

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION**

5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403-1072
Phone (707) 576-2220 • Fax (707) 523-0135
[California State Water Resources Control Board Website](http://www.waterboards.ca.gov)
(<http://www.waterboards.ca.gov>)

**ORDER No. R1-2024-0016
NPDES NO. CA0022888
WDID NO. 1B84029OMEN**

Waste Discharge Requirements and Water Recycling Permit

for the

**City of Ukiah
Wastewater Treatment Plant
Mendocino County**

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

Permittee	City of Ukiah
Name of Facility	City of Ukiah Wastewater Treatment Plant
Facility Address	300 Plant Road Ukiah, CA 95482 Mendocino County

Table 1. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
001	Tertiary Treated Wastewater	39° 07' 07"	123° 11' 28"	Russian River
002	Secondary Treated Wastewater	--	--	Percolation Ponds Adjacent to the Russian River

HECTOR BEDOLLA, CHAIR | VALERIE QUINTO, EXECUTIVE OFFICER

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
003	Tertiary Treated Wastewater	--	--	Recycled Water System

This Order was adopted on: **August 15, 2024**
 This Order shall become effective on: **October 1, 2024**
This Order shall expire on: September 30, 2029

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, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than: **September 30, 2028**. 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: **Major**

I, Valerie Quinto, 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 the date indicated above.

Valerie Quinto, Executive Officer

TABLE OF CONTENTS

1. Facility Information 5

2. Findings..... 5

 2.1. Legal Authorities..... 5

 2.2. Background and Rationale for Requirements..... 5

 2.3. Provisions and Requirements Implementing State Law 5

 2.4. Notification of Interested Parties..... 5

 2.5. Consideration of Public Comment..... 6

 2.6. Anticipated Water Quality Impacts in Disadvantaged or Tribal
 Communities..... 6

3. Discharge Prohibitions 7

4. Effluent Limitations and Discharge Prohibitions 8

 4.1. Effluent Limitations – Discharge Points 001 and 002 8

 4.2. Land Discharge Specifications and Requirements – Discharge Point 002 10

 4.3. Water Recycling Specifications and Requirements – Discharge Point 003 12

 4.4. Other Requirements 13

5. Receiving Water Limitations..... 14

 5.1. Surface Water Limitations 14

 5.2. Groundwater Limitations..... 17

6. Provisions..... 18

 6.1. Standard Provisions 18

 6.2. Monitoring and Reporting Program (MRP) Requirements 19

 6.3. Special Provisions 19

7. Compliance Determination 27

TABLE OF TABLES

Table 1. Discharge Location..... 1

Table 2. Effluent Limitations – Discharge Point 001 9

Table 3. Land Discharge Specifications – Discharge Point 002 11

Table 4. Recycled Water Discharge Specifications – Discharge Point 003..... 12

TABLE OF ATTACHMENTS

Attachment A - Definitions..... A-1

Attachment B - Map..... B-1

Attachment C - Flow Schematic C-1

Attachment D - Standard Provisions D-1

Attachment E - Monitoring and Reporting Program..... E-1
Attachment F - Fact Sheet F-1
Attachment G - AMEL and MDEL Ammonia Standards Based on 2013
 Freshwater Acute Criteria G-1
Attachment H - Example Ammonia Impact Ratio (AIR) Calculator..... H-1

1. **FACILITY INFORMATION**

Information describing the City of Ukiah (Permittee) Wastewater Treatment Plant (Facility) is summarized on the cover page and in sections 1 and 2 of the Fact Sheet (Attachment F). Section 1 of the Fact Sheet also includes information regarding the Facility's permit application.

2. **FINDINGS**

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board), finds:

2.1. **Legal Authorities**

This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Permittee to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order. This Order also serves as WDRs for recycled water production pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

2.2. **Background and Rationale for Requirements**

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

2.3. **Provisions and Requirements Implementing State Law**

The provisions/requirements in subsections 3.5, 3.6, 4.2, 4.3, 5.2 and 6.3.6.2 and section 6, 7, and 10.5 of the 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.

2.4. **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 discharger and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

2.5. **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.

2.6. **Anticipated Water Quality Impacts in Disadvantaged or Tribal Communities**

The Permittee, the City of Ukiah, operates a wastewater treatment facility within a disadvantaged community located along the Russian River in Mendocino County. The discharge is classified as "major" under federal regulations. Among other updates, this renewed permit contains new requirements to implement bacteria objectives for inland surface waters used for water contact recreation. Expanded monitoring and reporting requirements are also included in the renewed Order to monitor compliance with applicable water quality objectives. The Order does not contain a time schedule for meeting applicable water quality objectives, an alternative compliance path that allows time to come into compliance with water quality objectives, or a water quality variance (Wat. Code, section 13149.2, subd. (d)); all requirements must be met upon Order adoption.

The Regional Water Board publicly noticed the permit and provided opportunities for public comment. Public notice was provided to interested persons and public agencies in the region with jurisdiction over natural resources in the affected area, including the Mendocino County Department of Environmental Health. While the discharge regulated by this Order is not expected to result in a disproportionate impact on water quality in tribal or disadvantaged communities, the Regional Water Board has conducted outreach consistent with Water Code section 189.7.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R1-2018-0035 is 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 Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous Order.

3. DISCHARGE PROHIBITIONS

- 3.1. The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- 3.2. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.
- 3.3. The discharge of sludge or digester supernatant is prohibited, except as authorized under section 6.3.5.2 of this Order (Sludge Disposal and Handling Requirements).
- 3.4. The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section 2.1 of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions 1.7 (Bypass) and 1.8 (Upset).
- 3.5. The discharge of waste to land that is not owned by the Permittee, governed by City 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).
- 3.6. The discharge of recycled, filtered wastewater to any use area not addressed in a DDW-accepted title 22 Recycled Water Engineering Report is prohibited.
- 3.7. The discharge of waste at any point not described in Finding 2.2 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.
- 3.8. The average dry weather flow of waste through the Facility shall not exceed 3.01 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 24.5 mgd, measured daily. The peak daily wet weather flow of waste through the advanced wastewater treatment system shall not exceed 7.0 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections 7.10 and 7.11 of this Order.
- 3.9. The discharge of waste to the Russian River and its tributaries is prohibited during the period from May 15 through September 30 of each year.
- 3.10. During the period from October 1 through May 14, discharges of treated wastewater to the Russian River shall not exceed one percent of the flow of the Russian River, as measured near Hopland at USGS Gauge No. 11462500. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

- 3.10.1. The discharge of advanced 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 Russian River near Hopland at USGS Gauge No. 11462500. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,
- 3.10.2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River measured near Hopland at USGS Gauge No. 11462500 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.
- 3.11. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.
- 3.12. The acceptance of septage to a location other than an approved septage receiving station is prohibited.

4. EFFLUENT LIMITATIONS AND DISCHARGE PROHIBITIONS

4.1. Effluent Limitations – Discharge Points 001 and 002

4.1.1. Final Effluent Limitations – Discharge Point 1

- 4.1.1.1. The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001B as described in the MRP (Attachment E). The advanced treated wastewater shall be adequately oxidized, filtered, and disinfected as defined in title 22, division 4, chapter 3, of the CCR.

Table 2. Effluent Limitations – Discharge Point 001

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L ⁰	10	15	--	--	--
Total Suspended Solids	mg/L	10	15	--	--	--
pH	standard units	--	--	--	6.5	8.5
Copper, Total Recoverable	µg/L	22	--	51	--	--
Dichlorobromomethane	µg/L	0.56	--	1.4	--	--
2,3,7,8 TCDD	µg/L	1.3x10 ⁻⁸	--	2.6x10 ⁻⁸	--	--
Ammonia Nitrogen, Total (as N) ⁽²⁾	Ratio	1.0	--	1.0	--	--
Chlorine, Total Residual ⁽³⁾	mg/L	0.01	--	0.02	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--

Table Notes

1. See Definitions in Attachment A and Compliance Determination discussion in section 7 of this Order.
2. 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 H 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 G 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.
3. See section 7.13 of this Order regarding compliance with chlorine residual effluent limitations.

- 4.1.1.2. **Percent Removal:** The average monthly percent removal of BOD₅ and total suspended solids 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-001B, respectively.
- 4.1.1.3. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to the Russian River shall not contain coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001A:
- 4.1.1.3.1. The median concentration shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mL) using the bacteriological results of the last 7 days for which analyses have been completed;
- 4.1.1.3.2. The number of coliform bacteria shall not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period; and
- 4.1.1.3.3. No sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.
- 4.1.1.4. **Chronic Aquatic Toxicity.** To determine compliance with the water quality objective for toxicity in the Basin Plan, the discharge, as measured at Monitoring Location EFF-001B, shall meet the following effluent limitations:
- 4.1.1.4.1. **Maximum Daily Effluent Limitation.** No chronic toxicity test shall result in a “fail” at the IWC for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.
- 4.1.1.4.2. **Median Monthly Effluent Limitation.** No more than one chronic aquatic toxicity test initiated in a calendar month shall result in a “fail” at the IWC for any endpoint.

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

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

4.2. **Land Discharge Specifications and Requirements – Discharge Point 002**

4.2.1. **Final Discharge Specifications – Discharge Point 002**

- 4.2.1.1. The discharge of treated wastewater shall maintain compliance with the following discharge specifications at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the MRP (Attachment E). The secondary treated wastewater shall be adequately oxidized and disinfected as defined in title 22, division 4, chapter 3, of the CCR.

Table 3. Land Discharge Specifications – Discharge Point 002

Parameter	Units	Average Monthly	Maximum Daily	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
pH	standard units	--	--	--	6.0	9.0

Table Notes

1. See Definitions in Attachment A and Compliance Determination discussion in section 7 of this Order.

4.2.1.2. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 002 to the percolation ponds shall not contain coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-002:

4.2.1.2.1. The median concentration shall not exceed an MPN of 23 per 100 milliliters (mL) using the bacteriological results of the last 7 days for which analyses have been completed; and

4.2.1.2.2. The number of coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.

4.3. Water Recycling Specifications and Requirements – Discharge Point 003

4.3.1. Water Recycling Specifications

4.3.1.1. When discharging to the recycled water system, the Permittee shall maintain compliance with the following limitations at Discharge Point 003, with compliance measured at Monitoring Location REC-001, as described in the attached MRP (Attachment E).

Table 4. Recycled Water Discharge Specifications – Discharge Point 003

Parameter	Units	Average Monthly	Maximum Daily	Maximum Daily	Instantaneous Maximum	Instantaneous Minimum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	10	15	--	--	--
Total Suspended Solids	mg/L	10	15	--	--	--
pH	standard units	--	--	--	6.0	9.0

Table Notes

1. See Definitions in Attachment A and Compliance Determination discussion in section 7 of this Order.

4.3.1.2. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 003 to the recycled water system shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location REC-001:

4.3.1.2.1. The median concentration shall not exceed an MPN of 2.2 per 100 mL, using the bacteriological results of the last 7 days for which analyses have been completed;

4.3.1.2.2. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 mL, in more than one sample in any 30-day period; and

4.3.1.2.3. No sample shall exceed an MPN of 240 per 100 mL.

4.3.2. **Water Recycling Requirements**

4.3.2.1. This Order includes water recycling requirements that apply to the production and storage of recycled water. The Permittee has separately obtained coverage under State Water Board Order No. WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use (Recycled Water General Order) to regulate recycled water distribution and use.

4.3.2.2. The Permittee shall comply with applicable state and local requirements regarding the production 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).

4.3.2.3. The Permittee shall implement its DDW-accepted title 22 Recycled Water Engineering Report (and any subsequent amendments thereto). The Permittee shall submit revisions and updates to the title 22 Recycled Water Engineering Report to reflect any changes in operations and recycled water management or new use types.

4.4. **Other Requirements**

4.4.1. **Filtration Process Requirements**

4.4.1.1. **Filtration Rate.** The rate of filtration through the tertiary filters, as measured at Monitoring Location INT-001A, shall not exceed five (5) gallons per minute per square foot of surface area or other filtration rates authorized in writing by the Regional Water Board Executive Officer and under conditions recommended by DDW.

4.4.1.2. **Filter Effluent Turbidity.** The effluent from the advanced wastewater treatment process filters shall at all times be filtered such that the filtered effluent does not exceed any of the following specifications at Monitoring Location INT-001B prior to discharge to the disinfection unit:

- 4.4.1.2.1. An average of 2 NTU during any 24-hour period;
- 4.4.1.2.2. 5 NTU more than 5 percent of the time during any 24-hour period; and
- 4.4.1.2.3. 10 NTU at any time.
- 4.4.1.3. Filtered effluent in excess of the turbidity specifications shall not enter the recycled water distribution system. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section 9.1.2.3 of the MRP (Attachment E).

4.4.2. **Disinfection Process Requirements for Chlorine Disinfection System**

- 4.4.2.1. **Recycled Water.** When discharging to the recycled water system at Discharge Point 003, treated effluent shall be disinfected in a manner that ensures effective pathogen reduction as described in the following specifications, with compliance measured at the end of the disinfection process at Monitoring Location EFF-001A:
 - 4.4.2.1.1. The chlorine disinfection process shall at all times provide a CT value of not less than 450 milligram-minutes per liter (mg-min/L).
 - 4.4.2.1.2. Effluent not meeting the CT criteria shall be diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. The Permittee shall provide notification of non-compliance with disinfection process requirements as required by section 9.1.2.3 of the MRP (Attachment E).
- 4.4.2.2. **Total Residual Chlorine Analyzer Calibration.** The Permittee shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate and reliable operation.
- 4.4.3. **Storage Ponds.** Ponds used for the storage of recycled water shall be constructed in a manner that protects groundwater. The Permittee shall submit design proposals for new storage ponds to the Regional Water Board for review prior to construction and demonstrate that the pond design incorporates features to protect groundwater from exceeding groundwater quality objectives.

5. RECEIVING WATER LIMITATIONS

5.1. Surface 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 limitations 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 and/or consider other available information to determine cause and culpability prior to asserting that a violation has occurred.

The discharge shall not cause the following in the receiving water:

- 5.1.1. The discharge shall not cause the dissolved oxygen (DO) concentration of the receiving water to be depressed below 9.0 mg/L daily and 11.0 mg/L as a 7-day rolling average. In those waterbodies for which the aquatic life-based DO requirements are unachievable due to natural conditions, site-specific background DO requirements can be applied 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. In no event may controllable factors reduce the daily minimum DO below 6.0 mg/L.

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. Site specific DO requirements can be applied upon approval from the Executive Officer. 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.

- 5.1.2. The discharge shall not cause the specific conductance (micromhos) concentration of the receiving waters to increase above 250 micromhos more than 50 percent of the time, or above 320 micromhos more than 10 percent of the time.
- 5.1.3. The discharge shall not cause the total dissolved solids concentration of the receiving waters to increase above 150 mg/L more than 50 percent of the time, or above 170 mg/L more than 10 percent of the time.
- 5.1.4. 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.
- 5.1.5. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.
- 5.1.6. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
- 5.1.7. 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.

- 5.1.8. 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.
- 5.1.9. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
- 5.1.10. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
- 5.1.11. 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.
- 5.1.12. 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.
- 5.1.13. The discharge shall not cause a measurable temperature change in the receiving water at any time.
- 5.1.14. 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.
- 5.1.15. 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.
- 5.1.16. 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.
- 5.1.17. 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.

- 5.1.18. 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.
- 5.1.19. 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.
- 5.1.20. The bacteria water quality objective for all waters where the salinity is equal to or less than 1 part per thousand (ppt) 95 percent or more of the time during the calendar year is: a six-week rolling geometric mean of *Escherichia coli* (*E. coli*) not to exceed 100 colony forming units (cfu) per 100 milliliter (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

5.2. Groundwater Limitations

- 5.2.1. 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 best management practices (BMPs), will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.
- 5.2.2. 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, section 64431, article 5.5, section 64444, and article 16 section 64449 of the CCR.
- 5.2.3. 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.
- 5.2.4. 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.
- 5.2.5. 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).

- 5.2.6. 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.

6. PROVISIONS

6.1. Standard Provisions

- 6.1.1. **Federal Standard Provisions.** The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.

- 6.1.2. **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:

- 6.1.2.1. 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.

- 6.1.2.2. 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 specifications, other specifications, 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:

- 6.1.2.2.1. Notify the Regional Water Board staff within 24 hours of having knowledge of such noncompliance. Spill notification and reporting shall be conducted in accordance with section 5.5 of Attachment D and section 10.6 of the MRP (Attachment E).
- 6.1.2.2.2. Investigate the cause(s) of final effluent limitation and discharge specification exceedances and failures to comply with any prohibition, specification, or provision of this Order that may result in significant threat to human health or the environment.

- 6.1.2.2.3. Identify and implement corrective actions to prevent future exceedances or failures to comply with Order requirements.
- 6.1.2.2.4. Report the results of such investigations and corrective actions implemented in the monthly SMR as required by MRP section 10.3.6.2.5 and 10.3.6.2.6.

6.2. **Monitoring and Reporting Program (MRP) Requirements**

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

6.3. **Special Provisions**

6.3.1. **Reopener Provisions**

- 6.3.1.1. **Standard Revisions.** If applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.
- 6.3.1.2. **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.
- 6.3.1.3. **Species Sensitivity Screening.** Upon completion of the species sensitivity screening, this Order may be reopened to specify the most sensitive species. Furthermore, the MDET and MMET, as identified in sections 4.1.1.4.1. and 4.1.1.4.2, respectively, may be modified to reflect the identified most sensitive species. Reopening of the permit is not required if the species sensitivity screening indicates that the most sensitive species is *Ceriodaphnia dubia*.
- 6.3.1.4. **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.
- 6.3.1.5. **Acute Aquatic Toxicity.** This Order may be reopened to allow the reevaluation of reasonable potential for the Permittee to cause or contribute to an exceedance of the acute aquatic toxicity water quality objective, and add the resulting MDEL and MMEL, if warranted, after the evaluation of new data and information.
- 6.3.1.6. **303(d)-Listed Pollutants.** If an applicable total maximum daily load (TMDL) (see Fact Sheet, section 3.4) 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.

- 6.3.1.7. **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 5.33 has been used as further described in section 4.3.3 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.
- 6.3.1.8. **Nutrients.** This Order contains effluent limitations for ammonia and nitrate and effluent monitoring for nutrients (ammonia, nitrate, nitrite, 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.
- 6.3.1.9. **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.
- 6.3.1.10. **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.
- 6.3.1.11. **Mixing Zone Study.** This Order may be reopened for modifications to effluent limitations or receiving water monitoring locations if the Permittee demonstrates to the satisfaction of the Regional Water Board Executive Officer that it has evaluated all reasonable alternatives for compliance with

human health-based effluent limitations for chlorine disinfection by-products and conducts a mixing zone study that provides a basis for determining that permit conditions should be modified.

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

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

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 reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- 6.3.2.1.1. A sample result is reported as Detected, but Not Quantified” (DNQ) and the effluent limitation is less than the reporting limit (RL); or
- 6.3.2.1.2. 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 10.3.5.
- 6.3.2.2. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
 - 6.3.2.2.1. 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;
 - 6.3.2.2.2. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
 - 6.3.2.2.3. 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;
 - 6.3.2.2.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
 - 6.3.2.2.5. 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:
 - 6.3.2.2.5.1. All PMP monitoring results for the previous year;
 - 6.3.2.2.5.2. A list of potential sources of the reportable priority pollutant(s);

- 6.3.2.2.5.3. A summary of all actions undertaken pursuant to the control strategy; and
- 6.3.2.2.5.4. A description of actions to be taken in the following year.

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

- 6.3.3.1. **Proper Operation and Maintenance.** This Order (Attachment D, Standard Provision 1.4) 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.
- 6.3.3.2. **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.
 - 6.3.3.2.1. 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.
 - 6.3.3.2.2. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
 - 6.3.3.2.3. Description of laboratory and quality assurance procedures.
 - 6.3.3.2.4. Process and equipment inspection and maintenance schedules.
 - 6.3.3.2.5. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with the requirements of this Order.
 - 6.3.3.2.6. 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.

6.3.3.3. **Operating Records.** The Permittee shall maintain operating records at the Facility or at the Permittee's central records depository. The records shall include: all analyses specified in the reclamation criteria; any documentation of operational problems, plant and equipment breakdowns, and diversions to emergency storage or disposal; and documentation of all corrective or preventive actions taken.

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

6.3.4.1. **Source Control and Pretreatment Provisions**

6.3.4.1.1. The Permittee shall submit a source control program technical report to the Regional Water Board Executive Officer that describes the Permittee's source control program, including identification of staff and budget resources, and a written plan for ensuring that the Permittee is adequately assessing industrial, commercial, and residential discharges to the Facility. The written plan shall address how the Permittee will implement the specific source control provisions identified in sections 6.3.4.1.2.1 through 6.3.4.1.2.5, immediately below. The source control program technical report shall be submitted to the Regional Water Board Executive Officer by **October 1, 2025**.

6.3.4.1.2. 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:

6.3.4.1.2.1. 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.

6.3.4.1.2.2. 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.

6.3.4.1.2.3. **Industrial Waste Survey (IWS)**

6.3.4.1.2.3.1. The Permittee shall conduct an IWS of all the industrial users (IUs) in the service area of the Facility to determine whether any IUs are subject to pretreatment standards specified in 40 C.F.R. part 403. The Permittee shall also perform a priority pollutant scan of the influent to the Facility. At a minimum, the IWS must identify the following for each industrial user and zero-discharging categorical industrial user: whether it qualifies as a significant user; the average and peak flow rates; the SIC code; any pretreatment being implemented by each industrial user; and whether or not the Permittee has issued a permit to any of the identified industrial users. The IWS and priority pollutant monitoring is required during the 12-month period that begins on **January 1, 2026**.

- 6.3.4.1.2.3.2. The results of the IWS and priority pollutant monitoring shall be submitted to the Regional Water Board in a written report no later than **June 1, 2027**. The written report shall include a certification report indicating whether the Facility receives pollutants from any IU that would require the Permittee to establish a pretreatment program in accordance with 40 C.F.R. part 403.
- 6.3.4.1.2.4. 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.
- 6.3.4.1.2.5. Perform on-going inspections and monitoring, as necessary, to ensure adequate source control.
- 6.3.4.1.3. 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:
- 6.3.4.1.3.1. The Permittee shall notify the Regional Water Board within 30 days after there are discharges that trigger the pretreatment requirements;
- 6.3.4.1.3.2. 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;
- 6.3.4.1.3.3. The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);
- 6.3.4.1.3.4. 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
- 6.3.4.1.3.5. The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.
- 6.3.4.1.4. 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.
- 6.3.4.1.5. 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 IU that is subject to pretreatment standards, or if other circumstances so warrant.

