are followed (i.e., documentation of cross-connection testing, inspections, and employee and user training).
- b.** A description of the organization and responsibilities of pertinent personnel involved in the water recycling program, including:
  - i.** Organizational chart;
  - ii.** The name(s), title(s), and phone number(s) of contact person(s) who are charged with operation/oversight of the water recycling program, including the Permittee's recycled water staff and identification of Recycled Water Use Supervisors at each use site;
  - iii.** Identification of all agencies or entities involved in the production, distribution, and use of recycled water;
  - iv.** A description of legal arrangements, such as, but not limited to, charters, agreements, or Memorandum of Understanding, and inclusion of such legal documents.

The recycled water use site identified in the table below and on the attached map is an approved recycled water use site.

**Table G-1. Approved Recycled Water Use Sites**

Map ID	Customer	APN	Type of Use/Irrigation Types	Total Site Acreage/Irrigated Acreage	Volume of Recycled Water (acre feet)
	Jim Renner	309-191-012-	Spray Irrigation	47	

# ATTACHMENT H – AMEL AND MDEL AMMONIA STANDARDS BASED ON THE 2013 FRESHWATER ACUTE CRITERIA

**Table H-1. pH and Temperature Dependent AMEL Ammonia Criteria**

pH	Temp (°C)																	
	0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0
6.5	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
6.6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6.7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6.8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6.9	8	8	8	8	8	8	8	8	8	8	8	8	7.7	7.7	7.7	7.7	7.7	7.7
7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
7.1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
7.2	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
7.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
7.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
7.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
7.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
7.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
7.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
7.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
8.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
8.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
8.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
8.4	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
8.5	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
8.6	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.50
8.7	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.40
8.8	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.35	0.32
8.9	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.30	0.28	0.26
9.0	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.22	0.21



**Table H-2. pH and Temperature Dependent MDEL Ammonia Criteria**

pH	Temp (°C)																	
	0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0
6.5	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
6.6	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
6.7	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29
6.8	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
6.9	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
7.0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
7.1	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
7.2	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
7.3	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
7.4	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
7.5	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
7.6	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
7.7	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
7.9	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
8.0	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
8.1	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
8.2	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
8.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
8.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
8.5	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0
8.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
8.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
8.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1
8.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.91	0.84
9.0	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.79	0.73	0.67

## ATTACHMENT I - EXAMPLE AMMONIA IMPACT RATIO (AIR) CALCULATOR

[illegible]