CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

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ORDER No. R1-2022-0017
NPDES No. CA0025135
WDID NO. 1B82046OSON
Waste Discharge Requirements and Water Recycling Requirements

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

Permittee	**City of Healdsburg**
Name of Facility	**City of Healdsburg Wastewater, Recycling and Disposal Facility**
Facility Address	**340 Foreman Lane** **Healdsburg, CA 95448** **Sonoma County**

Table 1. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
001	Disinfected Tertiary Treated Wastewater	38º 34’ 51”	122º 51’ 45”	Basalt Pond, part of the Russian River

Discharge Point	Effluent Description	Discharge Point Latitude (North-South)	Discharge Point Longitude (East-West)	Receiving Water
002	Disinfected Tertiary Treated Recycled Water	---	---	25 million gallon recycled water storage pond or 15 million gallon recycled water storage pond (Recycled Water Storage Ponds)

This Order was adopted on: **October 7, 2022**
This Order shall become effective on: **December 1, 2022**
This Order shall expire on: **November 30, 2027**

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: **November 30, 2026.** 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 discharger**.

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region on October 7, 2022.

Digitally signed by Matthias St John
Date: 2022.10.20 16:07:53 -07'00'

Water Boards

Matthias St. John, Executive Officer

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1. FACILITY INFORMATION

Information describing the City of Healdsburg (Permittee) Wastewater Treatment, Recycling and Disposal Facility (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 water recycling requirements 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 and Attachment G are also incorporated into this Order.

2.3. Provisions and Requirements Implementing State Law

The provisions/requirements in subsections 3.5, 3.6, 3.7, 4.2, 4.3, 5.2, and 6.3.5.1 and sections 6, 7, 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 discharge and has provided them

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

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.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R1-2016-0015 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 6.3.5.3 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. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050 is prohibited.

3.6. 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).”

3.7. The discharge of recycled, filtered wastewater to any use area not addressed in a DDW-accepted title 22 Recycled Water Engineering Report is prohibited.

3.8. The discharge of waste at any point not described in Section 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.

3.9. The average dry weather flow of waste through the Facility shall not exceed 1.4 mgd, measured daily and averaged over a calendar month. The peak daily wet weather flow of waste through the Facility shall not exceed 4.0 mgd, measured daily. Compliance with this prohibition shall be determined as defined in sections 7.10 and 7.11 of this Order.

3.10. 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.

3.11. During the period from October 1 through May 14, discharges of treated wastewater to Basalt Pond, part of the Russian River, shall not exceed one percent of the flow of the Russian River, as measured by the sum of flows at United States Geological Survey (USGS) Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth[1]. For the purposes of this Order, compliance with this discharge prohibition shall be determined as follows:

3.11.1. 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[2]. Daily flow shall be based on flow meter comparisons reasonably read between the hours of 12:01 am and 12:00 midnight.

3.11.2. 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's flow that occurs in the same calendar month, as measured per Section 3.11. At the beginning of the discharge season, the monthly flow volume comparison 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 comparison shall be based on the first day of the calendar month to the date when the discharge ceases for the season.

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

3.13. The acceptance of septage to a location other than an approved septage receiving station and in accordance with a septage management program approved by the Regional Water Board Executive Officer is prohibited.

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[1] When flows in Dry Creek exceed 200 cfs, a flow of 200 cfs in Dry Creek shall be used in the calculation of the sum of flows in the Russian River.

[2] An alternative flow gauging location may be established if it is determined that measurements at an alternative location are more representative of conditions at the point of discharge. In the event that a new gauge station is established, the Monitoring and Reporting Program will be modified to identify the new flow monitoring gauge.