6.3.4.2. **Sludge Disposal and Handling Requirements**

- 6.3.4.2.1. 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.
- 6.3.4.2.2. 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.
- 6.3.4.2.3. 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.
- 6.3.4.2.4. 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.
- 6.3.4.2.5. 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.
- 6.3.4.2.6. 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.
- 6.3.4.2.7. 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.

- 6.3.4.2.8. 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.
- 6.3.4.2.9. For the land application of biosolids as soil amendment, the Permittee shall submit a report of waste discharge, or the Permittee may dispose of biosolids at another appropriately permitted facility.
- 6.3.4.2.10. The Permittee currently sends all dewatered sludge for landfill disposal at the Potrero Hills Landfill in Fairfield, California. The Permittee shall notify the Regional Water Board prior to changing biosolids use or disposal practices.

6.3.4.3. Biosolids Management

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

- 6.3.4.3.1. 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
- 6.3.4.3.2. Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.
- 6.3.4.3.3. 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.

6.3.4.4. 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.

6.3.4.5. Ensuring 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. [Cal. Code Regs. tit. 23, § 2232].

6.3.5. Other Special Provisions

6.3.5.1. Storm Water

For the control of storm water discharges from the Facility, 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 revisions of the Storm Water General Permit), which is not incorporated by reference in this Order.

6.3.5.2. Collection System

The Permittee has coverage under, and is separately subject to, the requirements of State Water Board Order No. WQ 2022-0103-DWQ, Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems. As such, the Permittee provides notification and reporting of SSOs in accordance with the requirements of Order No. WQ 2022-0103-DWQ and any revisions thereto for operation of its wastewater collection system.

6.3.6. Compliance Schedules – Not Applicable

Compliance schedules for ammonia, nitrate, are included in Time Schedule Order (TSO) No. R1-2023-0038.

7. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section 4 of this Order and with Discharge Prohibition 3.8 will be determined as specified below:

7.1. 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).

7.2. 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.

- 7.2.1. 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.
- 7.2.2. 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.

7.3. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B, above, for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, 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 7.2, above.

7.4. 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 7.2, above.

7.5. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by section 7.2, 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.

7.6. 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.

7.7. 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.

7.8. Bacteriological Limitations

7.8.1. **Median (Total Coliform Bacteria).** 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.

7.8.2. **Six-week Rolling Geometric Mean (*E. coli* Bacteria).** The rolling geometric mean shall be calculated using at least 5 sample results over a 6-week period from a site using the following formula:

$GM = \sqrt[n]{(x_1)(x_2)(x_3)\dots(x_n)}$, where x is the sample value and n is the number of samples taken.

A minimum of three samples over a six-week period is necessary to calculate the geometric mean. When less than three samples are taken in a six-week period, compliance with the *E. coli* receiving water objective shall be determined using the Statistical Threshold Value (STV). If the Permittee samples less than three times during a six-week period, compliance shall be assessed by comparing the single sample results to the STV.

7.8.3. **Statistical Threshold Value (*E. coli* Bacteria).** (1) The data set shall be ranked from low to high, ranking any ND concentrations lowest, followed by quantified values. (2) The number of sample results should then be multiplied by 90 percent then rounded up to the nearest whole number. (3) Count the values in the data set starting from lowest to highest until the number indicated in step (2) is reached. (4) To be compliant with the statistical threshold value in Receiving Water Limitation 5.1.20, all sample results less than the point described in step 3 must be less than 100 MPN/100 mL.

7.8.4. **7-Day Median.** Compliance with the 7-day median will be determined as a rolling median during periods when sampling occurs more frequently than weekly. During periods when sampling is weekly, this requirement shall apply to each weekly sample.

7.8.5. **Geometric Mean (GM).** The geometric mean is a type of mean or average that indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean which uses their sum). The geometric mean shall be calculated using the 5 most recent samples from a site using the following formula:

$GM = n\sqrt{(x_1)(x_2)(x_3)\dots(x_n)}$, where x is the sample value and n is the number of samples taken.

7.9. Chronic Toxicity

Compliance with the chronic toxicity requirements shall be determined as follows:

- 7.9.1. If a chronic toxicity test exceeds the applicable chronic toxicity MDEL, as identified in section 4.1.1.4.1 of this Order, the Permittee will be considered out of compliance for that single sample.
- 7.9.2. If chronic toxicity testing exceeds the chronic toxicity MMEL, as identified in section 4.1.1.4.2 of this Order, the Permittee will be considered out of compliance for that month. No more than one chronic toxicity test initiated in a calendar month¹ shall result in a “fail” at the IWC for any endpoint.
- 7.9.3. Compliance with chronic toxicity routine monitoring, compliance monitoring, and TRE provisions shall constitute compliance with the chronic toxicity requirements, as specified in the MRP (Attachment E, sections 5.1 and 5.2).

7.10. Average Dry Weather Flow

Compliance with the average dry weather flow prohibition in section 3.7 of this Order will be determined once each calendar year by evaluating all flow data collected in a calendar year. The flow through the Facility, measured daily and averaged monthly, must be 3.01 mgd or less for the month with the lowest average monthly flow.

7.11. 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 for the Facility in section 3.7 of this Order will be determined daily by measuring the daily average flow at Monitoring Location INF-001. Compliance with the peak daily wet weather flow prohibition for the advanced wastewater treatment system in section 3.7 of this Order will be determined daily by measuring the daily average flow at Monitoring Location INT-001A. If the measured daily average flow exceeds 24.5 mgd at Monitoring Location INF-001 or 7.0 mgd at Monitoring Location INT-001A, the discharge is not in compliance with Prohibition 3.7 of this Order.

¹ For purposes of aquatic toxicity monitoring, a calendar month shall be defined as the period of time from a day of one month to the day before the corresponding day of the

7.12. Percent Removal

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.

7.13. Chlorine Residual Effluent Limitations

- 7.13.1. Compliance with the chlorine residual effluent limitations in section 4.1.1.1, Table 2 shall be based on continuous chlorine residual monitoring at Monitoring Locations EFF-001B in order to demonstrate that the discharge has been adequately dechlorinated. Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the chlorine residual effluent limitations in section 4.1.1.1, Table 2. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitation prescribed in section 4.1.1.1, Table 2, provided that the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.
- 7.13.2. The Permittee shall calibrate continuous analyzers (e.g., chlorine residual, bisulfite residual) against grab samples as frequently as necessary to maintain accurate and reliable operation.
- 7.13.3. The Permittee shall report from discrete readings of the continuous monitoring every hour on the hour. Compliance shall be based on an average of these discrete hourly readings on a daily basis. The Permittee shall retain continuous monitoring readings for at least 3 years. The Regional Water Board retains the right to use all continuous monitoring data for discretionary enforcement.
- 7.13.4. Any excursion above the chlorine residual effluent limitations specified in section 4.1.1.1, Table 2, of this Order is a violation. If the Permittee conducts continuous monitoring and the Permittee can demonstrate through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Attachment D, section 4, Standard Provisions.

ATTACHMENT A - DEFINITIONS

Arithmetic Mean (μ)

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

$$\text{Arithmetic mean } (\mu) = \frac{\sum x}{n}$$

where: $\sum x$ 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.

Basin Plan

A Basin Plan is a water quality control plan that is specific to a Regional Water Quality Control Board (Regional Water Board), and serves as regulations that: (1) define and designate beneficial uses of surface and ground waters, (2) establish water quality objectives to protect the beneficial uses, and (3) provide implementation measures.

Bioaccumulative

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

California Integrated Water Quality System (CIWQS)

CIWQS is the State Water Board, statewide electronic reporting database that provides for electronic reporting of mandatory reports that are requirements of State and Regional Water Board-issued waste discharge requirements.

Carcinogenic

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

Chronic Toxicity

This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response. See also Test of Significant Toxicity.

Coefficient of Variation (CV)

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

Daily Discharge

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

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

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

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

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

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)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as 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

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

Estimated Chemical Concentration

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

Estuaries

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

Inland Surface Waters

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

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

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

Median

The middle measurement in a set of data. After the measurements are ranked in order, the median is the middle measurement if the number of measurements is odd. If the number of measurements is even, then the median is the arithmetic mean of the middle pair of ranked measurements.

Median Monthly Effluent Limitation (MMEL)

For the purposes of chronic and acute aquatic toxicity, an MMEL is an effluent limitation based on a maximum of three independent toxicity tests, analyzed using the TST.

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Attachment B.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone

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

MMEL Compliance Tests

For the purposes of chronic and acute aquatic toxicity, MMEL compliance tests are a maximum of two tests that are used in addition to the routine monitoring test to determine compliance with the chronic and acute aquatic toxicity MMEL and MDEL.

Most Sensitive Species

The single species selected from an array of test species to be used in a single species laboratory test series to determine toxic effects of effluent or ambient water.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Null Hypothesis

A statement used in statistical testing that has been put forward either because it is believed to be true or because it is to be used as a basis for argument but has not been proved.

Percent Effect

The value that denotes the difference in response between the test concentration and the control, divided by the mean control response, and multiplied by 100.

Permitting Authority

The State Water Board or a regional water board that issues a permit, waste discharge requirements, water quality certification, or other authorization for the discharge or proposed discharge of waste. To the extent that the action is delegable, the term “Permitting Authority” can include the Executive Officer or Executive Director.

Persistent Pollutants

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

Pollutant Minimization Program (PMP)

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

Pollution Prevention

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

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.

Reasonable Potential

A designation used for a waste discharge that is projected or calculated to cause or contribute to an excursion above a water quality standard.

Receiving Water

A receiving water is a water of the State that receives a discharge of waste.

Recycled Water

Water which, 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).

Regulatory Management Decision (RMD)

The decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

Replicates

Two or more independent organism exposures of the same treatment (i.e., effluent concentration) within a toxicity test. Replicates are typically conducted with separate test chambers and test organisms, each having the same effluent concentration.

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.

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.

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.

Sludge and Biosolids

Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or tertiary 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.

Source of Drinking Water

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

Species Sensitivity Screening

An analysis to determine the single most sensitive species from an array of test species to be used in a single species laboratory test series.

Standard Deviation (σ)

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

$$\text{Standard Deviation } (\sigma) = \frac{\sum(X-\mu)^2}{(n-1)^{0.5}}$$

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

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). 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).

Toxicity Identification Evaluation (TIE)

Techniques used to identify the unexplained cause(s) of toxic event. A TIE involves selectively removing classes of chemicals through a series of sample manipulations, effectively reducing complex mixtures of chemicals in natural waters to simple components for analysis. Following each manipulation, the toxicity sample is assessed to see whether the toxicant class removed was responsible for the toxicity.

Toxicity Reduction Evaluation (TRE)

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

Toxicity Provisions

Refers to Section III.B and Section IV.B of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

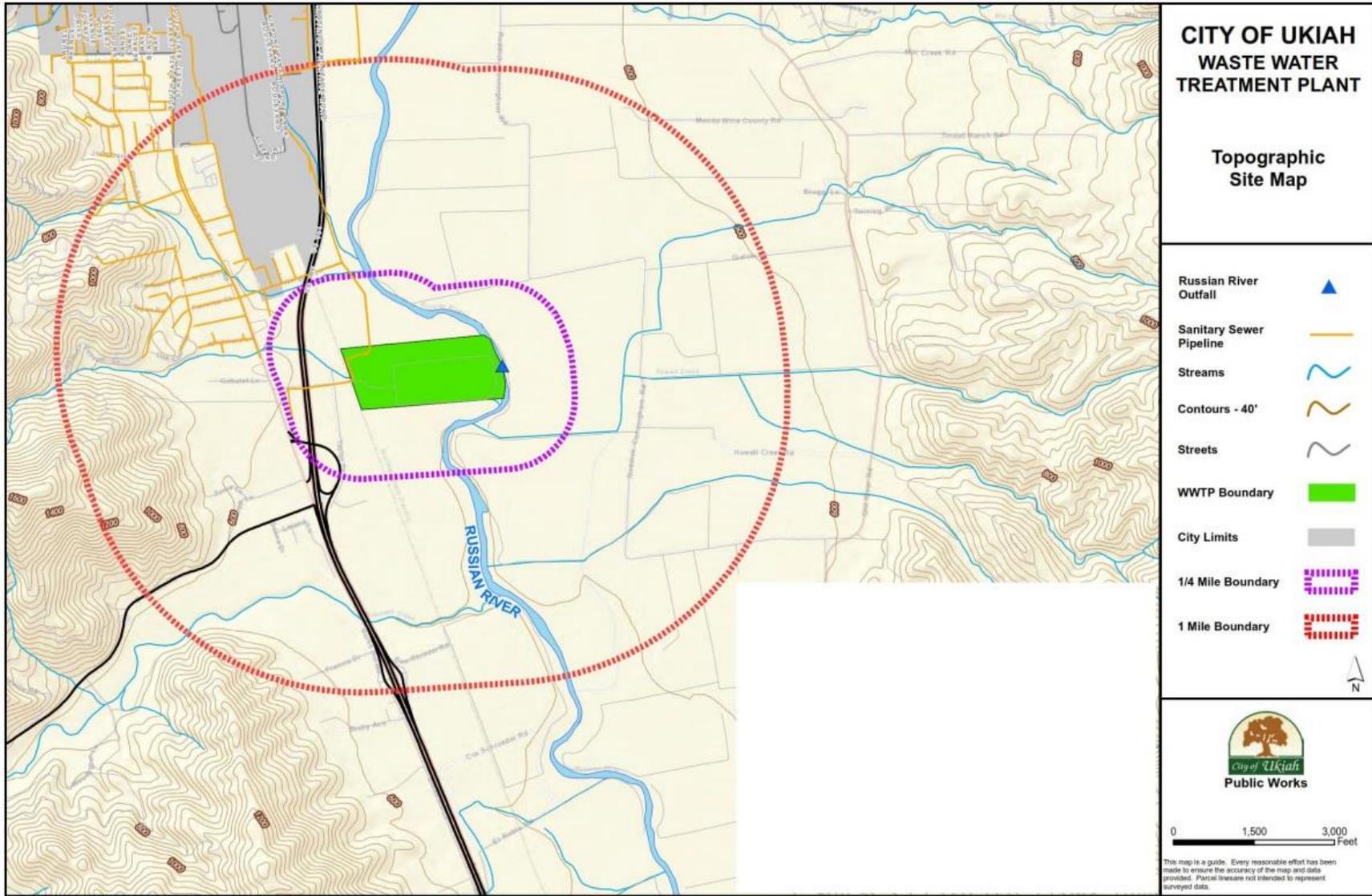
Water Quality Objective

A water quality objective is the amount of pollutant or a parameter level which is established for the reasonable protection of beneficial uses of surface waters and groundwater, and the prevention of nuisance.

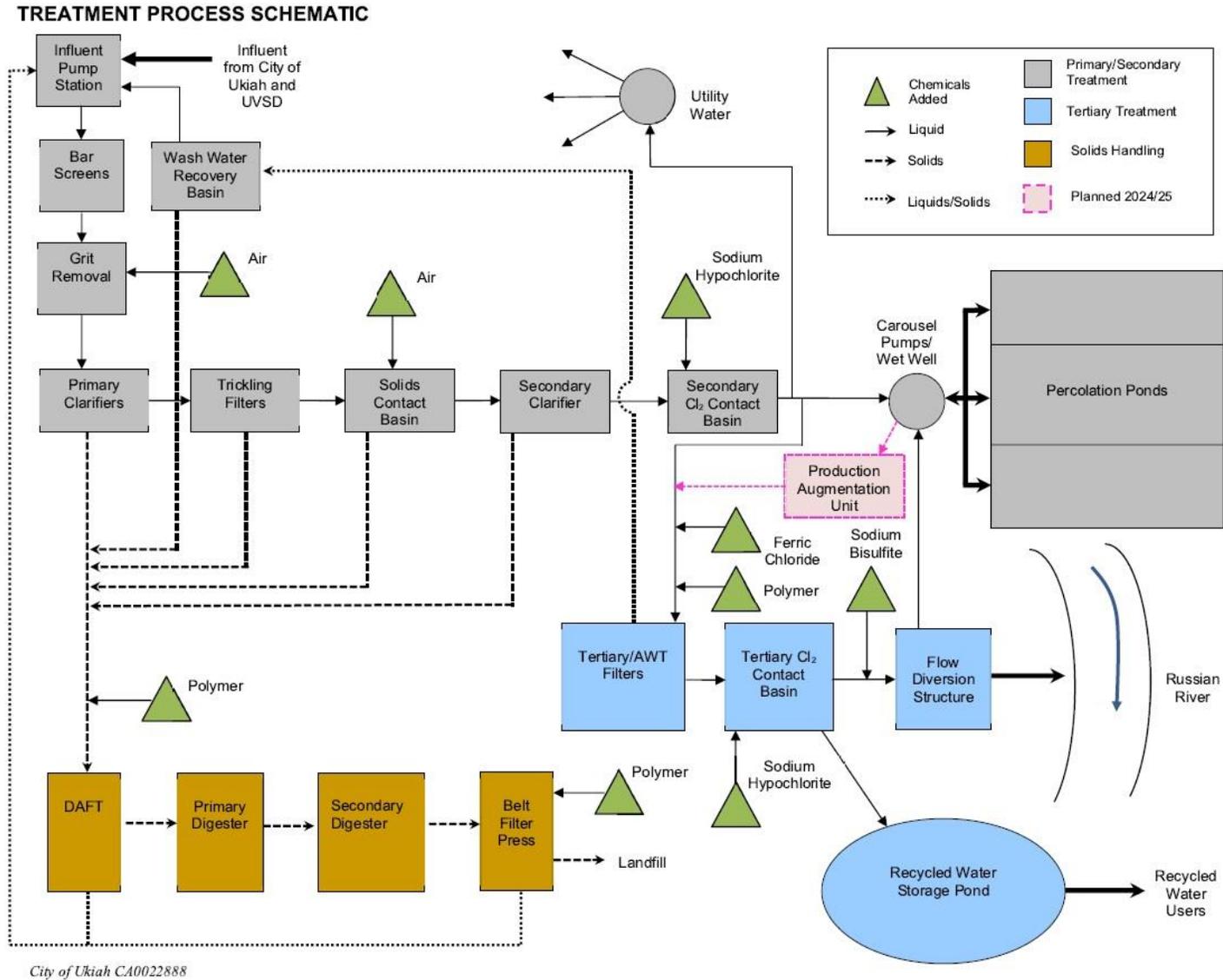
Water Recycling

The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

ATTACHMENT B - MAP



ATTACHMENT C - FLOW SCHEMATIC



ATTACHMENT D - STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

- 1.1.1. The Permittee must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
- 1.1.2. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

1.2. 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).)

1.3. Duty to Mitigate

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

1.4. 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).)

1.5. Property Rights

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

- 1.5.2. 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).)

1.6. **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):

- 1.6.1. 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);
- 1.6.2. 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);
- 1.6.3. 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
- 1.6.4. 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.)

1.7. **Bypass**

1.7.1. **Definitions**

- 1.7.1.1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- 1.7.1.2. "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).)
- 1.7.2. 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 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

- 1.7.3. 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)):
- 1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
- 1.7.3.2. 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
- 1.7.3.3. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 1.7.4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

1.7.5. **Notice**

- 1.7.5.1. **Anticipated bypass.** If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2025, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
- 1.7.5.2. **Unanticipated bypass.** The Permittee shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting 5.5 below (24-hour notice). Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

1.8. **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).)

- 1.8.1. **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 1.8.2 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).)
- 1.8.2. **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)):
 - 1.8.2.1. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - 1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - 1.8.2.3. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting 5.5.2.2 below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - 1.8.2.4. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 1.8.3. **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).)

2. STANDARD PROVISIONS – PERMIT ACTION

2.1. 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).)

2.2. 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).)

2.3. 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.)

3. STANDARD PROVISIONS – MONITORING

- 3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- 3.2. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
 - 3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
 - 3.2.2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N for the measured pollutant or pollutant parameter.

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

4. STANDARD PROVISIONS – RECORDS

- 4.1. 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).)

4.2. Records of monitoring information shall include:

- 4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
- 4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
- 4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
- 4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
- 4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
- 4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

- 4.3.1. The name and address of any permit applicant or Permittee (40 C.F.R. § 122.7(b)(1)); and
- 4.3.2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

5. STANDARD PROVISIONS – REPORTING

5.1. 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, 13383.)

5.2. Signatory and Certification Requirements

- 5.2.1. 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 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)

- 5.2.2. 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)).
- 5.2.3. 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 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- 5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting 5.2.2 above (40 C.F.R. § 122.22(b)(1));
- 5.2.3.2. 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
- 5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 5.2.4. If an authorization under Standard Provisions – Reporting 5.2.3 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 5.2.3 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).)
- 5.2.5. Any person signing a document under Standard Provisions – Reporting 5.2.2 or 5.2.3 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).)

- 5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting 5.2, 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).)

5.3. **Monitoring Reports**

- 5.3.1. 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).)
- 5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 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).)
- 5.3.3. 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, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
- 5.3.4. 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).)

5.4. **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).)

5.5. **Twenty-Four Hour Reporting**

- 5.5.1. The Permittee shall report any noncompliance which 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 report shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The report shall contain a description of the noncompliance and

its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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

As of December 21, 2025, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the initial recipient defined in Standard Provisions – Reporting 5.10. 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).)

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

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

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

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

5.6. **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)):

5.6.1. 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

5.6.2. 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).) **OR**

- 5.6.3. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions— Notification Levels 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)

5.7. 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).)

5.8. Other Noncompliance

The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5.5 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 5.5 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).)

5.9. 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).)

5.10. 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).)

6. STANDARD PROVISIONS – ENFORCEMENT

- 6.1. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13350, 13385, 13386, and 13387.