4. EFFLUENT LIMITATIONS AND DISCHARGE PROHIBITIONS

4.1. Effluent Limitations – Discharge Point 001

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

Table 2. Effluent Limitations [1] – 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	10	15	---	---	---
Total Suspended Solids	mg/L	10	15	---	---	---
pH	standard units	---	--	----	6.5	8.5
Ammonia Impact Ratio [2]	Ratio	1	---	1	---	---

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 I is a PDF example of the calculator that will be sent to the Permittee to determine compliance with the AMEL/MDEL AIR. For each of the applicable ammonia standards, Attachment H includes two tables that provide the variable AMEL and MDEL ammonia standards used in calculating the AIR. The AIR is the ammonia effluent limit and must be reported in the self-monitoring reports in addition to ammonia concentrations, and pH and temperature values in the effluent and receiving water. Monitoring for ammonia, pH and temperature must be conducted concurrently in order for the AIR to be calculated properly

4.1.1.2. **Percent Removal**. The average monthly percent removal of BOD_5 and total suspended solids shall not be less than 85 percent.

4.1.1.3. **Disinfection.** Disinfected effluent discharged from the Facility through Discharge Point 001 to Basalt Pond shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location EFF-001:

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 seven days for which analysis have been completed; and 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

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

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 – Not Applicable**

This Order does not authorize discharges to land.

4.3. **Recycling Specifications – Discharge Point 002**

4.3.1. **Water Recycling Specifications**

The Permittee shall maintain compliance with the following limitations at Discharge Point 002, with compliance measured at Monitoring Location REC-001, as described in the attached MRP.

Table 3. Recycled Water Discharge Specifications [1] – Discharge Point 002

Parameter	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---	---
Total Suspended Solids (TSS)	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.

4.3.1.1. **Disinfection.** Disinfected effluent discharged from the Facility to the Recycled Water Storage Ponds at Discharge Point 002 to the recycled water system shall not contain total coliform bacteria exceeding the following concentrations, as measured at Monitoring Location REC-001:

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

4.3.1.1.2. 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

4.3.1.1.3. 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 January 2021 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. **Chronic Toxicity**[3]

4.4.1.1. As measured at Monitoring Location EFF-001, Maximum Daily Effluent Trigger (MDET) Tests, and Median Monthly Effluent Trigger (MMET) Tests shall be conducted in accordance with sections 5.1 and 5.2 of the MRP, Attachment E of this Order. Compliance with the chronic toxicity monitoring requirements shall be determined per section 7.9 of this Order.

4.4.1.1.1. **Maximum Daily Effluent Trigger**

No chronic aquatic 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.

4.4.1.1.2. **Median Monthly Effluent Trigger**

[3] Chronic toxicity requirements included in this Order are included consistent with the Toxicity Provisions. The Toxicity Provisions were adopted by the State Water Resources Control Board on December 1, 2020 and approved by the California Office of Administrative Law on April 25, 2022. The Permittee shall comply with the Toxicity Provisions upon approval by the U.S. EPA.

No more than one chronic aquatic toxicity test initiated in a calendar month shall result in a "fail" at the IWC for any endpoint.

4.4.2. **Filtration Process Requirements**

4.4.2.1. **Filtration Rate.** When discharging to the recycled water system, the rate of filtration through the tertiary filters, as measured at Monitoring Location INT-001A, shall not exceed 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.

4.4.2.2. **Filter Effluent Turbidity**. When discharging to the recycled water system, the effluent from the tertiary 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:

4.4.2.2.1. 0.2 NTU more than 5 percent of the time during any 24-hour period; and

4.4.2.2.2. 0.5 NTU at any time.

4.4.2.3. Filtered effluent in excess of turbidity specifications shall not enter the recycled water distribution system. Pursuant to title 22 sections 60304 and 60307, the Permittee shall have the capability and shall manage filtered effluent in excess of the turbidity specifications to automatically activate chemical addition or divert the wastewater to an upstream treatment process unit or to emergency storage. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in section 9.1.2.3.2 of the MRP (Attachment E).

4.4.3. **Disinfection Process Requirements**

The Permittee shall operate the ultraviolet light (UV) disinfection system in accordance with the operating protocol and technical and administrative requirements set out by DDW in order to ensure compliance with disinfection effluent limitations specified in section 4.1.1.2 and disinfection water recycling specifications in section 4.3.1.3 of this Order. Specifically, the Permittee shall:.

4.4.3.1. Disinfect tertiary treated wastewater using a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. At a minimum, the Permittee shall demonstrate a 99.99 percent removal and/or inactivation of MS2 through the UV disinfection system only.