7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

7.1. 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)):

- 7.1.1. Any new introduction of pollutants into the POTW from an indirect discharge 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
- 7.1.2. 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 the Order. (40 C.F.R. § 122.42(b)(2).)
- 7.1.3. 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

TABLE OF CONTENTS

1.	General Monitoring Provisions	E-3
2.	Monitoring Locations	E-5
3.	Influent Monitoring Requirements	E-7
3.1.	Monitoring Location INF-001	E-7
4.	Effluent Monitoring Requirements	E-8
4.1.	Monitoring Location EFF-001A	E-8
4.2.	Monitoring Location EFF-001B	E-8
5.	Whole Effluent Toxicity Testing Requirements	E-11
5.1.	Chronic Toxicity Testing	E-11
5.2.	Toxicity Reduction Evaluation (TRE) Process	E-15
6.	Land Discharge Monitoring Requirements	E-17
6.1.	Monitoring Location EFF-002	E-17
7.	Recycling Monitoring Requirements	E-19
7.1.	Monitoring Location REC-001	E-19
8.	Receiving Water Monitoring Requirements	E-20
8.1.	Monitoring Location RSW-001	E-20
8.2.	Monitoring Locations RSW-002	E-21
8.3.	Groundwater Monitoring to Assess Impacts of Percolation Pond Discharge	E-22
9.	Other Monitoring Requirements	E-24
9.1.	Filtration Process Monitoring	E-24
9.2.	Disinfection Process Monitoring for Chlorine Disinfection System	E-25
9.3.	Visual Monitoring (Monitoring Locations EFF-001B, RSW-001, and RSW-002)	E-26
9.4.	Seep Monitoring (SEEP-001, etc.)	E-26
9.5.	Sludge Monitoring (Monitoring Location BIO-001)	E-26
10.	Reporting Requirements	E-27
10.1.	Special Studies, Technical Papers, and Additional Monitoring Requirements	E-27
10.2.	General Monitoring and Reporting Requirements	E-27
10.3.	Self-Monitoring Reports (SMRs)	E-27
10.4.	Discharge Monitoring Reports (DMRs)	E-31
10.5.	Other Reports	E-31
10.6.	Spill Notification	E-36

TABLE OF TABLES

Table E-1. Monitoring Station Locations.....E-5
Table E-2. Influent Monitoring – Monitoring Location INF-001E-7
Table E-3. Effluent Monitoring – Monitoring Location EFF-001AE-8
Table E-4. Effluent Monitoring – Monitoring Location EFF-001BE-9
Table E-5. Effluent Monitoring – Monitoring Location EFF-002.....E-17
Table E-6. Recycled Water Monitoring Requirements – Monitoring Location REC-
001E-19
Table E-7. Receiving Water Monitoring – Monitoring Location RSW-001E-20
Table E-8. Receiving Water Monitoring – Monitoring Location RSW-002E-22
Table E-9. Groundwater Monitoring – Monitoring Locations GW-001 through GW-
005E-22
Table E-11. Monitoring Periods and Reporting Schedule.....E-28
Table E-12. Reporting Requirements for Special Provisions ReportsE-31

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

1. GENERAL MONITORING PROVISIONS

1.1. Wastewater Monitoring Provision.

Composite samples may be taken by a proportional sampling device or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.

1.2. 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.

1.3. Laboratory Certification

Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board), in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

The Permittee may analyze pollutants with short hold times (e.g., pH, chlorine residual, etc.) with field equipment or its on-site laboratory provided that the Permittee has standard operating procedures (SOPs) that identify quality assurance/quality control procedures to be followed to ensure accurate results. The Permittee must demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

1.4. 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.

1.5. Minimum Levels (ML) and Reporting Levels (RL).

U.S. EPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. 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).

A U.S. EPA-approved analytical method is sufficiently sensitive where:

- 1.5.1. The ML is at or below both the level of the applicable water quality criterion/objective and the permit limitation for the measured pollutant or pollutant parameter; or
- 1.5.2. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
- 1.5.3. The method has the lowest ML of the U.S. EPA-approved analytical methods where none of the U.S. EPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.

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.

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

All Discharge Monitoring Report Quality Assurance (DMR-QA) Study. The Permittee shall participate in the DMR-QA program and ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study from each laboratory providing testing services for the permit are submitted annually to the State Water Board at qualityassurance@waterboards.ca.gov. For more information on the DMR-QA Program, contact the State DMR-QA Coordinator at the aforementioned email address.

2. 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.
001	INT-001A	Location for monitoring the flow and surface loading rate through the advanced wastewater treatment process filters.
001	INT-001B	Treated wastewater immediately following the advanced wastewater treatment process and prior to the chlorine contact basin.
001	EFF-001A ⁽¹⁾	A representative point immediately following advanced wastewater treatment disinfection but prior to dechlorination.
001	EFF-001B	Treated wastewater after advanced wastewater treatment disinfection but prior to discharge to the Russian River. Latitude: 39°07'07" Longitude: -123°11'28"
002	EFF-002	Treated wastewater after secondary disinfection but prior to discharge to the percolation ponds.
003	REC-001 ⁽¹⁾	Treated wastewater following advanced wastewater treatment disinfection but prior to discharge to the recycled water storage pond.
--	BIO-001	A representative sample of the sludge or biosolids generated when removed for disposal.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	RSW-001	Upstream receiving water monitoring location in the Russian River, approximately 50 feet upstream of Discharge Point 001 and at a location that is not influenced by the discharge.
--	RSW-002	Downstream receiving water monitoring location in the Russian River, in an area influenced by Discharge Point 001. This monitoring location ranges between 50 and 200 feet downstream of the discharge outfall and depends on the river stage.
--	RSW-003	Russian River monitoring location, upstream of any potential influence of the percolation ponds.
--	RSW-004	Russian River monitoring location in the vicinity of the southern end of the Middle Percolation Pond and upstream of RSW-005.
--	RSW-005	Russian River monitoring location, immediately downstream of the percolation ponds.
--	GW-001	Up-gradient shallow groundwater monitoring well (approximately 27 feet deep) located 600 feet southwest of the percolation ponds.
--	GW-002	Down-gradient shallow monitoring well (approximately 25 feet deep) located 150 feet south of the percolation ponds.
--	GW-003	Up-gradient monitoring well currently located 150 feet north of the percolation ponds and to be relocated to new east of Percolation Pond 3.
--	GW-004	Shallow well (approximately 33 feet deep) at eastern berm of Percolation Pond 1 (between pond and the Russian River).
--	GW-005	Deeper well (approximately 140 feet deep) at eastern berm of Percolation Pond 1 (between pond and the Russian River).
--	SEEP-XXX	Monitoring location for seeps located along the bank of the Russian River. Seeps are to be numbered SEEP-001, SEEP-002, etc.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
<p><u>Table Notes</u></p> <p>1. EFF-001A and REC-001 are the same location, the sampling point immediately following the chlorine disinfection system. Different discharge point and monitoring location names have been assigned due to differences in monitoring requirements at Discharge Point 001 (for discharges to the Russian River) and 003 (for discharge to the recycled water system).</p>		

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

3. INFLUENT MONITORING REQUIREMENTS

3.1. Monitoring Location INF-001

3.1.1. 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 ⁽¹⁾
Influent Flow ⁽²⁾	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	24-hr Composite	Weekly	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly	Standard Methods
CTR and Title 22 Pollutants ⁽³⁾	mg/L	24-hr Composite ⁽⁴⁾	Once per permit term ⁽⁵⁾	Standard Methods

<p><u>Table Notes</u></p> <p>1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.</p> <p>2. The Permittee shall report the daily average and monthly average flows.</p> <p>3. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38 and for which DDW has established MCLs at title 22, division 4, chapter 15,</p>
--

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals) of the CCR. Duplicate analyses are not required for pollutants that are identified as CTR and title 22 pollutants.				
4. 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.				
5. CTR priority pollutant sampling shall be completed no later than December 31, 2027.				

4. EFFLUENT MONITORING REQUIREMENTS

4.1. Monitoring Location EFF-001A

4.1.1. The Permittee shall monitor advanced treated wastewater immediately following disinfection but prior to dechlorination at Monitoring Location EFF-001A during periods of discharge to the Russian River as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Total Coliform Organisms	MPN/100 ml	Grab	Weekly	Standard Methods
Chlorine, Total Residual ⁽²⁾	mg/L	Grab	Continuous	Standard Methods

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. See additional chlorine residual monitoring and reporting requirements in Order section 7.13 and MRP section 9.2.

4.2. Monitoring Location EFF-001B

4.2.1. The Permittee shall monitor advanced treated wastewater when discharging to the Russian River at Monitoring Location EFF-001B, as follows:

Table E-4. Effluent Monitoring – Monitoring Location EFF-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method⁽¹⁾
Effluent Flow ⁽²⁾	mgd	Meter	Continuous	--
Discharge Dilution Rate	% of stream flow	Calculate	Daily	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	24-hr Composite	Weekly ⁽³⁾	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly ⁽³⁾	Standard Methods
pH	Standard units	Grab	Daily ^(4,5)	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly ⁽³⁾	Standard Methods
<i>E. coli</i> bacteria ⁽⁶⁾	MPN/100 mL	Grab	Weekly ⁽³⁾	Standard Methods
Chlorine, Total Residual ⁽⁷⁾	mg/L	Meter	Continuous	Standard Methods
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	Monthly	Standard Methods
Dichlorobromomethane	µg/L	Grab	Monthly ⁽⁸⁾	Standard Methods
Copper, Total Recoverable	µg/L	Grab	Monthly ^(8,9)	Standard Methods
Ammonia Nitrogen, Total (as N) ⁽¹⁰⁾	mg/L	Grab	Weekly ^(3,5)	Standard Methods
Ammonia Nitrogen, Unionized (as N)	mg/L	Calculate	Weekly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Weekly ⁽³⁾	Standard Methods
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Hardness, Total (as CaCO ₃)	mg/L	Grab	Monthly ⁽⁸⁾	Standard Methods
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Standard Methods
Temperature	°F or °C	Grab	Daily ⁽⁵⁾	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods
Aluminum	µg/L	Grab	Annually	Standard Methods
Manganese	µg/L	Grab	Annually	Standard Methods
CTR Priority Pollutants ⁽¹¹⁾	µg/L	24-hr Composite ⁽¹²⁾	Annually	Standard Methods
Chronic Toxicity ⁽¹³⁾	Pass or Fail and % Effect	24-hr Composite	Quarterly	See Section 5.2 Below

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The Permittee shall report the daily average and monthly average flows.
3. 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.
4. 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.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
<p>5. pH and temperature shall be measured at EFF-001 and RSW-001 concurrently with ammonia sampling at EFF-001.</p> <p>6. The Permittee may use any E. coli method specified in 40 CFR 136 for compliance monitoring.</p> <p>7. Chlorine residual monitoring at Monitoring Location EFF-001B shall demonstrate that there is no detectable chlorine during periods of discharge to the Russian River and shall demonstrate compliance as further described in Compliance Determination section VII.M of this Order. All chlorine residual measurements shall be reported as total chlorine residual.</p> <p>8. 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.</p> <p>9. Monitoring for effluent and receiving water hardness shall be conducted concurrently with effluent sampling for copper.</p> <p>10. Monitoring for ammonia shall be concurrent with acute whole effluent toxicity monitoring (section 5.1.1 of this MRP). Effluent and receiving water temperature and pH shall be recorded at the time of the ammonia sample.</p> <p>11. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. Hardness shall be monitored concurrently with the priority pollutant sample.</p> <p>12. 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.</p> <p>13. Whole effluent chronic toxicity shall be monitored in accordance with the requirements in section 5 of this Monitoring and Reporting Program.</p>				

5. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

5.1. Chronic Toxicity Testing

The Permittee shall conduct chronic toxicity testing in accordance with the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Toxicity Provisions), adopted on December 1, 2021. The following chronic toxicity testing requirements have been identified as applicable to this Order:

- 5.1.1. **Toxicity Testing Sample and Location.** The effluent sample shall be collected from Monitoring Location EFF-001. Dilution water and control water shall be prepared and used as specified by the test methods.
- 5.1.2. **In-stream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 100 percent effluent.
- 5.1.3. **Toxicity Test Methods.** Chronic aquatic toxicity tests shall be conducted using one or more of the test species listed below and selected by the Regional Water Board in accordance with the Toxicity Provisions, and shall follow methods identified in the Code of Federal Regulations, title 40, part 136, or other U.S. EPA-approved methods, or included in the following U.S. EPA method manuals: *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition* (EPA-821-R-02-013); *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition* (EPA-821-R-02-014); and *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, First Edition* (EPA-600-R-95-136).
 - 5.1.3.1. A 7-day static renewal toxicity test with a vertebrate, the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).
 - 5.1.3.2. A static renewal toxicity test with an invertebrate, the water flea, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
 - 5.1.3.3. 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).

Test results shall be analyzed using the TST as described below. To the extent that U.S. EPA-approved methods require that observations be made of organisms' response in multiple concentrations of effluent or receiving water, the instream waste concentration (IWC) shall be included as one of the selected concentrations, and the TST shall be conducted using the IWC and control as described in Section 5.1.4. below.

- 5.1.4. **Test of Significant Toxicity.** Aquatic toxicity test data shall be analyzed using the test of significant toxicity (TST) as described in Steps 1 through 7, within section IV.B.1.c of the Toxicity Provisions (Steps). For any chronic aquatic toxicity test method with both lethal and sub-lethal endpoints, the sub-lethal endpoint data shall be in these Steps. For any chronic aquatic toxicity test method with more than one sub-lethal endpoint (giant kelp), the data for each sub-lethal endpoint shall be independently analyzed using these Steps. The TST is applicable for a data analysis of an IWC compared to a control. For assessing whether ambient water meets the water quality objectives, the

undiluted ambient water shall be used as the IWC for purposes of the data analysis as described in the Toxicity Provisions.

- 5.1.5. **Percent Effect.** The percent effect at the IWC shall be calculated for each endpoint in an aquatic toxicity test, using untransformed data and the following equation:

$$\text{Percent Effect at IWC} = (\text{Mean Control Response} - \text{Mean IWC Response}) / \text{Mean Control Response} * 100$$

- 5.1.6. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted within 18 months of the Order's adoption. 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 5.1.3, 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.

Species sensitivity screening conducted prior to an Order's adoption may be considered by the Regional Water Board if that species sensitivity screening data was generated within the last 10 years, remains representative of the Permittee's discharge, and fulfils the species sensitivity screening requirement. The Regional Water Board has determined that species sensitivity screening conducted in April 2014 is representative of the Permittee's effluent, however it does not fulfil the species sensitivity screening requirement. A species sensitivity screening was not performed during the term of Order No. R1-2018-0035. The species used for chronic toxicity monitoring shall remain *Ceriodaphnia dubia*, until the Order is modified to reflect a new most sensitive species, as identified by the required species sensitivity screening.

- 5.1.7. **Routine Monitoring Requirements.** The Permittee shall conduct at least one chronic aquatic toxicity test each calendar quarter during which there is expected to be at least 15 days of discharge. Initiation of the routine monitoring test shall be at a time that would allow any required MMEL compliance tests to be initiated within the same calendar month² as the routine monitoring test.

² For purposes of aquatic toxicity monitoring, a calendar month shall be defined as the period of time from a day of one month to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month (e.g., from January 1 to January 31, from June 15 to July 14, or from January 31 to February 28).

To the extent feasible, routine monitoring tests shall be evenly distributed across the calendar year or period of seasonal or intermittent discharge.

- 5.1.8. **Additional Routine Monitoring Requirement.** An additional routine monitoring test shall be required when there is one violation of the MDEL or MMEL, but not two violations in a single calendar month. This additional routine monitoring test is not required if the Permittee is already conducting a TRE, or if the Permittee is required to conduct routine monitoring at or more frequently than a monthly frequency.

This additional routine monitoring test shall be initiated within two weeks after the calendar month in which the MMEL or MDEL violation occurred. The calendar month of the violation and the calendar month of the additional routine monitoring shall be considered “successive calendar months” for purposes of determining whether a TRE is required under section 5.2.2, below. This additional routine monitoring test is used to determine if a TRE is necessary.

This additional routine monitoring test is also used for compliance purposes and could result in the need to conduct MMEL compliance tests.

- 5.1.9. **Compliance Monitoring Requirements.** If a chronic aquatic toxicity routine monitoring test results in a “fail” at the IWC, then the Permittee shall complete a maximum of two MMEL compliance tests. The MMEL compliance tests shall be initiated within the same calendar month that the first routine monitoring test was initiated that resulted in the “fail” at the IWC. If the first chronic MMEL compliance tests results in a “fail” at the IWC, then the second MMEL compliance test is waived because the first chronic MMEL compliance test that results in a “fail” constitutes a violation and so the second MMEL compliance test is not required.

5.1.10. **Other Requirements**

- 5.1.10.1. When a required toxicity test for routine monitoring or MMEL compliance tests is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance tests, as applicable, for the calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the calendar month in which the toxicity test that was not completed and was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests.

When any monitoring test is not initiated in the required time period due to circumstances outside of the Permittee's control that were not preventable with the reasonable exercise of care, and the Permittee promptly initiates, and ultimately completes a replacement test, the Regional Water Board may determine that the replacement monitoring test was not required to be initiated in the required time period.

- 5.1.10.2. When there is no effluent available to complete a routine monitoring test or MMEL compliance test, the test shall not be required, and routine monitoring continues at the frequency specified in the permit.
- 5.1.11. **Reporting.** Results obtained from toxicity tests shall be reported to the Regional Water Board in the Permittee's quarterly Self-Monitoring Report (SMR), as either a "pass" or a "fail," and the percent effect at the IWC for each endpoint. The SMR shall include a full laboratory report for each toxicity test that was performed (WET report).
- 5.1.11.1. 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:
- 5.1.11.1.1. 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);
- 5.1.11.1.2. Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
- 5.1.11.1.3. Tabular summary of test results for control water and each effluent dilution;
- 5.1.11.1.4. The toxicity test results reported as either a "Pass" or "Fail", and the "Percent Effect" at the IWC for each endpoint;
- 5.1.11.1.5. Identification of any anomalies or nuances in the test procedures or results.
- 5.1.12. **Notification.** All toxicity tests at the IWC shall be used for determining compliance with any toxicity MDEL or MMEL contained in this Order. The Permittee shall notify the Regional Water Board of a violation of a toxicity MDEL or MMEL as soon as the Permittee learns of the violation, but no later than 24 hours of the Permittee receiving the monitoring results.

5.2. Toxicity Reduction Evaluation (TRE) Process

- 5.2.1. **Generic TRE Work Plan.** The Permittee submitted a generic TRE Work Plan to the Regional Water Board in August 2019. The Permittee's generic TRE Work

Plan shall be reviewed no later than **June 1, 2025** and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

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

- 5.2.1.1. 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.
- 5.2.1.2. 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.
- 5.2.1.3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
- 5.2.2. **TRE Work Plan.** A TRE Work Plan is required to be submitted and implemented when a Permittee has any combination of two or more MDEL or MMEL violations within a single calendar month or within two successive calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), then the Regional Water Board may also require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test. Routine Monitoring shall continue during a TRE.

The TRE Work Plan shall be submitted for Regional Water Board approval within 30 days from receipt of the chronic toxicity monitoring result, or other toxicity event, that initiated the TRE requirement. The TRE Work Plan shall follow the generic TRE Work Plan and be revised as appropriate for the initiating toxicity events.

The TRE shall be conducted according to the EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). The TRE Work Plan shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:

- 5.2.2.1. Further actions by the Permittee to investigate, identify, and correct causes of toxicity.
- 5.2.2.2. Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.

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

5.2.3. **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.

5.2.4. 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.

5.2.5. 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 if monitoring finds there is no longer toxicity.

6. LAND DISCHARGE MONITORING REQUIREMENTS

6.1. Monitoring Location EFF-002

6.1.1. The Permittee shall monitor secondary treated wastewater when discharging to the percolation ponds at Monitoring Location EFF-002, as follows:

Table E-5. Effluent Monitoring – Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Effluent Flow ⁽²⁾	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	24-hr Composite	Weekly ⁽³⁾	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly ⁽³⁾	Standard Methods
pH	Standard Units	Grab	Daily ⁽⁴⁾	Standard Methods
Total Coliform Organisms	MPN/100 mL	Grab	Weekly ⁽³⁾	Standard Methods
Chlorine, Total Residual ⁽⁵⁾	mg/L	Meter	Continuous	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods
Sodium	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants ⁽⁶⁾	µg/L	24-hr Composite ⁽⁷⁾	Once per permit term ⁽⁸⁾	Standard Methods

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The Permittee shall report the daily average and monthly average flows.
3. 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.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
<p>4. Accelerated monitoring (daily monitoring frequency). If a test result exceeds an effluent limitation, the Permittee shall increase the monitoring frequency to a minimum of twice a day for a week to evaluate whether an exceedance is persisting. If two or 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.</p> <p>5. The Permittee shall monitor continuously to demonstrate that the appropriate chlorine residual concentration to ensure compliance with coliform effluent limitations is maintained in the effluent at Monitoring Location EFF-002 at all times. At a minimum, the Permittee shall record readings of the continuous monitoring every hour and report the maximum recorded daily chlorine residual.</p> <p>6. 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. Hardness shall be monitored concurrently with the priority pollutant sample.</p> <p>7. CTR priority pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile.</p> <p>8. If no discharge occurs at Discharge Point 001 during the permit term, the Permittee shall monitor the effluent at Monitoring Location EFF-002 during the discharge season (i.e., October 1 through May 14) in the fourth year of the permit term.</p>				

7. RECYCLING MONITORING REQUIREMENTS

7.1. Monitoring Location REC-001

7.1.1. The Permittee shall monitor tertiary treated wastewater to be recycled at Monitoring Location REC-001 during periods of discharge to the Recycled Water Storage Pond(s), as follows:

Table E-6. Recycled Water Monitoring Requirements – Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Effluent Flow ⁽²⁾	mgd	Meter	Continuous	--
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	Grab	Weekly	Standard Methods
Total Suspended Solids (TSS)	mg/L	Grab	Weekly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
pH	Standard units	Grab	Weekly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Daily	Standard Methods

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The Permittee shall report the average daily and average monthly flows.

8. RECEIVING WATER MONITORING REQUIREMENTS

8.1. Monitoring Location RSW-001

8.1.1. The Permittee shall monitor the Russian River at Monitoring Location RSW-001 during periods of discharge to the Russian River follows:

Table E-7. Receiving Water Monitoring – Monitoring Location RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Flow	mgd	Gauge ⁽²⁾	Daily	--
pH	Standard units	Grab	Weekly ⁽³⁾	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Monthly ⁽⁴⁾	Standard Methods
Manganese, Total Recoverable	µg/L	Grab	Monthly	Standard Methods
Dissolved Organic Carbon	mg/L	Grab	Monthly ⁽⁴⁾	Standard Methods
Copper, Total Recoverable	µg/L	Grab	Monthly ⁽⁵⁾	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Weekly ⁽³⁾	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Weekly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Hardness, Total (as CaCO ₃)	mg/L	Grab	Monthly ^(4,5)	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
<i>E. coli</i> Bacteria ⁽⁶⁾	MPN/100 mL	Grab	Monthly	Standard Methods
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Standard Methods
Temperature	°C	Grab	Weekly ^(3,7)	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods
Turbidity	NTU	Grab	Weekly	Standard Methods
Phosphorus, Total as P	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants ⁽⁸⁾	µg/L	Grab	Once per permit term	Standard Methods

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The flow rate shall be determined using the flow at USGS Gauge No. 11462500.
3. Receiving water monitoring for pH, temperature, and ammonia shall coincide with effluent monitoring for ammonia.
4. Receiving water monitoring for aluminum, pH, dissolved organic carbon, and hardness shall be conducted concurrently with effluent monitoring for aluminum.
5. Receiving water monitoring for copper and hardness shall be conducted concurrently with effluent monitoring for copper.
6. The Permittee may use any *E. coli* method specified in 40 CFR 136 for compliance monitoring.
7. Receiving water monitoring for temperature shall occur concurrently with effluent monitoring at EFF-001B when discharges are occurring to the Russian River.
8. Analytical methods must achieve the lowest minimum level (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.

8.2. Monitoring Locations RSW-002

8.2.1. The Permittee shall monitor the Russian River at Monitoring Location RSW-002 during periods of discharge to the Russian River follows:

Table E-8. Receiving Water Monitoring – Monitoring Location RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
pH	Standard units	Grab	Weekly ⁽²⁾	Standard Methods
Dissolved Oxygen	mg/L	Grab	Weekly	Standard Methods
Specific Conductance @ 77°F	µmhos/cm	Grab	Monthly	Standard Methods
Temperature	°C	Grab	Weekly ⁽²⁾	Standard Methods
Total Dissolved Solids	mg/L	Grab	Monthly	Standard Methods
Turbidity	NTU	Grab	Weekly	Standard Methods

Table Notes

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. Receiving water monitoring for pH and temperature shall coincide with effluent monitoring for ammonia.

8.3. Groundwater Monitoring to Assess Impacts of Percolation Pond Discharge

8.3.1. The Permittee shall monitor groundwater to assess impacts from percolation pond disposal at Monitoring Locations GW-001, GW-002, GW-003, GW-004 and GW-005, and any new or replacement groundwater monitoring wells. All samples shall be collected using approved EPA methods and in accordance with the Permittee’s Groundwater QA/QC Plan. The groundwater monitoring program is as follows:

Table E-6. Groundwater Monitoring – Monitoring Locations GW-001 through GW-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Surveyed Groundwater Level ⁽²⁾	feet	--	Quarterly ⁽³⁾	--
pH	standard units	Grab	Quarterly ⁽³⁾	Standard Methods
Sodium	mg/L	Grab	Quarterly ⁽³⁾	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method ⁽¹⁾
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Quarterly ⁽³⁾	Standard Methods
Nitrite Nitrogen, Total (as N)	mg/L	Grab	Quarterly ⁽³⁾	Standard Methods
Specific Conductance @ 77°F	µmhos/cm	Grab	Quarterly ⁽³⁾	Standard Methods
Total Dissolved Solids	mg/L	Grab	Quarterly ⁽³⁾	Standard Methods
Oxidation Reduction Potential (ORP)	millivolts	Grab	Quarterly ⁽³⁾	Standard Methods
Dissolved Oxygen	mg/L	Grab	Quarterly ⁽³⁾	Standard Methods
Temperature	°C or °F	Grab	Quarterly ⁽³⁾	Standard Methods

Table Notes

In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.

1. Monthly sampling shall occur during periods that the Permittee is discharging to the Russian River at Discharge Point 001. The sampling shall occur concurrently with receiving water monitoring at RSW-001 and RSW-002.
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. Each year between May 15 and May 21, the Permittee shall sample the receiving water for these parameters concurrently with effluent monitoring at Monitoring Location EFF-002 and groundwater monitoring.

8.3.2. On June 7, 2018, the Permittee submitted a revised Groundwater Monitoring Plan (Plan). The Plan addresses specific procedures to be followed to ensure that groundwater sampling data is reliable and defensible and includes a procedure for testing an additional sample anytime there are detections of monitored pollutants above a specific threshold. The Plan has been developed in accordance with acceptable QA/QC standards. The Permittee shall keep this

Plan updated to reflect any changes in the Permittee's groundwater monitoring program and procedures.

- 8.3.3. **Groundwater Monitoring Reports.** Groundwater monitoring data shall be maintained in a spreadsheet format that allows for analysis of the on-going data. The electronic spreadsheet shall be submitted with the groundwater monitoring reports.

9. OTHER MONITORING REQUIREMENTS

9.1. Filtration Process Monitoring

Filtration process monitoring shall demonstrate compliance with section 4.4.1 (Filtration Process Requirements) of the Order and applies to all treated wastewater flows at Discharge Points 001 and 003. The following filtration process monitoring shall be implemented:

9.1.1. Effluent Filter Monitoring (Monitoring Location INT-001A)

- 9.1.1.1. **Monitoring.** The Permittee shall calculate, on a daily basis, the surface loading rate in gallons per minute per square foot and report the maximum surface loading rate and any exceedances of the surface loading rate limitations specified in section 4.4.1.1 of the Order. The rate of flow through the advanced wastewater treatment process filters shall be measured at Monitoring Location INT-001A.
- 9.1.1.2. **Compliance.** Compliance with the maximum daily filter surface loading rate, as specified in section 60301.320 of the CCR Water Recycling Criteria (title 22), shall be calculated based on the flow rate through each filter unit.
- 9.1.1.3. **Reporting.** The maximum daily filter surface loading rate, maximum daily flow rate, and daily average flow rate shall be reported on the quarterly SMR's.

9.1.2. Effluent Filter Monitoring (Monitoring Location INT-001B)

- 9.1.2.1. **Monitoring.** The turbidity of the filter effluent shall be continuously measured and recorded. Should the turbidity meter and recorder fail, grab sampling at a minimum frequency of 1.2 hours may be substituted for a period of up to 24 hours. The recorded data shall be maintained by the Permittee for at least 3 years. The daily maximum, daily average, and 95th percentile turbidity results shall be reported for monitoring location INT-001B on the quarterly SMRs.
- 9.1.2.2. **Compliance.** Compliance with the 95th percentile effluent turbidity limitation specified in title 22, as referenced in section 4.4.1.2 of the Order, shall be determined using the levels of recorded turbidity taken at intervals of no more than 1.2 hours over a 24-hour period. Exceedances of the maximum turbidity requirement referenced in section 4.4.1.2 of this Order shall not be considered

a violation of these waste discharge requirements if such exceedance does not exceed a duration of one minute.

- 9.1.2.3. **Reporting.** If the filtered effluent turbidity exceeds 2 NTU, based on a daily average, 5 NTU for more than 15 minutes, or 10 NTU at any time, the incident shall be reported in the quarterly SMR and to the Regional Water Board and the Division of Drinking Water (DDW) by telephone within 24 hours in accordance with Provision 6.1.2.2 of the Order. A written report describing the incident and the actions undertaken in response shall be included in the quarterly SMR. Mitigation of the event shall consist of diverting all inadequately treated wastewater to temporary storage or an upstream process or automatically activated chemical addition to comply with title 22 requirements (sections 60304 and 60307).

9.2. Disinfection Process Monitoring for Chlorine Disinfection System

Disinfection process monitoring shall demonstrate compliance with section 4.4.2 (Disinfection Process Requirements for Chlorine Disinfection System) of this Order. Disinfection process monitoring at Monitoring Location EFF-001A shall apply to all treated wastewater flows through Discharge Points 001 and 003. The following disinfection process monitoring requirements must be implemented:

9.2.1. Disinfection Process Monitoring (Monitoring Location EFF-001A)

- 9.2.1.1. **Monitoring.** When discharging to Discharge Points 001 and 003, the chlorine residual of the effluent from the advanced wastewater treatment chlorine contact basin shall be monitored continuously at a point prior to dechlorination and recorded, and the modal contact time shall be determined at the same point.
- 9.2.1.2. **Compliance.** When discharging to Discharge Point 003, the chlorine disinfection CT (the product of total chlorine residual and modal contact time) shall not fall below 450 mg-min/L, with a modal contact time of at least 90 minutes.

Each day, the Permittee shall calculate the CT values for the following conditions:

- 9.2.1.2.1. Modal contact time under highest daily flow and corresponding chlorine residual.
- 9.2.1.2.2. Modal contact time under lowest daily flow and corresponding chlorine residual.
- 9.2.1.2.3. Lowest chlorine residual and corresponding modal contact time.
- 9.2.1.2.4. Highest chlorine residual and corresponding modal contact time.

The lowest calculated CT value under the aforementioned conditions shall be reported as the daily CT value on the quarterly SMR.

- 9.2.1.3. **Reporting.** If the chlorine disinfection CT is less than 450 mg-min/L or if the chlorination equipment fails, the event shall be reported in the quarterly SMR and the incident shall be reported to the Regional Water Board and DDW by telephone within 24 hours in accordance with Provision 6.1.2.2 of the Order. A written report describing the incident and the actions undertaken in response shall be included in the quarterly SMR. The report shall describe the measures taken to bring the discharge into compliance. Upon discovery of any equipment failure or failure to achieve 450 mg-min/L after disinfection, inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

9.3. Visual Monitoring (Monitoring Locations EFF-001B, RSW-001, and RSW-002)

- 9.3.1. Visual observations of the discharge (Monitoring Location EFF-001B) 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.

9.4. Seep Monitoring (SEEP-001, etc.)

- 9.4.1. Visual monitoring for groundwater seeps along the banks of the receiving water directly east of the Facility shall be conducted weekly following any ripping work performed on the percolation ponds. Weekly visual monitoring for groundwater seeps may be discontinued two months following the date on which the percolation pond maintenance was performed. If groundwater seeps are observed, the location and approximate flow rate shall be reported in the quarterly SMR.

9.5. Sludge Monitoring (Monitoring Location BIO-001)

- 9.5.1. Sludge sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.
- 9.5.2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and for handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for developing the Sludge Handling and Disposal report that is required as part of the Annual Report.

10. REPORTING REQUIREMENTS

10.1. Special Studies, Technical Papers, and Additional Monitoring Requirements

10.1.1. **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 **April 1, 2026**, for Executive Officer review and approval.

The Permittee shall: (1) conduct an assessment of the wastewater treatment facility, operations, collection, and discharge systems (including the discharge outfall) 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.

10.2. General Monitoring and Reporting Requirements

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

10.3. Self-Monitoring Reports (SMRs)

10.3.1. The Permittee shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there

will be a planned service interruption for electronic submittal. The 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.

10.3.2. The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 9. 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.

10.3.3. All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.

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

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following the end of each quarter (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	Quarter 1 due May 1, Quarter 2 due August 1, Quarter 3 due November 1, Quarter 4 due February 1
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Quarter 1 due May 1, Quarter 2 due August 1, Quarter 3 due November 1, Quarter 4 due February 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	1st day of calendar month through last day of calendar month	Quarter 1 due May 1, Quarter 2 due August 1, Quarter 3 due November 1, Quarter 4 due February 1
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31, April 1 through June 30, July 1 through September 30, October 1 through December 31	Quarter 1 due May 1, Quarter 2 due August 1, Quarter 3 due November 1, Quarter 4 due February 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
Once per permit term	Permit effective date	All	March 1 following the year that monitoring is completed (with annual report) with last data to be submitted at least 180 days prior to permit expiration

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

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

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

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

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ 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.

- 10.3.5.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- 10.3.5.4. 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.
- 10.3.6. The Permittee shall submit SMRs in accordance with the following requirements:
 - 10.3.6.1. 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 calculations 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.
 - 10.3.6.2. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
 - 10.3.6.2.1. Facility name and address;
 - 10.3.6.2.2. WDID number;
 - 10.3.6.2.3. Applicable period of monitoring and reporting;
 - 10.3.6.2.4. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
 - 10.3.6.2.5. Corrective actions taken or planned; and
 - 10.3.6.2.6. The proposed time schedule for corrective actions.
 - 10.3.6.3. 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) (<http://www.waterboards.ca.gov/ciwqs/index.html>).

10.3.6.4. The Permittee shall also submit all groundwater monitoring data to the State Water Board's Geographic Environmental Information Management System database ([GeoTracker](http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml)) at http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml.

10.3.6.5. 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 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](http://waterboards.ca.gov/northcoast) (<http://waterboards.ca.gov/northcoast>).

10.4. Discharge Monitoring Reports (DMRs)

10.4.1. 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. Electronic DMR submittal shall be in addition to electronic SMR submittal. 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, November 1). Information about electronic DMR submittal is available at the [DMR website](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring): (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring).

10.5. Other Reports

10.5.1. **Special Study Reports and Progress Reports.** As specified in the Special Provisions contained in section 6.3. of the Order, special study and progress reports shall be submitted in accordance with the following reporting requirements.

Table E-8. Reporting Requirements for Special Provisions Reports

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision 6.3.2.1	Pollutant Minimization Program	If required by the Regional Water Board Executive Officer
Special Provision 6.3.2.2.5	Pollutant Minimization Program, Annual Facility Report	March 1, annually, following development of Pollutant Minimization Program
Special Provision 6.3.4.1.1	Source Control Program Technical Report	October 1, 2025
Special Provision 6.3.4.1.2	Source Control Provisions, Annual Report	March 1, annually

Order Section	Special Provision Requirement	Reporting Requirements
Special Provision 6.3.4.1.2.3.2	Industrial Waste Survey and Priority Pollutant Monitoring	June 1, 2027
Special Provision 6.3.4.5	Adequate Capacity, Technical Report	Within 120 days of notification that the Facility will reach capacity within 4 years
MRP General Monitoring Provision 1.6	DMR-QA Study Report	Annually, per State Water Board instructions
MRP Effluent Monitoring Requirement 5.1.12	Verbal and written notification of chronic toxicity fail result	Within 24 hours after receipt of a fail result.
MRP Effluent Monitoring Requirement 5.2.1	Generic TRE Work Plan review and update	Review by June 1, 2025. Update as necessary
MRP Effluent Monitoring Requirement 5.2.2	TRE Workplan	No later than 30 days receipt of the chronic toxicity monitoring result, or other toxicity event, that initiated the TRE requirement.
MRP Section 10.1.1	Disaster Preparedness Assessment Report and Action Plan	April 1, 2026
MRP Reporting Requirement 10.5.2	Annual Report	March 1, annually
MRP Reporting Requirement 10.5.3	Annual Volumetric Report	April 30, annually
MRP Reporting Requirement 10.6.1	Notification of spills and unauthorized discharges.	Oral reporting within 24 hours and written report within 5 days

10.5.2. **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 a paper copy of the annual report is required, the Permittee shall submit the report to the email address in section 10.3.6.5, above. The report shall be submitted by **March 1st** of the following year. The report shall, at a minimum, include the following:

10.5.2.1. 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.

- 10.5.2.2. 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.
- 10.5.2.3. The names and general responsibilities of all persons employed at the Facility;
- 10.5.2.4. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and
- 10.5.2.5. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
- 10.5.2.6. **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 6.3.4.1, during the past year. This annual report is due on **March 1st** of each year, and shall contain:
 - 10.5.2.6.1. A copy of the source control standards, including a table presenting local limits.
 - 10.5.2.6.2. A description of the waste hauler permit system; if applicable.
 - 10.5.2.6.3. 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.
 - 10.5.2.6.4. 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.
 - 10.5.2.6.5. The name and address of each user that received a discharge limit.
 - 10.5.2.6.6. A summary of any industrial waste survey results.

10.5.2.6.7. 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.

10.5.2.7. **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:

10.5.2.7.1. Annual sludge production, in dry tons and percent solids;

10.5.2.7.2. Sludge monitoring results;

10.5.2.7.3. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram;

10.5.2.7.4. Methods of final disposal of sludge:

10.5.2.7.4.1. 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.

10.5.2.7.4.2. 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.

10.5.2.7.4.3. 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.

10.5.2.7.5. 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.

10.5.2.8. **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.

10.5.3. **Annual Volumetric Reporting.** The Permittee shall electronically certify and submit an annual volumetric report, containing monthly data in electronic format, to State Water Board's [GeoTracker system](https://geotracker.waterboards.ca.gov/) (<https://geotracker.waterboards.ca.gov/>) by **April 30** of the following year. Required data shall be submitted to the GeoTracker database under a site-specific global identification number. The Permittee shall report in accordance with each of the items in Section 3 of the Recycled Water Policy as described below:

10.5.3.1. **Influent.** Monthly volume of wastewater collected and treated by the Facility.

10.5.3.2. **Production.** Monthly volume of wastewater treated, specifying level of treatment.

10.5.3.3. **Discharge.** Monthly volume of treated wastewater discharged to each of the following, specifying level of treatment:

10.5.3.3.1. Inland surface waters, specifying volume required to maintain minimum instream flow, if any; and

10.5.3.3.2. Land, where beneficial use is not taking place, including evaporation or percolation ponds, overland flow, or spray irrigation disposal, excluding pasture or fields with harvested crops.

10.5.3.4. **Reuse**

10.5.3.4.1. Monthly Volume of treated wastewater distributed.

10.5.3.4.2. Annual volume of treated wastewater distributed for beneficial use in compliance with California Code of Regulations, title 22 in each of the use categories listed below:

10.5.3.4.3. Agricultural irrigation: pasture or crop irrigation.

10.5.3.4.4. Landscape irrigation: irrigation of parks, greenbelts, and playgrounds; school yards; athletic fields; cemeteries; residential landscaping, common areas; commercial landscaping; industrial landscaping; and freeway, highway, and street landscaping.

10.5.3.4.5. Golf course irrigation: irrigation of golf courses, including water used to maintain aesthetic impoundments within golf courses.

10.5.3.4.6. Commercial application: commercial facilities, business use (such as laundries and office buildings), car washes, retail nurseries, and appurtenant landscaping that is not separately metered.

10.5.3.4.7. Industrial application: manufacturing facilities, cooling towers, process water, and appurtenant landscaping that is not separately metered.

10.5.3.4.8. Geothermal energy production: augmentation of geothermal fields.

10.5.3.4.9. Other non-potable uses: including but not limited to dust control, flushing sewers, fire protection, fill stations, snow making, and recreational impoundments.

10.5.4. Annual Biosolids Reporting

10.5.4.1. The Permittee shall electronically certify and submit an annual biosolids report to U.S. EPA by February 19 of the following 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.

10.6. Spill Notification

10.6.1. **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 Board³ within 24 hours from the time the Permittee becomes aware of the circumstances and a written report shall also be provided within five days of the time the Permittee becomes aware of the circumstances, in accordance with section 5.5 of Attachment D.

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

10.6.1.1. Name and contact information of caller;

10.6.1.2. Date, time, and location of spill occurrence;

10.6.1.3. Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;

10.6.1.4. Surface water bodies impacted, if any;

10.6.1.5. Cause of spill, if known at the time of the notification;

10.6.1.6. Cleanup actions taken or repairs made at the time of the notification; and

³ 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.

10.6.1.7. Responding agencies.

10.6.2. **Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows is conducted in accordance with the requirements of Order No. WQ 2022-0103-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated herein by reference, and any revisions thereto.

10.6.3. **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:

10.6.3.1. **Tertiary Recycled Water**⁴

10.6.3.1.1. For unauthorized discharges of 50,000 gallons or more of tertiary 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.

10.6.3.1.2. For unauthorized discharges of more than 1,000 gallons, but less than 50,000 gallons of tertiary recycled water, the Permittee shall notify the Regional Water Board as soon as possible, but no longer than three days after becoming aware of the discharge.

⁴ Tertiary Recycled Water means “disinfected tertiary 2.2 recycled water” as defined by DDW or wastewater receiving advanced treatment beyond disinfected tertiary 2.2 recycled water.

ATTACHMENT F - FACT SHEET

TABLE OF CONTENTS

1. Permit Information.....	F-3
2. Facility Description	F-5
2.1. Description of Wastewater and Biosolids Treatment and Controls.....	F-5
2.2. Discharge Points and Receiving Waters	F-7
2.3. Summary of Existing Requirements and SMR Data.....	F-8
2.4. Compliance Summary	F-12
2.5. Planned Changes.....	F-12
3. Applicable Plans, Policies, and Regulations.....	F-12
3.1. Legal Authorities.....	F-12
3.2. California Environmental Quality Act (CEQA).....	F-13
3.3. State and Federal Laws, Regulations, Policies, and Plans.....	F-13
3.4. Impaired Water Bodies on the CWA section 303(d) List.....	F-17
3.5. Other Plans, Polices and Regulations	F-18
4. Rationale for Effluent Limitations and Discharge Specifications.....	F-20
4.1. Discharge Prohibitions.....	F-20
4.2. Technology-Based Effluent Limitations	F-24
4.3. Water Quality-Based Effluent Limitations (WQBELs)	F-27
4.4. Final Effluent Limitation Considerations	F-42
4.5. Interim Effluent Limitations – Not Applicable	F-44
4.6. Land Discharge Specifications	F-44
4.7. Recycling Specifications.....	F-46
4.8. Other Requirements	F-48
5. Rationale for Receiving Water Limitations.....	F-49
5.1. Surface Water.....	F-49
5.2. Groundwater.....	F-49
6. Rationale for Provisions	F-50
6.1. Federal Standard Provisions	F-50
6.2. Regional Water Board Standard Provisions	F-50
6.3. Special Provisions	F-51
7. Rationale for Monitoring and Reporting Requirements	F-56
7.1. Influent Monitoring	F-56
7.2. Effluent Monitoring.....	F-56
7.3. Whole Effluent Toxicity Testing Requirements	F-58
7.4. Recycled Water Monitoring Requirements (REC-001)	F-59
7.5. Receiving Water Monitoring.....	F-59

7.6. Other Monitoring Requirements..... F-60
7.7. Special Studies and Additional Monitoring Requirements F-61
8. Public Participation..... F-61
8.1. Notification of Interested Parties..... F-61
8.2. Written Comments..... F-62
8.3. Public Hearing F-62
8.4. Reconsideration of Waste Discharge Requirements F-63
8.5. Information and Copying F-63
8.6. Register of Interested Persons F-63
8.7. Additional Information..... F-63

TABLE OF TABLES

Table F-1. Facility Information..... F-3
Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point
001 ⁽¹⁾ F-9
Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point
002 ⁽¹⁾ F-10
Table F-4. Basin Plan Beneficial Uses F-14
Table F-5. Summary of Reasonable Potential Analysis Results for Priority
Pollutants, Ammonia, and Title 22 Pollutants..... F-35
Table F-6. Determination of Long-Term Averages F-38
Table F-7. Determination of Final WQBELs Based on Aquatic Life Criteria F-39
Table F-8. Determination of Final WQBELs Based on Human Health Criteria..... F-39
Attachment F-1. Wastewater Treatment Facility RPA Summary F-64

ATTACHMENT F - FACT SHEET

As described in section 2.2 of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Permittees 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.