4.4.3.2. Provide continuous, reliable monitoring of flow, UV transmittance, UV intensity, UV dose, and UV power at Monitoring Location INT-002, and

turbidity at Monitoring Location INT-001B. The Permittee must demonstrate compliance with the UV dose requirement.

4.4.3.3. Operate the UV disinfection system to provide a minimum UV dose of 86.08 millijoules per square centimeter (mJ/cm2) at all times at Monitoring Location INT-002, unless otherwise approved by DDW.

4.4.3.4. Ensure that the UV transmittance (at least 254 nanometers) in the wastewater does not fall below 65 percent of maximum at any time, unless otherwise approved by DDW.

4.4.3.5. Visually inspect the quartz sleeves and cleaning system components per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and check the efficacy of the cleaning system.

4.4.3.6. Wipe/Clean the quartz sleeves at least every 24 hours following the manufacturer's procedures to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be increased as necessary to ensure compliance with permit requirements such as UV dose and total coliform organism requirements.

4.4.3.7. Operate the UV disinfection system in accordance with an approved operations and maintenance plan, which specifies clearly the operational limits and responses required for critical alarms. The Permittee shall maintain a copy of the approved operations plan at the treatment plant and make the plan readily available to operations personnel and regulatory agencies. The Permittee shall post a quick reference plant operations data sheet at the treatment plant. The data sheet shall include the following information:

4.4.3.7.1. The alarm set points for secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power.

4.4.3.7.2. The values of secondary and tertiary turbidity, high and low flow, UV dose and transmittance, UV lamp operation hours, and power when flow must be diverted to waste.

4.4.3.7.3. The values of high daily and weekly median total coliform when an operational response must be taken.

4.4.3.7.4. The required frequency of calibration for all meters measuring turbidity, flow, UV transmittance, and power.

4.4.3.7.5. The required frequency of mechanical cleaning/wiping and equipment inspection.

4.4.3.7.6. The UV lamp age tracking procedures and replacement intervals.

4.4.3.8. Replace lamps every 12,000 hours of operation, or sooner, if there are indications that the lamps are failing to provide adequate disinfection. The Permittee shall maintain lamp age and lamp replacement records for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, Section IV).

4.4.3.9. Properly calibrate flow meters and UV transmittance (UVT) monitors to ensure proper disinfection.

4.4.3.10. Inspect the UVT meter and check against a reference bench-top unit weekly to document accuracy.

4.4.3.11. Recalibrate the on-line UVT analyzer by a procedure recommended by the manufacturer if the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more.

4.4.3.12. Operate the UV disinfection system with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available row of UV lamps or UV lamp bank.

4.4.3.13. Not allow equivalent or substitutions of equipment to occur without an adequate demonstration of equivalent disinfection performance to the satisfaction and approval of DDW.

4.4.3.14. Ensure that flow through the UV disinfection system not exceed 1.4 mgd as a daily average and 4.0 mgd as a daily maximum, unless otherwise approved by DDW.

4.4.4. **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, articles 4 and 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 established for these pollutants in title 22, division 4, chapter 15, articles 4 and 5.5 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 (ppth) 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 reasonable 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 or contribute to levels of chemical constituents in groundwater that exceed the maximum and secondary maximum contaminant levels (MCLs and SMCLs) established for these pollutants in the 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 or contribute to levels of radionuclides in groundwater 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 specification, other specification, receiving water limitation, or provision of this Order, that may result in 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 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 10.5 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 10.2.6.2.5 and 10.2.6.2.6.

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 4.4.1.1.1. and 4.4.1.1.2, 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 *Pimephales promelas*.

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. 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 effluent and receiving water monitoring requirements for nutrients (ammonia, nitrate, 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 subregional 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.

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

6.3.2. **Special Studies, Technical Papers, and Additional Monitoring Requirements**

6.3.2.1. **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 **August 1, 2025**, 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.

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

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

The Permittee shall, as required by the Regional Water Board Executive Officer (Hereafter 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:

6.3.3.1.1. A sample result is reported as DNQ and the effluent limitation is less than the RL; or

6.3.3.1.2. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section 10.2.4.