1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	1B84029OMEN
Permittee	City of Ukiah
Name of Facility	City of Ukiah Wastewater Treatment Plant
Facility Address	300 Plant Road Ukiah, CA 95482 Mendocino County
Facility Contact, Title and Phone	Sean White, Director of Water and Sewer (707) 467-5712
Authorized Person to Sign and Submit Reports	Sean White, Director of Water and Sewer (707) 467-5712
Mailing Address	300 Seminary Avenue Ukiah, CA 95482
Billing Address	Same as Mailing Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N/A
Recycling Requirements	Producer

Facility Permitted Flow	Secondary Wastewater Treatment: 3.01 million gallons per day (mgd) (average dry weather flow) 24.5 mgd (peak wet weather flow) Advanced Wastewater Treatment: 7.0 mgd (peak wet weather flow)
Facility Design Flow	Secondary Wastewater Treatment: 3.01 mgd (average dry weather treatment capacity) 24.5 mgd (peak wet weather treatment capacity) Advanced Wastewater Treatment: 7.0 mgd (peak wet weather treatment capacity)
Watershed	Russian River Hydrologic Unit, Ukiah Hydrologic Subarea
Receiving Water	Russian River
Receiving Water Type	Inland Surface Water

1.1. The City of Ukiah (hereinafter Permittee) is the owner and operator of the City of Ukiah Wastewater Treatment Plant (hereinafter Facility), a Publicly-Owned Treatment Works (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.

- 1.2. The Facility discharges tertiary treated wastewater to the Russian River, a water of the United States. The Permittee was previously regulated by Order No. R1-2018-0035 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022888 adopted on September 6, 2018 and expired on October 31, 2023. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility. A site visit was conducted on May 25, 2023 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- 1.3. The Permittee filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on November 1, 2022. The application was deemed complete on March 20, 2023. Submittal of a complete ROWD allowed for Order No. R1-2018-0035 to be automatically administratively extended and remain in effect until the revised NPDES permit can be adopted.
- 1.4. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Permittee complies with all federal NPDES requirements for continuation of expired permits.

2. FACILITY DESCRIPTION

The Permittee owns and operates a municipal wastewater treatment plant (WWTP) and associated collection system. The Facility serves the City of Ukiah and residential areas to the north and south of Ukiah, as well as east of the Russian River. The Facility treats wastewater from two entities, the City of Ukiah and the Ukiah Valley Sanitation District (UVSD). The Facility serves a population of approximately 22,078, including 16,600 within the City of Ukiah and 5,478 in the UVSD. The UVSD also serves Mendocino College, El Dorado Estates, Vichy Springs and areas contiguous to the City of Ukiah. The UVSD owns the collection system in its service area and the City of Ukiah maintains it. The City of Ukiah does not accept wastewater from any collection system not owned or maintained by the City.

2.1. Description of Wastewater and Biosolids Treatment and Controls

2.1.1. Collection System

The wastewater collection system in the City of Ukiah and UVSD consists of approximately 67 miles of pipelines that are 6-inches in diameter or larger. A trunk sewer that ranges in size from 15 to 42 inches in diameter extends northward from the Facility for a distance of 6 miles. The majority of the sewers are gravity collection lines. There are no bypass or overflow structures in the system.

Three lift stations from El Dorado Estates, Ford Street, and Vichy Springs discharge to force mains that cross under the Russian River. Each lift station has a bypass pipe around the pumps that allows the system to flow by gravity (via a siphoning effect), and prevent lift station overflows.

Leachate from the City of Ukiah's municipal landfill is discharged to the Facility. Leachate is clarified in a sedimentation basin at the landfill and subsequently stored in above-ground tanks prior to being pumped to the sewer line. The leachate is analyzed on a quarterly basis for pollutants of concern, including total dissolved solids, nutrients, biochemical oxygen demand (BOD₅), volatile organic compounds and petroleum hydrocarbons. Monitoring results demonstrate that the leachate does not contain any pollutants that could cause upset conditions at the Facility. Volumes of leachate discharged to the Facility vary from month to month and may be mixed with rainwater in the winter. Leachate discharges occur primarily during wet weather months.

The flow from commercial and business facilities is approximately 28 percent of the total plant inflow. Commercial and business facilities served by the Facility include restaurants, hotels, car washes, automotive mechanics, car dealerships, hospitals, dental offices, photo processors, and other typical small city businesses. The remaining 72 percent of flow is considered residential flow. The Permittee had a large industrial user, Mendocino Brewing Company, which was required to pretreat its wastewater to lower the BOD₅ and total suspended solids (TSS) and monitor BOD₅ and TSS prior to discharging to the Facility. The brewery closed in 2017, but could reopen in the future. The Permittee does not accept flow from septage, chemical toilets, or other bulk waste sources.

2.1.2. **Wastewater Treatment Facility**

The Facility is designed to treat an average dry weather flow of 3.01 mgd and a peak wet weather flow of 24.5 mgd of secondary treated wastewater, as well as a peak wet weather flow of 7.0 mgd of advanced treated wastewater. The Facility's secondary treatment train consists of an influent wet well, bar screens, aerated grit removal, primary clarifiers, trickling filters, aerated solids contact tank, secondary clarifiers, and a chlorine contactor pipe where secondary disinfection is performed using sodium hypochlorite. The Facility's advanced treatment train includes the addition of ferric chloride and polymer to adsorption clarifiers and multi-media filters.

Advanced treated effluent is disinfected with sodium hypochlorite in the tertiary chlorine contact basin and sent to the Recycled Water Storage Ponds for distribution to recycled water users. When there is insufficient capacity in the Recycled Water Storage Ponds, secondary effluent is disinfected with sodium hypochlorite in the secondary chlorine contact basin and sent to the percolation ponds for disposal. If there is insufficient capacity in the recycled water storage ponds or the percolation ponds during the allowable discharge season (October

1 through May 14), the advanced treated effluent is dechlorinated with sodium bisulfite and discharged to the Russian River.

2.1.3. **Recycled Water**

The Permittee produces disinfected tertiary recycled water. The Facility has three recycled water storage ponds with synthetic liners to provide storage for the disinfected tertiary treated recycled water and delivers it to authorized recycled water users. Recycled water is delivered by a recycled water pump station and transmission system to a recycled water fill station and metered customers. Delivery of recycled water to users began in July 2019.

This Order includes requirements for the production of recycled water at the Facility. The use of recycled water from the Facility is covered separately under State Water Resources Control Board Order No. WQ 2016-0068-DWQ, General Waste Discharge Requirements for Recycled Water Use (Recycled Water General Order), and any subsequent revision thereof.

2.1.4. **Biosolids Management**

Biosolids generated during the treatment process are reduced through thickening in dissolved air flotation units followed by stabilization using anaerobic digesters (mesothermic). Digested sludge is dewatered using a belt-filter press. During the term of this permit, the belt-filter press is anticipated to be replaced with a FKC Screw Press that can operate continuously (through SCADA) that will reduce the pollutant loading of the pressate returned to the headworks after biosolids treatment.

2.2. **Discharge Points and Receiving Waters**

- 2.2.1. The Facility is located within the Ukiah Hydrologic Subarea within the Upper Russian River Hydrologic Unit.
- 2.2.2. During the wet weather season (October 1 – May 14), effluent treated in accordance with permit requirements in section 4.1 of the Order may be discharged from the Facility via an outfall pipe at Discharge Point 001 to the Russian River, a water of the United States, at a point latitude 39° 07' 07" N and longitude 123° 11' 28" W. The rate of discharge is governed by flow conditions in the Russian River, monitored near Hopland at United States Geological Survey (USGS) Gauge No. 11462500, and is limited to a rate not to exceed one percent of the flow of the Russian River. The Permittee preferentially discharges disinfected secondary treated effluent to its percolation ponds and utilizes its advanced wastewater treatment facilities and outfall as needed to balance flows.
- 2.2.3. The Facility has three percolation ponds located adjacent to the Russian River, with a combined storage capacity of 115 million gallons. The Permittee discharges disinfected secondary wastewater to the percolation ponds year-round at Discharge Point 002. Percolation Pond 1 is 14.7 acres and has a

design percolation rate of 50,000 gallons per day (gpd) per acre. Percolation Pond 2 is 14.7 acres and has a design percolation rate of 80,000 gpd per acre. Percolation Pond 3 is 12.4 acres and has a design percolation rate of 175,000 gpd per acre. These ponds are maintained to maximize percolation by alternately ripping the bottom of one pond each summer to increase permeability. The ponds' bottoms slope toward the Russian River.

- 2.2.4. The Facility also discharges advanced treated disinfected wastewater to the recycled water storage ponds at Discharge Point 003. Recycled water from the storage ponds is delivered through a recycled water pump station and transmission system, and connections to metered recycled water customers. Recycled water uses are covered under the Recycled Water General Order as further described in section 2.1.3, above.

2.3. **Summary of Existing Requirements and SMR Data**

Effluent limitations contained in Order No. R1-2018-0035 for discharges from Discharge Point 001 (Monitoring Location 001) and Discharge Point 002 (Monitoring Location 002) and representative monitoring data from the term of Order No. R1-2018-0035 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001 ⁽⁰⁾

Parameter	Units	Effluent Limitations			Monitoring Data (November 2018 – January 2023)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	10	15	--	10.3	11.0	11.0
Total Suspended Solids (TSS)	mg/L	10	15	--	4.2	6.6	6.6
pH	standard units	--	--	6.5 – 8.5 ⁽³⁾	--	--	6.42 – 7.59
Copper, Total Recoverable	µg/L	21	--	40	68	--	68
Cyanide, Total (as CN)	µg/L	4.3	--	8.5	4.5	--	4.5
2,3,7,8-TCDD	pg/L	--	--	--	327	--	327
Dichlorobromomethane	µg/L	0.56	--	1.7	0.6	--	0.6
Chlorodibromomethane	µg/L	0.40	--	0.80	0.05	--	0.05
Ammonia, Total (as N)	mg/L	2.5	--	5.6	14.7	--	17
Chlorine, Total Residual	mg/L	0.01	--	0.02	0.1	--	3
Nitrate, Total (as N)	mg/L	10	--	--	15.5	--	16
Total Coliform Organisms ⁴	MPN/100 mL	--	2.2 ⁽⁵⁾	23/240 ^(6,7)	--	240	1,600

Parameter	Units	Effluent Limitations			Monitoring Data (November 2018 – January 2023)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
<u>Table Notes</u>							
1. Based on the peak wet weather design capacity of the advanced wastewater treatment filtration system of 7.0 mgd.							
2. Represents the minimum observed percent removal.							
3. Represents instantaneous minimum and instantaneous maximum effluent limits.							
4. Compliance with effluent limits for total coliform organisms measured at previous Monitoring Location EFF-001A.							
5. Expressed as a 7-day median.							
6. The number of coliform bacteria shall not exceed an MPN of 23 per 100 mL in more than one sample in any 30-day period.							
7. No sample shall exceed an MPN of 240 coliform bacteria per 100 mL.							

Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point 002 ⁽⁰⁾

Parameter	Units	Effluent Limitations			Monitoring Data (November 2018 – January 2023)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	mg/L	30	45	--	54	82	82

Parameter	Units	Effluent Limitations			Monitoring Data (November 2018 – January 2023)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Total Suspended Solids (TSS)	mg/L	30	45	--	21	96	96
pH	standard units	--	--	6.0 – 9.0 ⁽³⁾	--	--	6.10 – 8.16
Total Coliform Organisms ⁴	MPN/100 mL	--	23 ⁽⁵⁾	240 ⁽⁶⁾	--	240	920

Table Notes

1. Based on the peak wet weather design capacity of the advanced wastewater treatment filtration system of 7.0 mgd.
2. Represents the minimum observed percent removal.
3. Represents instantaneous minimum and instantaneous maximum effluent limits.
4. Compliance with effluent limits for total coliform organisms measured at previous Monitoring Location EFF-001A.
5. Expressed as a 7-day median.
6. The number of coliform bacteria shall not exceed an MPN of 240 per 100 mL in more than one sample in any 30-day period.

2.4. Compliance Summary

On November 16, 2021, the Regional Water Board invited the Discharger to enter settlement negotiations prior to the Regional Water Board issuing an administrative civil liability complaint (ACLC) for 72 violations of effluent limitations, of which 58 violations were exempt due to interim effluent limitations set forth in Cease and Desist Order No. R1-2012-0069 and Time Schedule Order No. R1-2018-0051. The remaining 25 effluent violations were subject to minimum mandatory penalties (MMPs) pursuant to Water Code section 13385(h) and (i). These violations were for exceedances of ammonia, biochemical oxygen demand, total coliform, copper, cyanide, total residual chlorine, and nitrate in Order Nos. R1-2012-0068 and R1-2018-0035. The ACL Complaint assessed a penalty of \$75,000 for these violations. On December 21, 2022, the Executive Officer issued a Settlement Agreement and Stipulation for Entry of ACL Order No. R1-2022-0042 and assessed \$75,000 in total penalties. The Parties agree that the full \$75,000 of this administrative civil liability shall be permanently suspended pending completion of the Compliance Project (CP). The CP consists of replacing the Facility's belt filter press with a screw press to enhance biosolids dewatering, reduce maintenance time, and improve effluent quality at the Ukiah City WWTP. The project is ongoing and is expected to be completed in Fall 2024.

2.5. Planned Changes

During the term of this Order, the Permittee anticipates completing constructing of the Phase 4 projects related to their recycled water system. This project will include the installation of online analyzers and automatic actuation valves and expand the recycled water distribution system for users west of Highway 101 and further reduce effluent discharges to the Russian River. Additionally, this project will add a Production Augmentation Unit to the treatment system that will allow the Permittee to increase production flows during periods of low influent flow to provide recycled water for landscape irrigation, agricultural irrigation, and frost protection.

Other planned changes to the Facility include SCADA/PLC upgrades to improve communication and reliability of the Facility's control system. This upgrade will also allow for remote viewing of WWTP data and better protection against cyber threats. Additional planned changes include the replacement of the belt filter press with a FKC Screw Press and installation of a new Suspended Air Floatation (SAF) system for solids treatment.

3. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

3.1. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also

issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Permittee to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order. This Order also serves as WDRs for recycled water production pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

3.2. **California Environmental Quality Act (CEQA)**

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

The water recycling section of this permit is not, however, addressed by an NPDES permit and is regulated under waste discharge requirements under State law only.

In December 2021, the City of Ukiah issued an addendum to their Initial CEQA Study/Mitigated Negative Declaration (IS/MND) (SCH No. 2013032072) that was adopted in June 2013 for the Ukiah Water Recycling Project. Since 2013, the City of Ukiah has prepared three addendums to the adopted IS/MND. The December 2021 Addendum identifies Phase 4 refinements to the Ukiah Water Recycling Project. These refinements include the addition of a 2-million gallon recycled water storage tank with a 300-hp booster pump station and improvements to the existing WWTP secondary effluent pond. The City of Ukiah found that the refinements will not result in new significant impacts, substantially increase the severity of previously disclosed impacts, nor involve any of the other conditions related to changed circumstances or new information that can require a subsequent or supplemental EIR under Public Resources Code section 21166 and CEQA Guidelines section 15162 beyond those impacts and conditions already identified in the City's Public Draft and Final IS/MND. The December 2021 Addendum was circulated for a 15-day comment period and a Notice of Completion was issued for this Addendum on December 3, 2021. As a responsible agency under CEQA, the Regional Water Board has considered the Final IS/MND and addendums prepared by the City and finds the refinements will not result in any new conditions outlined under CEQA Guidelines section 15162 or 15163 that would require the preparation of a subsequent or supplemental CEQA document for impacts to resources within the Regional Water Board's purview.

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

3.3.1. **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 Resources Control Board (State Water Board) Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Russian River, within the Ukiah Hydrologic Subarea of the Russian River Hydrologic Area, are summarized in Table F-4, below:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Russian River within the Ukiah Hydrologic Subarea of the Upper Russian 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); Hydropower generation (POW); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Commercial and sport fishing (COMM); Warm Freshwater Habitat (WARM); Cold freshwater habitat (COLD); Wildlife habitat (WILD); Rare, threatened, or endangered species (RARE); Migration of aquatic organisms (MIGR); and Spawning, reproduction, and/or early development (SPWN).</p> <p><u>Potential:</u> Industrial process supply (PRO); Shellfish Harvesting (SHELL), and Aquaculture (AQUA).</p>
002	Groundwater	<p><u>Existing:</u> Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); 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 Russian 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 requirements is granted by the Regional Water Board. Additionally, the discharge of municipal waste during October 1 through May 14 shall be of advanced treated wastewater and shall meet a median coliform level of 2.2 MPN/100 mL.

Requirements of this Order implement the Basin Plan.

3.3.2. **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.

3.3.3. **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.

3.3.4. **Domestic Water Quality**

In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.

3.3.5. 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 any compliance schedules or interim effluent limitations.

3.3.6. Antidegradation Policy

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

3.3.7. Anti-Backsliding Requirements

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

3.3.8. Endangered Species Act Requirements

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

3.3.9. Sewage Sludge and Biosolids

This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Permittee is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA's enforcement authority.

3.4. 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 waste load 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 June 9, 2021, the U.S. EPA provided final approval of the 2018 303(d) list of impaired water bodies for the North Coast Region prepared by the state. The list identifies the entire Russian River watershed as impaired by sedimentation/siltation and temperature, and the main stem Russian River within the Ukiah Hydrologic Subarea as impaired by manganese and aluminum. Pursuant to CWA section 303(d), the Regional Water Board will develop TMDLs to address the impairments, which will be implemented through various programs, including through provisions of NPDES permits.

Aspects of the sediment impairing the Russian River include settleable solids, suspended solids, and turbidity. The impact of settleable solids results when they collect on the bottom of a waterbody over time, making them a persistent or accumulative constituent. The impact of suspended solids and turbidity, by contrast, results from their concentration in the water column. An analysis of the Permittee's effluent monitoring data for discharges to the Russian River indicates levels of BOD₅, TSS, and total coliform bacteria in the effluent are generally less than the effluent limitations required by this Order. Thus, the discharge does not typically contain sediment (e.g., settleable solids, suspended solids, and turbidity) at levels which will cause, have the reasonable potential to cause, or contribute to

increases in sediment levels in the Russian River. This finding is based, in part, on the advanced level of treatment provided by the Facility, which removes settleable solids and reduces TSS and turbidity to negligible levels in wastewater discharged to the Russian River. This finding is also supported by the summer discharge prohibition, the one percent flow limitation for the winter discharge, and previous solids and turbidity monitoring that has demonstrated that the Facility removes settleable solids and turbidity to negligible levels.

The discharge is not anticipated to contribute to impairments of the receiving water by temperature. The critical time period for temperature is in the summer, which is also the time period when point source discharges from the Facility are prohibited. Because of the summer discharge prohibition, the Facility does not contribute to temperature loadings in the receiving water during the hottest, most critical season of the year. The MRP includes requirements for daily temperature monitoring of effluent discharged to the Russian River, and weekly temperature monitoring of the Russian River both upstream and downstream of Discharge Point 001 in order to monitor compliance with receiving water limitations.

Regarding aluminum and manganese, the MRP requires the Permittee to monitor the Facility's effluent and receiving water to determine if the Facility has reasonable potential to cause or contribute to exceedances of water quality objectives for these constituents.

3.5. Other Plans, Policies and Regulations

- 3.5.1. On December 6, 2022, the State Water Board adopted State Water Board Order No. WQ 2022-0103-DWQ, Statewide Waste Discharge Requirements, General Order for Sanitary Sewer Systems (Sanitary Sewer General Order). This Order became effective on June 5, 2023, and replaced Order No. 2006-0003-DWQ and all associated amendments thereof. Order No. 2022-0103-DWQ requires that all public agencies that currently own or operate sanitary sewer systems electronically certify the Continuation of Existing Coverage form in the CIWQS Sanitary Sewer System Database within 60 days prior to the effective date of the Sanitary Sewer General Order. The Permittee certified their existing coverage and is subject to the requirements of Order No. 2022-0103-DWQ and any future revisions thereto for operation of its wastewater collection system.
- 3.5.2. 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) regulates storm water discharges from wastewater treatment facilities with design flows greater than 1.0 mgd. The Permittee is enrolled under the Industrial Storm Water General Permit. See section 6.3.5.1 of this Fact Sheet for additional discussion of the Permittee's storm water discharges.
- 3.5.3. In 1996, the State Water Board and the California Department of Health Services (now State Water Board Division of Drinking Water or 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.

- 3.5.4. On February 3, 2009, the State Water Board adopted Resolution No. 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Recycled Water Policy) (Revised January 22, 2013, effective April 25, 2013) 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 produce recycled water.

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 a 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.

- 3.5.5. 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. The Order 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.

- 3.5.6. 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.

4. 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 to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

4.1. Discharge Prohibitions

- 4.1.1. **Discharge Prohibition 3.1.** 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 has been retained from Order No. R1-2018-0035 and is based on the Basin Plan 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 either not disclosed by the Permittee, and are not reasonably anticipated to be present in the discharge but have not been disclosed by the Permittee. 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 which 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 which 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 (4th 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.

- 4.1.2. **Discharge Prohibition 3.2.** 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. R1-2018-0035 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

- 4.1.3. **Discharge Prohibition 3.3.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section 6.3.4.2 of this Order (Sludge Disposal and Handling Requirements).

This prohibition has been retained from Order No. R1-2012-0068 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.

- 4.1.4. **Discharge Prohibition 3.4.** The discharge or recycling use of untreated or partially treated waste (receiving a lower level of treatment than described in section 2.1 of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions 1.7 (Bypass) and 1.8 (Upset).

This prohibition has been retained from Order No. R1-2018-0035 and 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.

- 4.1.5. **Discharge Prohibition 3.5.** The discharge of waste to land that is not owned by the Permittee, governed by City 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. R1-2018-0035. 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.

- 4.1.6. **Discharge Prohibition 3.6.** The discharge of recycled, filtered wastewater to any point not addressed in the current DDW-accepted Title 22 Recycled Water Engineering Report is prohibited.

This prohibition is newly established by this Order and is necessary to ensure that the Permittee only discharges waste in accordance with WDRs. It is based on sections 301 and 402 of the federal CWA and section 13263 of the Water Code.

- 4.1.7. **Discharge Prohibition 3.7.** The discharge of waste at any point not described in Finding 2.2 of the Fact Sheet or authorized by a permit issued by the State Water Board or another Regional Water Board is prohibited.

This prohibition has been retained from Order No. R1-2018-0035. 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.

- 4.1.8. **Discharge Prohibition 3.8.** The average dry weather flow of waste through the Facility shall not exceed 3.01 mgd, measured daily and averaged over a calendar month. The peak daily wet weather flow of waste through the Facility shall not exceed 24.5 mgd, measured daily. The peak daily wet weather flow through the advanced wastewater treatment system shall not exceed 7.0 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections 7.10 and 7.11 of this Order.

The average dry weather flow prohibition is retained from Order No. R1-2018-0035 and is based on the average dry weather treatment capacity of the Facility. The peak daily wet weather flow prohibitions for the Facility and the advanced wastewater treatment system are newly established in this Order and are based on the peak wet weather treatment capacity of the Facility and the advanced wastewater treatment system. 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.

- 4.1.9. **Discharge Prohibition 3.9.** The discharge of waste to the Russian 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. R1-2018-0035 and is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian 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 Russian River and its tributaries experience the heaviest water-contact recreation use.

4.1.10. **Discharge Prohibition 3.10.** During the period from October 1 through May 14, discharges of treated wastewater to the Russian River shall not exceed one percent of the flow of the Russian River, as measured near Hopland at USGS Gauge No. 11462500. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

4.1.10.1. The discharge of advanced 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 Russian River near Hopland at USGS Gauge No. 11462500. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight; and,

4.1.10.2. In no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River near Hopland at USGS Gauge No. 11462500 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. R1-2018-0035 and is required by the Basin Plan (chapter 4, North Coastal Basin Discharge Prohibition No. 4). The Basin Plan prohibits discharges to the Russian 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. 11462500 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.

4.1.11. **Discharge Prohibition 3.11.** 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. R1-2018-0035 and is based on the discharge prohibitions contained in sections 13375 of the Water Code and 33 U.S. Code section 1311.

4.1.12. **Discharge Prohibition 3.12.** The acceptance of septage to a location other than an approved septage receiving station is prohibited.

This prohibition is retained from Order No. R1-2018-0035 and is based on the discharge prohibitions contained in and section 13375 of the Water Code, 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.

4.2. Technology-Based Effluent Limitations

4.2.1. Scope and Authority

4.2.1.1. 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.

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 BOD₅, TSS, and pH, as follows:

4.2.1.1.1. BOD₅ and TSS

4.2.1.1.1.1. The 30-day average shall not exceed 10 mg/L.

4.2.1.1.1.2. The 7-day average shall not exceed 15 mg/L.

4.2.1.1.1.3. The 30-day average percent removal shall not be less than 85%.

4.2.1.1.2. pH

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

- 4.2.1.1.2.2. 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.
- 4.2.1.2. 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, 2) when applicable standards and limitations are expressed in terms of other units of measure, and 3) where the permit limitation is established on a case-by-case basis under 40 C.F.R. section 125.3 and limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation, and permit conditions ensure that dilution will not be used as a substitute for treatment.

Technology-based effluent limitations may be set on a case-by-case basis under section 402(a)(1) of the CWA to the extent that EPA-promulgated effluent limitations are inapplicable based upon the available information and unique factors related to the applicant. A combination of EPA-promulgated effluent limitations and effluent limitations developed under a case-by-case basis scenario may be applied to carry out the provisions of the CWA. "Best Practicable Control Technology" (BPT) requirements may be established by a permitting authority on a case-by-case basis considering the appropriate factors listed at 40 C.F.R. section 125.3(d)(1). Factors to be considered for BPT requirements include:

- 4.2.1.2.1. The total cost of application of the technology in relation to the effluent reduction benefits to be achieved from such application;
- 4.2.1.2.2. The age of equipment and facilities involved;
- 4.2.1.2.3. The process employed;
- 4.2.1.2.4. The engineering aspects of the application of various types of control techniques;
- 4.2.1.2.5. Process changes; and
- 4.2.1.2.6. Non-water quality environmental impacts (including energy requirements).

4.2.2. **Applicable Technology-Based Effluent Limitations**

The effluent limitations in this Order for BOD₅, 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.

In addition to the minimum federal technology-based requirements, the Basin Plan requires that discharges of municipal waste “*shall be of advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 mL*” for discharges to the Russian River and its tributaries during October 1 through May 14. This requirement leaves discretion to the Regional Water Board to define advanced wastewater treatment by the implementation of effluent limitations in individual permits.

4.2.2.1. **Discharge Point 001 (Discharge to the Russian River)**

4.2.2.1.1. **BOD₅ 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 BOD₅, TSS, and pH. For the purpose of regulating municipal waste discharges from the Facility to the Russian River, advanced wastewater treatment is defined as achieving a monthly average concentration for BOD₅ and TSS of 10 mg/L, and a weekly average concentration of 15 mg/L, which are technically achievable based on the capability of a tertiary treatment system.

In addition, 40 C.F.R. 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. These effluent limitations are retained from Order No. R1-2018-0035.

4.2.2.1.2. **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 Russian River contained in Basin Plan, Table 3-1.

4.2.2.1.3. **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):

4.2.2.1.3.1. BOD₅ and TSS, because these two parameters are expressed in terms of concentration and percent removal; and

4.2.2.1.3.2. pH, because this parameter cannot appropriately be expressed by mass.

4.2.2.1.4. **Coliform Bacteria.** Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limitations because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore this Order retains the effluent limitations for total coliform bacteria from Order No. R1-2018-0035. These effluent limitations reflect standards for tertiary treated effluent in the Basin Plan (section 4, Implementation Plans) and as adopted by the State Water Board, DDW in title 22 of the CCR.

4.2.2.2. **Discharge Point 002 (Discharge to Percolation Ponds)**

4.2.2.2.1. **BOD₅ and TSS.** 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 BOD₅, TSS, and pH. Numeric effluent limitations for BOD₅ and TSS are retained from Order No. R1-2018-0035 and reflect the secondary treatment standards at 40 C.F.R. part 133.

4.2.2.2.2. **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. This Order includes effluent limitations for pH consistent with the secondary treatment requirements established in 40 C.F.R. part 133.

4.2.2.2.3. **Coliform Bacteria.** Even though effluent limits for coliform bacteria are not set out in the federal regulations for secondary treatment, they are included here in the section on technology-based effluent limitations because they reflect technology standards for secondary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore this Order retains the effluent limitations for total coliform bacteria from Order No. R1-2018-0035. These effluent limitations reflect standards for secondary treated recycled water as adopted by DDW in title 22 of the CCR.

4.3. **Water Quality-Based Effluent Limitations (WQBELs)**

4.3.1. **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. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of advanced wastewater treatment, is discussed in section 4.2.2 of this Fact Sheet. In addition, this Order contains additional

requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section 4.3.3 of this Fact Sheet.

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, water quality-based effluent limitations (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.

4.3.2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

4.3.2.1. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section 3.3.1 of this Fact Sheet.

4.3.2.2. **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 Russian 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).

4.3.2.3. **SIP, CTR, and NTR.** Water quality criteria and objectives applicable to the Russian River 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 3.3.3 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 the CTR were used for the RPA because the Basin Plan identifies that the receiving water, the Russian River, has the beneficial use designation of municipal and domestic supply.

4.3.3. **Determining the Need for WQBELs**

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

For water quality-based effluent limitations 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 State Implementation Policy (SIP) states that maximum daily effluent limitations shall be used for POTWs in place of average weekly effluent limitations for Water Quality Based Effluent Limitations. The SIP procedure of calculating an AMEL and a 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., trihalomethanes and nitrate) 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:

4.3.3.1. **Non-Priority Pollutants**

4.3.3.1.1. **pH.** The effluent limitation for pH of 6.5 to 8.5 is retained from Order No. R1-2018-0035. 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.

4.3.3.1.2. **Chlorine Residual.** The Basin Plan establishes a narrative water quality objective for toxicity which states “[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 this Order includes effluent limitations for chlorine. U.S. EPA has established the following criteria for chlorine-produced oxidants for protection of freshwater aquatic life in Quality Criteria for Water 1986 (The Gold Book, 1986, EPA 440/5-86-001).

Consistent with Order No. R1-2018-0035, the water quality criteria for total chlorine residual recommended by U.S. EPA have been translated to an AMEL of 0.01 mg/L and a MDEL of 0.02 mg/L in this Order.

4.3.3.1.3. **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 achieves varying levels of nitrification and denitrification throughout the year. Sampling data for ammonia and nitrate reveals an annual pattern of nitrification and

denitrification, with lower concentrations during the winter, moderate concentrations during the summer, and higher concentrations during transition periods. Treatment plants such as this Facility often experience minimal nitrification in the winter, full nitrification and denitrification during the warm season, and full nitrification but limited denitrification during transition periods. Effluent limitations for ammonia and nitrate are included in the Order to assure that the Permittee protects the beneficial uses of the receiving water and to prevent aquatic toxicity.

4.3.3.1.3.1. **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 in 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-001B monthly between November 2018 and December 2023. Monitoring results ranged from 3.3 mg/L to 16 mg/L based on 67 samples. Because nitrate levels in the effluent have been measured above 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 for nitrate of 10 mg/L has been retained from Order No. R1-2018-0035.

4.3.3.1.3.2. **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 sensitive mussel species.

Order No. R1-2018-0035 included the requirement for the Permittee to complete an Ammonia Study to determine the presence of freshwater mussels in the receiving waters. The Permittee identified in their submittal that available information indicates the presence of freshwater mussels in the Russian River. Based on this finding, the Permittee does not intend to conduct an independent mussel study. However, the Permittee requested that the Regional Water Board consider a recent Central Valley Clean Water Agencies (CVCWA) mussel study and allow for the site-specific criteria developed for the Central Valley Regional Water Board to calculate ammonia effluent limitation for discharges to the Russian River. The Regional Water Board does not find it appropriate to authorize a less protective water quality standard without the completion of a site-specific study.

In this Order renewal, 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 H of this Order for a sample log to help calculate and record the AIR values and Attachment G for applicable pH and temperature-dependent criteria.

Between November 2018 and December 2023, effluent monitoring results ranged from non-detect to 17 mg/L based on 66 samples collected at Monitoring Location EFF-001B.

Because ammonia levels in the treated wastewater have been measured at concentrations greater than EPA's 2013 Freshwater Criteria at Monitoring Location EFF-001B, 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, both expressed as an AIR. Fact Sheet section 4.3.4 provides calculations of the ammonia AMEL and MDEL.

- 4.3.3.1.4. **Biostimulatory Substances (Phosphorus and Nitrogen).** The Basin Plan contains a narrative water quality objective for biostimulatory substances that states “[w]aters shall not contain biostimulatory substances in

concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.” The Regional Water Board is increasingly concerned about the biostimulatory properties of discharges to surface waters in the North Coast Region. Nutrients, such as phosphorus and nitrogen containing compounds, in treated wastewater stimulate biological growth, thereby depleting dissolved oxygen and advancing eutrophication of receiving waters. These phenomena cause dissolved oxygen levels to drop below concentrations needed for the survival and health of fish and aquatic life, which in turn negatively affects the aesthetic quality of water bodies and impairs beneficial uses.

At present, for interpretation of the Basin Plan’s narrative water quality objective for biostimulatory substances, U.S. EPA has established recommended water quality criteria for nutrients in *Nutrient Criteria Documents for Lakes and Rivers and Nutrient Criteria Documents for Rivers and Streams*. U.S. EPA has defined 14 “ecoregions” and further categorized surface waters as lakes and reservoirs or rivers and streams for purposes of defining applicable numeric water quality criteria for nutrients. The State and Regional Water Boards continue to examine other methods of interpreting the Basin Plan’s narrative water quality objective for biostimulatory substances. When the Boards determine that U.S. EPA’s recommended criteria are appropriate for implementing the Basin Plan objectives, or when a more appropriate and meaningful method is established, the need for limiting nutrients in relation to biostimulatory properties, including phosphorus and nitrogen-containing compounds, in all discharges in the Region will be reassessed. In the meantime, the RPA for nutrients in relation to biostimulatory properties, performed for development of this Order, is inconclusive. The Order retains monitoring requirements for phosphorus and nitrogen containing compounds in discharges from the Facility to allow a determination of reasonable potential at such time as the State and Regional Water Boards select an appropriate method for interpretation of the Basin Plan’s narrative objective.

4.3.3.2. **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. R1-2018-0035, priority pollutant sampling was conducted on March 19, 2020 and January 24,

2023 at Monitoring Location EFF-001B. In addition, the Permittee conducted monthly monitoring bromoform (effluent only), chlorodibromomethane (effluent only), chloroform (effluent only), copper (effluent and receiving water), cyanide (effluent and receiving water), and dichlorobromomethane (effluent only). All of this data was used to conduct 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 minimum observed receiving water hardness of 67 mg/L was used to calculate the 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.

4.3.3.3. Reasonable Potential Determination

The RPA demonstrated reasonable potential for discharges of copper, 2,3,7,8-TCDD, and dichlorobromomethane 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 122 of the 126 priority pollutants.

Table F-5 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-5. Summary of Reasonable Potential Analysis Results for Priority Pollutants, Ammonia, and Title 22 Pollutants

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL ⁽¹⁾	B or Minimum DL ⁽²⁾	RPA Result ⁽³⁾
2	Arsenic	µg/L	10	5.8	--	No
3	Beryllium	µg/L	4	0.14	--	No
6	Copper	µg/L	35	68	15	Yes
8	Mercury	ng/L	12 ⁽⁴⁾	1.84	--	No
9	Nickel	µg/L	37	3.0	--	No
13	Zinc	µg/L	85	63	--	No
14	Cyanide	µg/L	5.2	4.5	2	No
16	2,3,7,8-TCDD (Dioxin)	µg/L	1.3E-08	<3.27E-06	--	Yes
20	Bromoform	µg/L	4.3	<0.03	--	No
23	Chlorodibromomethane	µg/L	0.4	0.05	--	No
26	Chloroform	µg/L	No Criteria	3.2	--	No
27	Dichlorobromomethane	µg/L	0.56	0.6	--	Yes
39	Toluene	µg/L	150	3.1	--	No
112	Alpha-endosulfan	µg/L	0.056	0.0089	--	No
	Ammonia	µg/L	1.47 ⁽⁴⁾	17	2	Yes

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL ⁽¹⁾	B or Minimum DL ⁽²⁾	RPA Result ⁽³⁾
---------	-----------	------	-----------------------------	----------------------------------	--------------------------------	---------------------------

Table Notes

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. Receiving water monitoring was not conducted during the term of Order No. R1-2018-0035 as no discharge to surface waters occurred.
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. Represents the water column concentration for translation of the fish tissue WQO for protection of the COMM, WILD, and RARE beneficial uses applicable to the Russian River, a flowing waterbody, established in 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).
5. 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 16.4°C and a pH of 7.75. The identified temperature and pH conditions were observed during the term of Order No. R1-2018-0035.

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

Copper. Order No. R1-2018-0035 included effluent limitations for 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 water effect ratio (WER) used for calculating criteria for copper is 1.0. The Permittee has conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The Permittee's study concluded that a site-specific WER of 5.33 for total recoverable copper applies to the discharge. Using the worst-case measured hardness from the receiving water (67 mg/L), the U.S. EPA recommended dissolved-total translator of 0.96, and the site-specific WER, the applicable chronic criterion (maximum 4-day average concentration) is adjusted to 35 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is adjusted to 51 µg/L.

The Permittee sampled the effluent and receiving water for copper 21 and 10 times, respectively, during the term of Order No. R1-2018-0035. Copper was detected in the effluent in all 21 effluent samples, with results ranging from 2.4 µg/L to 68 µg/L. Copper was also detected in all 10 receiving water samples, with results ranging from 1.5 µg/L to 15 µg/L. A determination of reasonable potential has been made based on the MEC of 68 µg/L exceeding the most stringent water quality objective of 35 µg/L.

2,3,7,8-TCDD. The CTR establishes a water quality criterion for the protection of human health for 2,3,7,8-TCDD of 1.3×10^{-8} µg/L. 2,3,7,8-TCDD was detected in the effluent in one of two samples collected between March 2020 and January 2023, with a DNQ result of 3.27×10^{-6} µg/L. No receiving water samples were collected for 2,3,7,8-TCDD. A determination of reasonable potential has been made based on the MEC of 3.27×10^{-6} µg/L, exceeding the most stringent water quality objective of 1.3×10^{-8} µg/L.

Dichlorobromomethane. Order No. R1-2018-0035 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 16 times during the term of Order No. R1-2018-0035. Dichlorobromomethane was detected in the effluent in 14 of these samples, with results ranging from non-detect to 0.6 µg/L. No receiving water samples were collected for dichlorobromomethane. A determination of reasonable potential has been made based on the MEC of 0.6 µg/L exceeding the most stringent water quality objective of 0.56 µg/L.

4.3.4. **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/or approved WER, 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), 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 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 99th percentile occurrence probability for copper are 0.244 (acute multiplier) and 0.432 (chronic multiplier). The LTAs are determined as follows in Table F-6.

Table F-6. 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	µg/L	51	35	--	0.244	0.432	--	12.5	15.3	--

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. Because copper had greater than 10 sample results, and less than 80% of these results were reported as ND, the CV was calculated at 0.82 (the standard deviation of all sample results divided by the average of all sample results). The sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-day criterion, and 30 (n = 30) for the chronic 30-day criterion. The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier for copper is 4.1 and the AMEL multiplier is 1.8. Final WQBELs for copper are determined as follows.

Table F-7. Determination of Final WQBELs Based on Aquatic Life Criteria

Pollutant	Units	LTA	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
Copper	µg/L	12.5	4.1	1.8	51.2	22.1

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective (as for 2,3,7,8-TCDD and dichlorobromomethane), the AMEL is set equal to the ECA. From Table 2 of the SIP, when CV = 0.60 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.1, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.6 (2,3,7,8-TCDD). From Table 2 of the SIP, when CV = 1.02 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 5.0, and the AMEL multiplier at the 95th percentile occurrence probability equals 2.0 (dichlorobromomethane). 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 2,3,7,8-TCDD and dichlorobromomethane are determined as follows.

Table F-8. Determination of Final WQBELs Based on Human Health Criteria

Pollutant	Units	MDEL Multiplier	AMEL Multiplier	MDEL	AMEL
2,3,7,8-TCDD	µg/L	2.0	1.6	2.6E-8	1.3E-8
Dichlorobromomethane	µg/L	5.0	2.0	1.42	0.56

4.3.5. Whole Effluent Toxicity (WET)

Effluent limitations for whole effluent toxicity protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in 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 in this Order are derived from the CWA, and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Plan). The Plan establishes objectives for water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state. For compliance with the Plan’s water quality objective, this Order requires the Permittee to conduct WET testing for chronic toxicity, as specified in the MRP (Attachment E, section 5).

Test of Significant Toxicity (TST)

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.

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:

H0: 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 (H0) and regulatory management decision (b value) of 0.75 for the chronic toxicity methods in the MRP. The null hypothesis for this discharge is:

H0: Mean response (100% effluent) \leq 0.75 mean response (control)

Results shall be analyzed using the TST hypothesis testing approach in the MRP. For any chronic aquatic toxicity test method with both lethal and sub-lethal endpoints, the sub-lethal endpoint shall only be required. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

When there is one violation of the MDEL or MMEL, but not two violations in a calendar month, the Permittee must perform an Additional Routine Monitoring Test as specified in the MRP (Attachment E, section 5). If any combination of two or more MDEL or MMEL violations occur within a single calendar month or within two successive calendar months, the Permittee will be required to conduct a TRE, as described by the MRP.

Notification requirements for aquatic toxicity testing include a 24-hour notification requirement if test results do not meet an applicable MDEL or MMEL, per the Toxicity Provisions. Verbal notification of aquatic toxicity test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

4.3.5.1. **Acute Aquatic Toxicity**

Order No. R1-2018-0035 included 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. Furthermore, the permittee was subject to determination of "Pass" or "Fail" and "Percent (%) Effect" from acute toxicity using the Test of Significant Toxicity (TST) approach. A sensitivity species screening was not conducted during the term of Order No. R1-2018-0035 and the previously determined most sensitive species for acute toxicity, Rainbow Trout (*Oncorhynchus mykiss*), was used for three acute toxicity tests in April 2019, March 2020, and January 2023.

The Toxicity Provisions identify that a discharge has reasonable potential to cause or contribute to an excursion above the acute aquatic toxicity water

quality objectives if any of the acute aquatic toxicity tests results in a “fail” at the in-stream waste concentration (IWC), or if any of the acute aquatic toxicity tests have a percent effect at the IWC greater than 10 percent. As acute aquatic toxicity testing did not result in a “fail” and that no resulting percent effect exceeded 10%, it has been determined that a discharge from this Facility does not have reasonable potential to cause or contribute to an exceedance of the water quality objectives for acute toxicity.

4.3.5.2. **Chronic Aquatic toxicity**

For Order No. R1-2018-0035, the SIP required the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Under this monitoring, the Permittee was subject to determination of “Pass” or “Fail” and “Percent (%) Effect” from chronic toxicity using the Test of Significant Toxicity (TST) approach. A sensitivity species screening was not conducted during the term of Order No. R1-2018-0035 and the previously determined most sensitive species for chronic toxicity, *Ceriodaphnia dubia*, was used for two chronic toxicity tests during the term of Order No. R1-2018-0035 in April 2019 and March 2020.