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

6.3.3.2.1. 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;

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

6.3.3.2.3. 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;

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

6.3.3.2.5. 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:

6.3.3.2.5.1.1. All PMP monitoring results for the previous year;

6.3.3.2.5.1.2. A list of potential sources of the reportable priority pollutant(s);

6.3.3.2.5.1.3. A summary of all actions undertaken pursuant to the control strategy; and

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

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

6.3.4.1. **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.

6.3.4.2. **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:

6.3.4.2.1. 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.

6.3.4.2.2. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

6.3.4.2.3. Description of laboratory and quality assurance procedures.

6.3.4.2.4. Process and equipment inspection and maintenance schedules.

6.3.4.2.5. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.

6.3.4.2.6. 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.

6.3.4.3. **Standard Operating Procedures (SOPs) for Chlorine Usage.** The Permittee shall maintain SOPs for the use of chlorine at the Facility, including maintenance cleaning and clean-in-place practices of the filter membranes, to control and abate the discharge of chlorine to the receiving water. The Permittee shall update the SOPs as needed and report any changes to the SOPs or changes in chlorine usage in the Annual Facility Report (due March 1st to the Regional Water Board). The Permittee shall operate the Facility in accordance with the most recently updated SOPs for the use of chlorine at the Facility. The Permittee shall report any chlorine spills at the Facility in accordance with section 6.1.2.2 of this Order.

6.3.4.4. **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.

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

6.3.5.1. **Wastewater Collection Systems**

The Permittee has coverage under, and is separately subject to the requirements of, State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems, as amended by Order No. WQ 2013-0058-EXEC, and any subsequent revisions. As such, the Permittee

provides notification and reporting of SSOs in accordance with the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any revisions thereto for operation of its wastewater collection system.

6.3.5.2. **Source Control and Pretreatment Provisions**

6.3.5.2.1. 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:

6.3.5.2.1.1. 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.

6.3.5.2.1.2. 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.

6.3.5.2.1.3. 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.

6.3.5.2.1.4. Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.

6.3.5.2.1.5. **General Prohibitions.** Pollutants introduced into wastewater treatment facilities (WWTFs) by a non-domestic source shall not pass through [40 CFR 403.3(n)] the WWTF or interfere [40 CFR 403.3(i)] with the operation or performance of the works. These general prohibitions and the specific prohibitions in section 6.3.5.2.1.6 of this provision apply to all non-domestic sources introducing pollutants into a WWTF whether or not the source is subject to other National Pretreatment Standards or any national, state, or local pretreatment requirements.

6.3.5.2.1.6. **Specific Prohibitions.** In addition, the following pollutants shall not be introduced into a WWTF:

6.3.5.2.1.6.1. Pollutants that create a fire or explosion hazard in the WWTF;

6.3.5.2.1.6.2. Pollutants that will cause corrosive structural damage to the WWTF, but in no case discharges with pH lower than 5.0, unless the WWTF is specifically designed to accommodate such discharges;

6.3.5.2.1.6.3. Solid or viscous pollutants in amounts that will cause obstruction to the flow in the WWTF resulting in interference;

6.3.5.2.1.6.4. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration that will cause interference with the WWTF;

6.3.5.2.1.6.5. Heat in amounts that will inhibit biological activity in the WWTF resulting in interference, but in no case heat in such quantities that the temperature at the WWTF exceeds 40°C (104°F) unless the Regional Water Board, upon request of the Permittee, approves alternate temperature limits;

6.3.5.2.1.6.6. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interferences or pass through; and

6.3.5.2.1.6.7. Pollutants that result in the presence of toxic gases, vapors, or fumes within the WWTF in a quantity that may cause acute worker health and safety problems

6.3.5.2.2. 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:

6.3.5.2.2.1. The Permittee shall notify the Regional Water Board within 30 days after there are discharges that trigger the pretreatment requirements;

6.3.5.2.2.2. 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;

6.3.5.2.2.3. The Permittee shall enforce the federal categorical pretreatment standards on all categorical industrial users (CIUs);

6.3.5.2.2.4. 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

6.3.5.2.2.5. The Permittee shall notify the Regional Water Board if any CIU violates its discharge effluent limits.

6.3.5.2.3. 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.