The Toxicity Provisions identify that a discharge has reasonable potential to cause or contribute to an excursion above the chronic aquatic toxicity water quality objectives if any of the chronic aquatic toxicity tests results in a “fail” at the IWC, or if any of the chronic aquatic toxicity tests have a percent effect at the IWC greater than 10 percent. As the March 30, 2020 chronic aquatic toxicity test resulted in a fail, with a percent effect for reproduction that exceeded 10%, it has been determined that a discharge from this Facility does have reasonable potential to cause or contribute to an exceedance of the water quality objectives for chronic toxicity and the corresponding MDEL and MMEL have been included in this Order. Attachment E of this Order requires quarterly chronic WET monitoring to demonstrate compliance with the Toxicity Provisions.

4.4. **Final Effluent Limitation Considerations**

4.4.1. **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 the previous Order with the exception of the effluent limitation for cyanide, chlorodibromomethane, and acute toxicity. The updated effluent limitations for these pollutants are less stringent than those in the previous Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

Order No. R1-2018-0035 included effluent limitations for cyanide and chlorodibromomethane based on CTR freshwater chronic criteria. The reported concentration of cyanide and chlorodibromomethane in the effluent did not exceed the applicable water quality criteria and indicates that the discharge no longer demonstrates reasonable potential to cause or contribute to an exceedance of the water quality objectives. The updated effluent data for cyanide and chlorodibromomethane constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, this Order does not retain effluent limitations for cyanide and chlorodibromomethane at Discharge Point 001.

Reasonable potential for copper was found at Discharge Points 001. The updated AMEL and MDEL calculations for copper resulted in slightly higher effluent limitations than the previous permit. Establishment of these higher effluent limitations is allowed under the anti-backsliding exception at CWQ section 402(0)(2)(B) which allows the use of new information in the calculation of new effluent limitations.

4.4.2. **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. R1-2018-0035.

4.4.3. **Stringency of Requirements for Individual Pollutants**

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅, TSS, and total coliform bacteria. Restrictions on these pollutants are discussed in section 4.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains water quality-based effluent limitations for ammonia, nitrate, pH, chlorine residual, copper, and dichlorobromomethane that are more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These requirements are discussed in section 4.3.3 of the Fact Sheet.

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

The Regional Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

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

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

4.6. **Land Discharge Specifications**

This Order authorizes discharges to land using percolation ponds. 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 groundwater and comply with applicable provisions of the Basin Plan.

Implementation of this Order will result in the best practicable treatment or control of the discharge and lead to a net benefit to water quality by improving and monitoring existing conditions related to the land disposal of treated wastewater effluent through the use of percolation ponds. The Order is designed to protect beneficial uses and does not promote or authorize discharges that exceed water quality standards or result in the permanent lowering of high-quality waters. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and aquaculture, and Native American cultural uses. This Order contains discharge prohibitions, discharge specifications, and groundwater limitations that are expected to maintain or improve water quality by addressing nutrients, salts, bacteria, and other pollutants in the waste stream.

The discharge of treated effluent to land may result in degradation of groundwater, primarily due to salts and nitrogen. Groundwater monitoring is required by this Order to determine if the land disposal of treated effluent is impacting groundwater or resulting in the exceedance of applicable water quality objectives.

Degradation of groundwater by constituents in treated effluent (primarily salts and nitrogen) may be permitted where it has been demonstrated 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 such water, and will not result in water quality less than that prescribed in the Basin Plan. In addition, it must be demonstrated that discharges to high quality waters meet waste discharge requirements that result in the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance and assure that the highest water quality consistent with the maximum benefit to the people of the state is maintained.

4.7. **Recycling Specifications**

Water Recycling Specifications and Requirements are contained in section 4.3 of the Order. The Permittee has submitted an NOI for coverage under the Recycled Water General Order to distribute recycled water to authorized use sites; therefore, this Order does not include specifications or requirements for uses of recycled water. All of the water recycling specifications are based on the technical capabilities of the proposed upgrades to the wastewater treatment system and levels required by the Basin Plan and title 22.

4.7.1. **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. Limitations for BOD₅, TSS, total coliform, and pH were derived based upon the treatment capability of the Facility in order to implement water quality objectives that protect the beneficial uses of both surface and groundwater. Both beneficial uses and the water quality objectives have been approved pursuant to state law, and then submitted to and approved by U.S. EPA. In addition, discharge prohibitions were included to prohibit the use of untreated or partially treated wastewater for recycling.

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 Russian River within the Ukiah Hydrologic Subarea of the Upper Russian 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 costs of compliance, particularly anything to show that the costs of compliance with the Order would be unmanageable.

4.7.2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

4.7.2.1. **Beneficial Uses.** Beneficial use designations for groundwater established in the Basin Plan include MUN, AGR, IND, and PRO.

4.7.2.2. **Basin Plan Water Quality Objectives.** The Basin Plan contains narrative objectives for tastes and odors, bacteria, radioactivity, and chemical constituents (including those chemicals that adversely affect agricultural water supply) that apply to groundwater.

4.7.3. **Determining the Need for Requirements for Water Recycling**

Section 4.3 of this Order contains Water Recycling Specifications and Requirements to ensure that the recycled water produced 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 tertiary-2.2 recycled water. 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). The Permittee has submitted an NOI for coverage under the Recycled Water General Order and will obtain coverage prior to delivering recycled water. As such, this Order does not include use area requirements, rather only contains requirements for the production of recycled water.

4.7.3.1. **BOD₅ and TSS.** This Order includes discharge specifications for BOD₅ and TSS that consist of a monthly average of 10 mg/L and a weekly average of 15 mg/L. These levels are technically achievable based on the capability of the tertiary treatment system. These specifications are included in the Order to ensure that discharges to the recycled water system receive proper treatment.

- 4.7.3.2. **pH.** This Order includes 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.
- 4.7.3.3. **Coliform Bacteria.** This Order includes recycled water specifications for total coliform bacteria that reflect standards for tertiary treated recycled water adopted by DDW in title 22 of the CCR and are included to ensure that recycled water quality is protective of human health. Recycled water from this Facility will meet the highest title 22 treatment and disinfection standards and will be suitable for the broad range of recycled water uses identified in title 22, including irrigation of urban landscapes and crops produced for human consumption.

4.7.4. **Satisfaction of Antidegradation Policy**

The permitted discharge is consistent with the antidegradation provisions of State Water Board Resolution No. 68-16. This Order does not provide for an increase in the volume and mass of pollutants discharged. The discharge will not have significant impacts on the beneficial uses of groundwater because the Order does not authorize the discharge of treated wastewater to groundwater.

In addition, the Recycled Water General Order addresses antidegradation for the storage and use of recycled water and the Permittee's enrollment under the Recycled Water General Order requires groundwater monitoring in a recycled water use area to verify that the use of recycled water does not adversely impact groundwater. The recycled water storage pond has been designed with a synthetic liner to ensure that recycled water does not leak to groundwater.

4.8. **Other Requirements**

This Order contains additional specifications that apply to the Facility including:

4.8.1. **Filtration Process Requirements**

- 4.8.1.1. **Filtration Rate.** For discharges at Discharge Points 001 and 003, section 4.4.1.1 of the Order requires that wastewater be filtered at a rate that does not exceed 5 gallons per minute per square foot of filter surface area, and is based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to demonstrate that advanced treated wastewater has been coagulated and adequately filtered for removal of pathogens and for conditioning of water prior to the disinfection process.
- 4.8.1.2. **Turbidity.** For discharges at Discharge Points 001 and 003, section 4.4.1.2 of this Order specifies that the turbidity of the filtered wastewater not exceed an

average of 2 NTU during any 24-hour period; 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time, and is based on the definition of filtered wastewater found in title 22 section 60301.320 of the CCR. The title 22 definition is used as a reasonable performance standard to ensure adequate removal of turbidity upstream of the disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following the advanced wastewater treatment process and prior to the chlorine contact basin.

4.8.2. **Disinfection Process Requirements for Chlorine Disinfection System**

- 4.8.2.1. **Chlorine Disinfection Contact Time (CT).** For discharges at Discharge Point 003, chlorine disinfection process requirements for CT are necessary to determine compliance with requirements for recycled wastewater systems established at title 22, division 4, chapter 3 of the CCR and to ensure that the advanced wastewater treatment disinfection process achieves effective pathogen reduction.
- 4.8.2.2. **Storage Ponds.** Storage pond requirements are included in section 4.4.3 of the Order to ensure that future storage ponds are constructed in a manner that protects groundwater and complies with requirements of title 27 of the CCR.

5. **RATIONALE FOR RECEIVING WATER LIMITATIONS**

5.1. **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.

5.2. **Groundwater**

- 5.2.1. 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.

- 5.2.2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.
- 5.2.3. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.
- 5.2.4. The Basin Plan requires that waters designated for use as MUN shall not contain concentrations of chemical constituents in excess of the limits specified in CCR, title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444, and listed in Table 3-2 of the Basin Plan.

6. RATIONALE FOR PROVISIONS

6.1. 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. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

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

6.2. 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 6.1.2 of the Order.

- 6.2.1. Order Provision 6.1.2.1 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)).
- 6.2.2. Order Provision 6.1.2.2 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.

6.3. Special Provisions

6.3.1. Reopener Provisions

- 6.3.1.1. **Standard Revisions (Special Provision 6.3.1.1).** Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:
- 6.3.1.1.1. 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.
 - 6.3.1.1.2. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.
- 6.3.1.2. **Reasonable Potential (Special Provision 6.3.1.2).** 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.
- 6.3.1.3. **Species Sensitivity Screening (Special Provision 6.3.1.3).** This provision allows the Regional Water Board to modify this Order if the species sensitivity screening identifies a most sensitive species that is different than the most sensitive species already identified in the Order
- 6.3.1.4. **Whole Effluent Toxicity (Special Provision 6.3.1.4).** 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.
- 6.3.1.5. **Acute Aquatic Toxicity (Special Provision 6.3.1.5).** This provision allows the Regional Water Board to reopen this Order to include a MDEL and MMEL for acute aquatic toxicity, based on the reevaluation of the reasonable potential for the Permittee to cause or contribute to an exceedance of the acute aquatic toxicity water quality objective.
- 6.3.1.6. **303(d)-Listed Pollutants (Special Provision 6.3.1.6).** 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.

- 6.3.1.7. **Water Effects Ratios (WERs) and Metal Translators (Special Provision 6.3.1.7).** 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.
- 6.3.1.8. **Nutrients (Special Provision 6.3.1.8).** This Order contains effluent limitations for ammonia and effluent monitoring for nutrients (ammonia, nitrate, nitrite, organic nitrogen, and phosphorus). 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.
- 6.3.1.9. **Salt and Nutrient Management Plans (Special Provision 6.3.1.9).** 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.
- 6.3.1.10. **Title 22 Engineering Report (Special Provision 6.3.1.10).** 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.
- 6.3.1.11. **Mixing Zone Study (Special Provision 6.3.1.11).** This provision allows the Regional Water Board to reopen this Order if the Permittee demonstrates to the satisfaction of the Regional Water Board Executive Officer that it has evaluated all reasonable alternatives for compliance with human health-based effluent limitations for chlorine disinfection by-products and conducts a mixing zone study that provides a basis for determining that permit conditions (i.e., effluent limitations and/or receiving water monitoring locations) should be considered for modification.
- 6.3.2. **Best Management Practices and Pollution Prevention**
- 6.3.2.1. **Pollutant Minimization Program (Special Provision 6.3.2.1).** 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.
- 6.3.3. **Construction, Operation, and Maintenance Specifications**
- 6.3.3.1. **Operation and Maintenance (Special Provisions 6.3.3.1 and 6.3.3.2).** 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 6.3.3.2 of this Order, is an integral part of a well-operated and maintained facility.

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

6.3.4.1. Source Control and Pretreatment Provisions (Special Provision 6.3.4.1).

Pursuant to Special Provision 6.3.4.1.1, 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 conduct an industrial waste survey to identify all non-domestic facilities in the service area that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility and to monitor the influent for priority pollutants. If the results of the industrial waste survey or influent monitoring indicate that a pretreatment program is necessary, pursuant to 40 C.F.R. section 403.8(3), the Regional Water Board may reopen this permit to require the Permittee to develop a pretreatment 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:

- 6.3.4.1.1. Water and sewer billing records
- 6.3.4.1.2. Applications for sewer service
- 6.3.4.1.3. Local telephone directories
- 6.3.4.1.4. Chamber of Commerce and local business directories
- 6.3.4.1.5. Business license records
- 6.3.4.1.6. POTW and wastewater collection personnel and field observations
- 6.3.4.1.7. Business associations
- 6.3.4.1.8. The internet
- 6.3.4.1.9. 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.

- 6.3.4.2. **Sludge Disposal and Handling Requirements (Special Provision 6.3.4.2).** 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. All solids are currently transported and are either sent to Potrero Hills landfill in Fairfield, California.
- 6.3.4.3. **Biosolids Management (Special Provision 6.3.4.3).** This provision requires the Permittee 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) in order to conduct or direct the land application of biosolids. 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. The discharge of biosolids through land application is not regulated under this Order.

- 6.3.4.4. **Operator Certification (Special Provision 6.3.4.4).** 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.
- 6.3.4.5. **Ensuring Adequate Capacity (Special Provision 6.3.4.5).** 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.

6.3.5. Other Special Provisions

- 6.3.5.1. **Storm Water (Special Provision 6.3.5.1).** The Permittee has storm water discharges associated with industrial activities, category “ix” as defined in 40 C.F.R. section 122.26(b)(14). This provision requires the Permittee to obtain coverage under the Industrial Storm Water General Permit (or subsequent renewed versions of the NPDES General Permit CAS000001). The Permittee is currently enrolled under the Industrial Storm Water General Permit and continues to implement a Storm Water Pollution Prevention Plan (SWPPP), which describes its storm water discharges, pollution prevention practices, and best management practices.

Storm water that falls northeast of the treatment process area is captured in a basin before it is discharged to surface waters. Storm water that collects in areas around the treatment process is routed to the sludge drying bed (located east of the treatment process area) and returned to the treatment process. Storm water that collects in the remaining part of the Facility is routed to one of two retention basins before it is discharged to surface waters.

- 6.3.5.2. **Wastewater Collection Systems (Special Provision 6.3.5.2).** On December 6, 2022, the State Water Board adopted State Water Board Order No. WQ 2022-0103-DWQ, Statewide Waste Discharge Requirements, General Order for Sanitary Sewer Systems. This Order became effective on June 5, 2023 and requires public agencies that own or operate sanitary sewer systems with sewer lines one mile of pipe or greater to enroll for coverage and comply with the General Order. The General Order requires agencies to develop sanitary sewer management plans and report all sanitary sewer overflows, among other requirements and prohibitions.

6.3.6. Compliance Schedules – Not Applicable

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations. Compliance schedules for ammonia and nitrate are included in Time Schedule Order No. R1-2023-0038.

7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

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

7.1. Influent Monitoring

- 7.1.1. Influent monitoring requirements at Monitoring Location INF-001 for BOD₅ and TSS are retained from Order No. R1-2018-0035 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.
- 7.1.2. Influent monitoring requirements for flow at Monitoring Location INF-001 are retained from Order No. R1-2018-0035 and are necessary to determine compliance with Discharge Prohibition 3.8.
- 7.1.3. Influent monitoring for CTR and title 22 pollutants are retained from Order No. R1-2018-0035 and are necessary to evaluate the contribution of industrial dischargers in the influent to the Facility.

7.2. Effluent Monitoring

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Locations EFF-001A, EFF-001B, and EFF-002 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.

7.2.1. Monitoring Location EFF-001A

- 7.2.1.1. This Order retains monitoring requirements for total coliform and chlorine residual at Monitoring Location EFF-001A in order to determine compliance with the disinfection requirements in sections 4.1.1.3 and 4.3.1.2 of this Order.

7.2.2. Monitoring Location EFF-001B

- 7.2.2.1. Effluent monitoring frequencies and sample types for flow, BOD₅, TSS, pH, total coliform bacteria, copper, dichlorobromomethane, chlorine residual, dissolved oxygen, specific conductance, hardness, nitrate, nitrite, ammonia, phosphorus, aluminum, temperature, and total dissolved solids at Monitoring Location EFF-001B have been retained from Order No. R1-2018-0035 to

determine compliance with the applicable effluent limitation or other permit conditions.

- 7.2.2.2. Effluent monitoring data collected during the term of Order No. R1-2018-0035 indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for bromoform, chloroform, chlorodibromomethane, total trihalomethanes, and cyanide. Therefore, this Order discontinues effluent monitoring requirements for bromoform, chloroform, chlorodibromomethane, total trihalomethanes and cyanide.
- 7.2.2.3. Monitoring data collected over the term of Order No. R1-2018-0035 demonstrated that the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality criteria for 2,3,7,8-TCDD (Dioxin) and this Order establishes new effluent limitations for dioxin at Discharge Point 001. Therefore, this Order establishes a monthly monitoring requirement for dioxin at Monitoring Location EFF-001B to determine compliance with the applicable effluent limitation.
- 7.2.2.4. This Order establishes a new monitoring requirement for manganese in order to gather data needed to evaluate reasonable potential for manganese. As previously described in section 3.4 of this Fact Sheet, the Russian River within the Ukiah Hydrologic Subarea is listed on the U.S. EPA 303(d) list as impaired for manganese.
- 7.2.2.5. Effluent monitoring for *E. coli* bacteria has been established at Monitoring Location EFF-001B in this Order to inform Regional Water Board staff of the reasonable potential for the Permittee to exceed water quality objectives for bacteria when discharging to the Russian River.
- 7.2.2.6. This Order includes a prohibition of discharges that exceed one percent of the flow of the Russian River. Therefore, this Order requires the Permittee to calculate and report the dilution rate.
- 7.2.2.7. As required by the SIP, this Order requires periodic effluent monitoring for CTR priority pollutants to generate adequate data to perform an RPA. This Order retains the annual monitoring requirement in Order No. R1-2018-0035 for CTR constituents at Monitoring Location EFF-001B.

7.2.3. **Monitoring Location EFF-002**

- 7.2.3.1. Land discharge monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Location EFF-002 is necessary to demonstrate compliance with land discharge specifications in section 4.2 of the Order and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives for groundwater.

- 7.2.3.2. Monitoring requirements for flow, BOD₅, TSS, pH, total coliform bacteria, residual chlorine, ammonia nitrogen, nitrate nitrogen, organic nitrogen, specific conductance, total dissolved solids, chloride, hardness, and turbidity have been retained from Order No. R1-2018-0035.
- 7.2.3.3. Monitoring requirements for sodium has been retained from Order No. R1-2018-0035 to demonstrate whether or not the discharge poses reasonable potential for sodium to exceed any numeric water quality objectives for groundwater.
- 7.2.3.4. The Permittee discharges to the Russian River at Discharge Point 001 as necessary when influent flows exceed the treatment and storage capacity of the Facility. To ensure adequate data is available to conduct an RPA for the next permit renewal, if discharge to the Russian River does not occur during the permit term, this Order requires sampling for priority pollutants at Monitoring Location EFF-002 in the fourth year of the permit term and during the discharge season (i.e., October 1 through May 14).

7.3. Whole Effluent Toxicity Testing Requirements

Effluent monitoring data collected during the term of Order No. R1-2018-0035 indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for acute aquatic toxicity. Therefore, this Order discontinues annual effluent monitoring requirements for acute aquatic toxicity. Furthermore, effluent data does identify that reasonable potential to cause or contribute to an exceedance of water quality objectives for chronic aquatic toxicity is present. Therefore, this Order includes quarterly effluent monitoring requirements for chronic aquatic toxicity, as required by the Toxicity Provisions.

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.

The Toxicity Provisions allow the Regional Water Board to use a species sensitivity screening generated within ten years prior to the renewal of this Permit when the data are representative of the effluent, the Regional Water Board accepts use of the data, the data are analyzed using the TST, and the data are from chronic aquatic testing of, at minimum, one vertebrate, one invertebrate, and one plant/algae from Table 1 of Section IV.B.1.b. of the Toxicity Provisions. The Regional Water Board has determined that the species sensitivity screening conducted between January 22 and 26, 2018 meets the above requirements, and the species used for chronic toxicity monitoring shall be *Ceriodaphnia dubia*.

7.4. **Recycled Water Monitoring Requirements (REC-001)**

This Order requires the Permittee to comply with applicable state requirements regarding the production of recycled water. Recycled water monitoring requirements at Monitoring Location REC-001 for flow, BOD₅, TSS, pH, and total coliform bacteria have been retained from Order No. R1-2018-0035.

7.5. **Receiving Water Monitoring**

7.5.1. **Surface Water**

7.5.1.1. **Monitoring Locations RSW-001 and RSW-002**

- 7.5.1.1.1. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.
- 7.5.1.1.2. Monitoring requirements at Monitoring Location RSW-001 for flow, pH, copper, ammonia, dissolved oxygen, specific conductance, hardness, nitrate, phosphorus, total dissolved solids, temperature, and turbidity have been retained from Order No. R1-2018-0035.
- 7.5.1.1.3. Monitoring requirements at Monitoring Location RSW-002 for pH, dissolved oxygen, specific conductance, total dissolved solids, temperature and turbidity have been retained from Order No. R1-2018-0035.
- 7.5.1.1.4. Receiving water monitoring at monitoring location RSW-001 for aluminum, manganese, dissolved organic carbon, and CTR Priority Pollutants have been established in this Order to inform Regional Water Board staff of the reasonable potential for the Permittee to cause or contribute to an exceedance of the water quality objective for these constituents.
- 7.5.1.1.5. Receiving water monitoring for *E. coli* bacteria has been established in this Order to determine background levels of *E. coli* in the receiving water and determine if the discharge may cause or contribute to an exceedance of the water quality objectives.

7.5.2. **Groundwater**

- 7.5.2.1. Order No. R1-2018-0035 required groundwater monitoring at Monitoring Locations GW-001 through GW-005. In the Permittee's April 2022 Groundwater Characterization Technical Report, the Permittee identifies that water quality monitoring results indicate that the percolation ponds influence the local groundwater chemistry and that the percolation ponds and underlying sediments appear to 'polish' nitrogen to acceptable levels for recharge to the underlying alluvial aquifer. This Order retains groundwater monitoring requirements for groundwater level, pH, nitrate, nitrite, total dissolved solids, dissolved oxygen, and specific conductance to monitor groundwater for future impacts from discharges to the percolation ponds.

7.6. Other Monitoring Requirements

- 7.6.1. **Filtration Process Monitoring.** Monitoring of the surface loading rate at Monitoring Location INT-001A is necessary to demonstrate compliance with technology requirements set forth in DDW's Alternative Treatment Technology Report for Recycled Water (September 2014 or subsequent). Monitoring of effluent turbidity of the tertiary filters at Monitoring Location INT-001B is required to demonstrate compliance with section 60301.320 of title 22 CCR filtration requirements for disinfected tertiary recycled water.
- 7.6.2. **Disinfection Process Monitoring for Chlorine Disinfection System.** For discharges to the recycled water system at Discharge Point 003, chlorine disinfection system monitoring requirements at Monitoring Location EFF-001A are included to ensure effective pathogen reduction.
- 7.6.3. **Visual Monitoring.** Visual Monitoring requirements for the effluent (Monitoring Locations EFF-001B) and receiving water (Monitoring Locations RSW-001 and RSW-002) are retained from Order No. R1-2018-0035 and are necessary to ensure compliance with receiving water limitations in section 5 of the Order.
- 7.6.4. **Seep Monitoring**
- 7.6.4.1. The Permittee's 2022 Groundwater Characterization Technical Report indicates that a hydrologic connection, in the form of low-flow bank seeps, from the percolation ponds to the Russian River is likely to briefly occur following 'bed scarification'. Furthermore, the Technical Report identifies that the percolation ponds and underlying sediments appear to 'polish' nitrogen to acceptable levels for recharge to the underlying groundwater and most constituents reduced to negligible concentrations. This Order requires visual monitoring of the banks of the Russian River following any ripping work performed on the percolation ponds in order to identify the remaining presence of groundwater seeps into the receiving water now that the Permittee's recycled water system allows for reduced volumes of discharge to the percolation ponds.
- 7.6.5. **Sludge Monitoring.** Sludge monitoring requirements at Monitoring Location BIO-001 serve as a basis for the Permittee to develop the Sludge Handling and Disposal Activity Report that is required as part of the Annual Report pursuant to section 10.5.2.7 of the MRP.
- 7.6.6. **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 major and selected minor dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The

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.

- 7.6.7. **Accelerated Monitoring.** Tables E-4 and E-5 of the MRP include accelerated monitoring requirements for parameters that are required to be monitored daily, weekly, monthly, and annually.
- 7.6.8. **Flow Monitoring.** Section 1.4 of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices to provide accurate flow monitoring as required to determine compliance with the discharge prohibitions contained in this Order.

7.7. **Special Studies and Additional Monitoring Requirements**

- 7.7.1. **Disaster Preparedness Assessment Report and Action Plan (MRP section 10.1.1).** 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.

8. **PUBLIC PARTICIPATION**

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the City of Ukiah Wastewater Treatment Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

8.1. **Notification of Interested Parties**

In addition to the outreach identified in WDRs Section 2.6, the California Regional Water Quality Control Board, North Coast Region notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge

and provided an opportunity to submit written comments and recommendations. Notification was provided through the following 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.

The public had access to the agenda and any changes in dates and locations through the [Regional Water Board's website](#) at:
http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml.

8.2. **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 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://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 **June 3, 2024**.

8.3. **Public Hearing**

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

Date: **August 15, 2024**
Time: **9:00 a.m. or as announced in the Regional Water Board's agenda**
Location: **Eureka City Hall Council Chambers**
531 K Street
Eureka, CA 95501

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.

8.4. **Reconsideration of Waste Discharge Requirements**

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition for review, see the [Water Quality Petitions Website](#) at http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

8.5. **Information and Copying**

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

8.6. **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.

8.7. **Additional Information**

Requests for additional information or questions regarding this order should be directed to Matthew Herman at matthew.herman@waterboards.ca.gov or (707) 576-2683.

Attachment F-1. Wastewater Treatment Facility RPA Summary

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Antimony	µg/L	<0.5	---	6	---	---	14	---	6	No
Arsenic	µg/L	5.8	---	10	340	150	---	---	10	No
Beryllium	µg/L	0.14	---	4	---	---	---	---	4.0	No
Cadmium	µg/L	<0.2	---	1.8	2.9	1.8	---	---	5.0	No
Chromium (III)	µg/L	<0.5	---	149.15	1,250.9	149.1	---	---	---	No
Chromium (VI)	µg/L	<0.5	---	11	16	11	---	---	50	No
Copper	µg/L	68	---	35	51	35	1,300	---	---	Yes
Lead	µg/L	<0.2	---	1.91	49.0	1.91	---	---	---	No
Mercury	ng/L	1.84	---	12	---	---	50	---	2,000	Yes
Nickel	µg/L	3	---	37.2	334.3	37.2	610	---	100	No
Selenium	µg/L	3.8	---	5	---	5	---	---	50	No
Silver	µg/L	1.3	---	2.0	2.0	---	---	---	---	No
Thallium	µg/L	<0.2	---	1.7	---	---	1.7	---	2	No
Zinc	µg/L	63	---	85.3	85.3	85.3	---	---	---	No
Cyanide	µg/L	4.5	---	5.2	22	5.20	700	---	150	No
Asbestos	MFL	0.1	---	7	---	---	7	---	7	Ud ⁵
2,3,7,8 TCDD	µg/L	<3.27E-06	---	1.3E-08	---	---	1.3E-08	---	3.0E-05	Yes
Acrolein	µg/L	<5	---	320	---	---	320	780	---	No
Acrylonitrile	µg/L	<2	---	0.059	---	---	0.059	---	---	No

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Benzene	µg/L	<0.3	---	1	---	---	1.2	---	1	No
Bromoform	µg/L	<0.03	---	4.3	---	---	4.3	---	---	No
Carbon Tetrachloride	µg/L	<0.5	---	0.25	---	---	0.25	---	0.5	No
Chlorobenzene	µg/L	<0.5	---	70	---	---	680	---	70	No
Chlorodibromomethane	µg/L	0.05	---	0.4	---	---	0.401	---	---	No
Chloroethane	µg/L	<0.5	---	No Criteria	---	---	---	---	---	Uo ⁶
2-Chloroethylvinyl ether	µg/L	0.7	---	No Criteria	---	---	---	---	---	Uo ⁶
Chloroform	µg/L	3.2	---	No Criteria	---	---	---	---	---	Uo ⁶
Dichlorobromomethane	µg/L	0.6	---	0.56	---	---	0.56	---	---	Yes
1,1-Dichloroethane	µg/L	<0.5	---	5	---	---	---	---	5	No
1,2-Dichloroethane	µg/L	<0.5	---	0.38	---	---	0.38	---	0.5	No
1,1-Dichloroethylene	µg/L	<0.5	---	0.057	---	---	0.057	---	6	No
1,2-Dichloropropane	µg/L	<0.5	---	0.52	---	---	0.52	---	5	No
1,3-Dichloropropylene	µg/L	<0.5	---	0.5	---	---	10	---	0.5	No
Ethylbenzene	µg/L	<0.5	---	300	---	---	3,100	---	300	No
Methyl Bromide	µg/L	<0.5	---	48	---	---	48	---	---	No
Methyl Chloride	µg/L	<0.5	---	No Criteria	---	---	---	---	---	Uo ⁶
Methylene Chloride	µg/L	<0.5	---	4.7	---	---	4.7	---	5	No

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
1,1,2,2-Tetrachloroethane	µg/L	<0.5	---	0.17	---	---	0.17	---	1	No
Tetrachloroethylene	µg/L	<0.5	---	0.8	---	---	0.8	---	5	No
Toluene	µg/L	3.1	---	150	---	---	6,800	---	150	No
1,2-Trans-Dichloroethylene	µg/L	<0.5	---	10	---	---	700	---	10	No
1,1,1-Trichloroethane	µg/L	<0.5	---	200	---	---	---	---	200	No
1,1,2-Trichloroethane	µg/L	<0.5	---	0.6	---	---	0.6	---	5	No
Trichloroethylene	µg/L	<0.5	---	2.7	---	---	2.7	---	5	No
Vinyl Chloride	µg/L	<0.5	---	0.5	---	---	2	---	0.5	No
2-Chlorophenol	µg/L	<5	---	120	---	---	120	---	---	No
2,4-Dichlorophenol	µg/L	<5	---	93	---	---	93	---	---	No
2,4-Dimethylphenol	µg/L	<2	---	540	---	---	540	---	---	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<5	---	13	---	---	13	---	---	No
2,4-Dinitrophenol	µg/L	<5	---	70	---	---	70	---	---	No
2-Nitrophenol	µg/L	<10	---	No Criteria	---	---	---	---	---	Uo ⁶
4-Nitrophenol	µg/L	<10	---	No Criteria	---	---	---	---	---	Uo ⁶
3-Methyl 4-Chlorophenol	µg/L	<1	---	No Criteria	---	---	---	---	---	Uo ⁶
Pentachlorophenol	µg/L	<5	---	0.28	5	4	0.28	---	1	No
Phenol	µg/L	<1	---	21,000	---	---	21,000	---	---	No
2,4,6-Trichlorophenol	µg/L	<10	---	2.1	---	---	2.1	---	---	No

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Acenaphthene	µg/L	<1	---	1,200	---	---	1,200	---	---	No
Acenaphthylene	µg/L	<10	---	No Criteria	---	---	---	---	---	Uo ⁶
Anthracene	µg/L	<10	---	9,600	---	---	9,600	---	---	No
Benzidine	µg/L	<5	---	0.00012	---	---	0.00012	---	---	No
Benzo(a)Anthracene	µg/L	<5	---	0.0044	---	---	0.0044	---	---	No
Benzo(a)Pyrene	µg/L	<10	---	0.0044	---	---	0.0044	---	0.2	No
Benzo(b)Fluoranthene	µg/L	<10	---	0.0044	---	---	0.0044	---	---	No
Benzo(ghi)Perylene	µg/L	<5	---	No Criteria	---	---	---	---	---	Uo ⁶
Benzo(k)Fluoranthene	µg/L	<10	---	0.0044	---	---	0.0044	---	---	No
Bis(2-Chloroethoxy)Methane	µg/L	<5	---	No Criteria	---	---	---	---	---	Uo ⁶
Bis(2-Chloroethyl)Ether	µg/L	<1	---	0.031	---	---	0.031	---	---	No
Bis(2-Chloroisopropyl)Ether	µg/L	<2	---	1,400	---	---	1400	---	---	No
Bis(2-Ethylhexyl)Phthalate	µg/L	<3	---	1.8	---	---	1.8	---	4	No
4-Bromophenyl Phenyl Ether	µg/L	<5	---	No Criteria	---	---	---	---	---	Uo ⁶
Butylbenzyl Phthalate	µg/L	<10	---	3,000	---	---	3,000	---	---	No
2-Chloronaphthalene	µg/L	<10	---	1,700	---	---	1,700	---	---	No
4-Chlorophenyl Phenyl Ether	µg/L	<5	---	No Criteria	---	---	---	---	---	Uo ⁶

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Chrysene	µg/L	<10	---	0.0044	---	---	0.0044	---	---	No
Dibenzo(a,h)Anthracene	µg/L	<10	---	---	---	---	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	---	---	400	---	5	No
3,3 Dichlorobenzidine	µg/L	<5	---	0.04	---	---	0.04	---	---	No
Diethyl Phthalate	µg/L	<2	---	23,000	---	---	23,000	---	---	No
Dimethyl Phthalate	µg/L	<2	---	313,000	---	---	313,000	---	---	No
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 ⁶
Di-n-Octyl Phthalate	µg/L	<10	---	No Criteria	---	---	---	---	---	Uo ⁶
1,2-Diphenylhydrazine	µg/L	<1	---	0.04	---	---	0.04	---	---	No
Fluoranthene	µg/L	<1	---	300	---	---	300	---	---	No
Fluorene	µg/L	<10	---	1,300	---	---	1,300	---	---	No
Hexachlorobenzene	µg/L	<1	---	0.00075	---	---	0.00075	---	1	No
Hexachlorobutadiene	µg/L	<1	---	0.44	---	---	0.44	---	---	No
Hexachlorocyclopentadiene	µg/L	<5	---	50	---	---	240	---	50	No
Hexachloroethane	µg/L	<1	---	1.9	---	---	1.9	---	---	No

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Indeno(1,2,3-cd)Pyrene	µg/L	<10	---	0.0044	---	---	0.0044	---	---	No
Isophorone	µg/L	<1	---	8.4	---	---	8.4	---	---	No
Naphthalene	µg/L	<1	---	No Criteria	---	---	---	---	---	Uo ⁶
Nitrobenzene	µg/L	<1	---	17	---	---	17	---	---	No
N-Nitrosodimethylamine	µg/L	<5	---	0.00069	---	---	0.00069	---	---	No
N-Nitrosodi-n-Propylamine	µg/L	<5	---	0.005	---	---	0.005	---	---	No
N-Nitrosodiphenylamine	µg/L	<1	---	5	---	---	5	---	---	No
Phenanthrene	µg/L	<5	---	No Criteria	---	---	---	---	---	Uo ⁶
Pyrene	µg/L	<10	---	960	---	---	960	---	---	No
1,2,4-Trichlorobenzene	µg/L	<0.5	---	5	---	---	---	---	5	No
Aldrin	µg/L	<0.005	---	0.00013	3	---	0.00013	---	---	No
alpha-BHC	µg/L	<0.01	---	0.0039	---	---	0.0039	---	---	No
beta-BHC	µg/L	<0.005	---	0.014	---	---	0.014	---	---	No
gamma-BHC	µg/L	<0.01	---	0.019	0.95	---	0.019	---	0.2	No
delta-BHC	µg/L	<0.005	---	No Criteria	---	---	---	---	---	Uo ⁶
Chlordane	µg/L	<0.05	---	0.00057	2.4	0.0043	0.00057	---	0.1	No
4,4'-DDT	µg/L	<0.01	---	0.00059	1.1	0.001	0.00059	---	---	No
4,4'-DDE	µg/L	<0.02	---	0.00059	---	---	0.00059	---	---	No
4,4'-DDD	µg/L	<0.02	---	0.00083	---	---	0.00083	---	---	No

Pollutant	Units	MEC ¹	B	C	CMC	CC	Water & Org ²	Org Only ³	MCL	RP ⁴
Dieldrin	µg/L	<0.01	---	0.00014	0.24	0.056	0.00014	---	---	No
alpha-Endosulfan	µg/L	0.0089	---	0.056	0.22	0.056	110	---	---	No
beta-Endosulfan	µg/L	<0.01	---	0.056	0.22	0.056	110	---	---	No
Endosulfan Sulfate	µg/L	<0.05	---	110	---	---	110	---	---	No
Endrin	µg/L	<0.01	---	0.036	0.086	0.036	0.76	---	2	No
Endrin Aldehyde	µg/L	<0.01	---	0.76	---	---	0.76	---	---	No
Heptachlor	µg/L	<0.01	---	0.00021	0.52	0.0038	0.00021	---	0.01	No
Heptachlor Epoxide	µg/L	<0.01	---	0.0001	0.52	0.0038	0.0001	---	0.01	No
PCBs sum	µg/L	<0.5	---	0.00017	---	0.014	0.00017	---	0.5	No
Toxaphene	µg/L	<0.5	---	0.0002	0.73	0.0002	0.00073	---	3	No

Table Notes

1. MEC = Maximum Effluent Concentration
2. Water & Org = CTR Water Quality Criteria for Human Health for Consumption of Water & Organisms
3. Org. Only = CTR Water Quality Criteria for Human Health for Organisms Only
4. RP = Reasonable Potential
5. Ud = Undetermined, No Effluent Data
6. Uo = Undetermined, No Water Quality Criteria.

ATTACHMENT G - AMEL AND MDEL AMMONIA STANDARDS BASED ON 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	2.77	1.77	1.66	1.55	1.46	1.36	1.28	1.20	1.12	1.05	0.99	0.93	0.87	0.81	0.76	0.72	0.67	0.63
6.6	2.73	1.74	1.63	1.53	1.43	1.34	1.26	1.18	1.11	1.04	0.97	0.91	0.86	0.80	0.75	0.71	0.66	0.62
6.7	2.68	1.71	1.60	1.50	1.41	1.32	1.24	1.16	1.09	1.02	0.96	0.90	0.84	0.79	0.74	0.69	0.65	0.61
6.8	2.62	1.67	1.56	1.47	1.37	1.29	1.21	1.13	1.06	1.00	0.93	0.87	0.82	0.77	0.72	0.68	0.63	0.59
6.9	2.54	1.62	1.52	1.42	1.34	1.25	1.17	1.10	1.03	0.97	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58
7.0	2.46	1.57	1.47	1.38	1.29	1.21	1.13	1.06	1.00	0.93	0.88	0.82	0.77	0.72	0.68	0.63	0.60	0.56
7.1	2.36	1.50	1.41	1.32	1.24	1.16	1.09	1.02	0.96	0.90	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.2	2.24	1.43	1.34	1.25	1.18	1.10	1.03	0.97	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58	0.54	0.51
7.3	2.11	1.34	1.26	1.18	1.11	1.04	0.97	0.91	0.86	0.80	0.75	0.71	0.66	0.62	0.58	0.55	0.51	0.48
7.4	1.97	1.25	1.18	1.10	1.03	0.97	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48	0.45
7.5	1.81	1.16	1.08	1.02	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41
7.6	1.65	1.05	0.99	0.93	0.87	0.81	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38
7.7	1.49	0.95	0.89	0.83	0.78	0.73	0.69	0.64	0.60	0.57	0.53	0.50	0.47	0.44	0.41	0.38	0.36	0.34
7.8	1.32	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30
7.9	1.16	0.74	0.69	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26
8.0	1.01	0.64	0.60	0.57	0.53	0.50	0.47	0.44	0.41	0.38	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23
8.1	0.87	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20
8.2	0.75	0.47	0.45	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17
8.3	0.63	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14
8.4	0.54	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12
8.5	0.45	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10
8.6	0.38	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09
8.7	0.32	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.10	0.09	0.08	0.08	0.07
8.8	0.27	0.18	0.16	0.15	0.14	0.14	0.13	0.12	0.11	0.10	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06
8.9	0.23	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.10	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.05
9.0	0.20	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06	0.06	0.06	0.05	0.05	0.05

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	8.60	5.48	5.13	4.81	4.51	4.23	3.97	3.72	3.49	3.27	3.07	2.87	2.69	2.53	2.37	2.22	2.08	1.95
6.6	8.47	5.39	5.06	4.74	4.44	4.17	3.91	3.66	3.43	3.22	3.02	2.83	2.65	2.49	2.33	2.19	2.05	1.92
6.7	8.31	5.29	4.96	4.65	4.36	4.09	3.83	3.59	3.37	3.16	2.96	2.78	2.60	2.44	2.29	2.15	2.01	1.89
6.8	8.12	5.17	4.85	4.54	4.26	4.00	3.75	3.51	3.29	3.09	2.89	2.71	2.54	2.39	2.24	2.10	1.97	1.84
6.9	7.89	5.03	4.71	4.42	4.14	3.88	3.64	3.41	3.20	3.00	2.81	2.64	2.47	2.32	2.17	2.04	1.91	1.79
7.0	7.62	4.85	4.55	4.27	4.00	3.75	3.52	3.30	3.09	2.90	2.72	2.55	2.39	2.24	2.10	1.97	1.85	1.73
7.1	7.31	4.65	4.36	4.09	3.84	3.60	3.37	3.16	2.96	2.78	2.61	2.44	2.29	2.15	2.01	1.89	1.77	1.66
7.2	6.95	4.43	4.15	3.89	3.65	3.42	3.21	3.01	2.82	2.64	2.48	2.32	2.18	2.04	1.91	1.80	1.68	1.58
7.3	6.55	4.17	3.91	3.67	3.44	3.22	3.02	2.83	2.66	2.49	2.33	2.19	2.05	1.92	1.80	1.69	1.59	1.49
7.4	6.11	3.89	3.65	3.42	3.20	3.00	2.82	2.64	2.48	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
7.5	5.63	3.58	3.36	3.15	2.95	2.77	2.60	2.43	2.28	2.14	2.01	1.88	1.76	1.65	1.55	1.45	1.36	1.28
7.6	5.13	3.27	3.06	2.87	2.69	2.52	2.37	2.22	2.08	1.95	1.83	1.71	1.61	1.51	1.41	1.32	1.24	1.16
7.7	4.62	2.94	2.76	2.58	2.42	2.27	2.13	2.00	1.87	1.75	1.65	1.54	1.45	1.36	1.27	1.19	1.12	1.05
7.8	4.10	2.61	2.45	2.30	2.15	2.02	1.89	1.78	1.66	1.56	1.46	1.37	1.29	1.21	1.13	1.06	0.99	0.93
7.9	3.61	2.30	2.15	2.02	1.89	1.78	1.66	1.56	1.46	1.37	1.29	1.21	1.13	1.06	0.99	0.93	0.87	0.82
8.0	3.14	2.00	1.87	1.76	1.65	1.54	1.45	1.36	1.27	1.19	1.12	1.05	0.98	0.92	0.86	0.81	0.76	0.71
8.1	2.70	1.72	1.61	1.51	1.42	1.33	1.25	1.17	1.10	1.03	0.96	0.90	0.85	0.79	0.75	0.70	0.65	0.61
8.2	2.31	1.47	1.38	1.29	1.21	1.14	1.07	1.00	0.94	0.88	0.82	0.77	0.72	0.68	0.64	0.60	0.56	0.52
8.3	1.97	1.25	1.17	1.10	1.03	0.97	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48	0.45
8.4	1.66	1.06	0.99	0.93	0.87	0.82	0.77	0.72	0.67	0.63	0.59	0.56	0.52	0.49	0.46	0.43	0.40	0.38
8.5	1.40	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32
8.6	1.19	0.76	0.71	0.66	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27
8.7	1.00	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.34	0.31	0.29	0.28	0.26	0.24	0.23
8.8	0.85	0.54	0.51	0.48	0.45	0.42	0.39	0.37	0.35	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19
8.9	0.73	0.46	0.43	0.41	0.38	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17
9.0	0.63	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18	0.17	0.16	0.15	0.14