6.3.5.2.4. 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.

6.3.5.3. **Sludge Disposal and Handling Requirements**

6.3.5.3.1. 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.

6.3.5.3.2. 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.

6.3.5.3.3. 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.

6.3.5.3.4. The Permittee shall ensure that any biosolids it has land applied is incorporated within six hours in order to meet Vector Attraction Reduction requirements in 40 C.F.R. 503.33.

6.3.5.3.5. 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.

6.3.5.3.6. 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.

6.3.5.3.7. 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.

6.3.5.3.8. 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.

6.3.5.3.9. 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.

6.3.5.3.10. 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.

6.3.5.3.11. The Permittee currently sends all dewatered sludge for landfill disposal at the Redwood Landfill in Novato, California or Hay Road Landfill in Vacaville, California. The Permittee shall notify the Regional Water Board prior to changing biosolids use or disposal practices.

6.3.5.4. **Biosolids Management**

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

6.3.5.4.1. 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

6.3.5.4.2. Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.

6.3.5.4.3. 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.

6.3.5.5. **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.

6.3.5.6. **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].

6.3.6. **Other Special Provisions**

6.3.6.1. **Storm Water**

For the control of storm water discharges from the Facility, if required, the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

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

6.3.7. **Compliance Schedules – Not Applicable**

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

7. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order 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 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 “Detected, but Not Quantified” (DNQ) or “Not Detected” (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 7.2, 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 7.2, 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 subsection 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 any 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 = $\sqrt[n]{(x1)(x2)(x3)\ldots(xn)}$, 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 using the bacteriological results of the last 7 days for which analyses have been completed

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:

$$\text{Geometric Mean} = \sqrt[n]{(x_1)(x_2)(x_3)\dots(x_n)}$$

Where x is the sample value and n is the number of samples taken.

7.9. **Chronic Toxicity Requirements**

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

Compliance with chronic toxicity routine monitoring, MMET 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 3.9.1 of this Order will be determined once each calendar year by evaluating all equalized influent flow data collected at Monitoring Location INF-001 in a calendar year. The flow through the Facility, measured daily and averaged monthly, must be 1.4 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 in section 3.9.2 of this Order will be determined daily by measuring the daily average equalized influent flow at Monitoring Location INF-001. If the measured daily average flow exceeds 4.0 mgd, the Permittee is not in compliance with Prohibition 3.9.2 of this Order.

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. **Six-Month Median Effluent Limitations**

The six-month median effluent limitations shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the

daily value shall be considered to equal zero for days on which no discharge occurred.

7.14. **Single Sample Maximum**

All single sample results are compared to single sample maximum and median limitations. Single sample results are only compared to the geometric mean and six-week rolling geometric mean, and statistical threshold value when sampling is required at the frequency required to properly assess compliance, as further stated in 7.8.2. through 7.8.4, above. Compliance with a single annual sample is determined in comparison to single sample maximum limitations only. If single sample maximums are routinely exceeded, the Regional Water Board may require additional sampling to further assess the effluent and to determine impacts on the receiving water.

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:

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

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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

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

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-Karber. 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.

For the purposes of chronic and acute aquatic toxicity, an MDEL is an effluent limitation based on the outcome of the test of significant toxicity (TST) approach and the resulting percent effect at the IWC.

Maximum Daily Effluent Target (MDET)
For the purposes of chronic and acute aquatic toxicity, an MDET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MDET is not a violation of an effluent limitation.

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.

Median Monthly Effluent Target (MMET):
For the purposes of chronic and acute aquatic toxicity, an MMET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MMET is not a violation of an effluent limitation.

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.

MMET TESTS
For the purposes of chronic and acute aquatic toxicity, for dischargers not required to comply with numeric chronic toxicity effluent limitations, MMET tests are a maximum of two tests that are used in addition to the routine monitoring test to determine whether a TRE should be conducted.

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 government agency 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 recycling 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.

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.

Six-Month Median Effluent Limitation
The highest allowable moving median of all daily discharges for any 180-day period.

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:

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

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 whole effluent toxicity (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
Techniques used to identity 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.

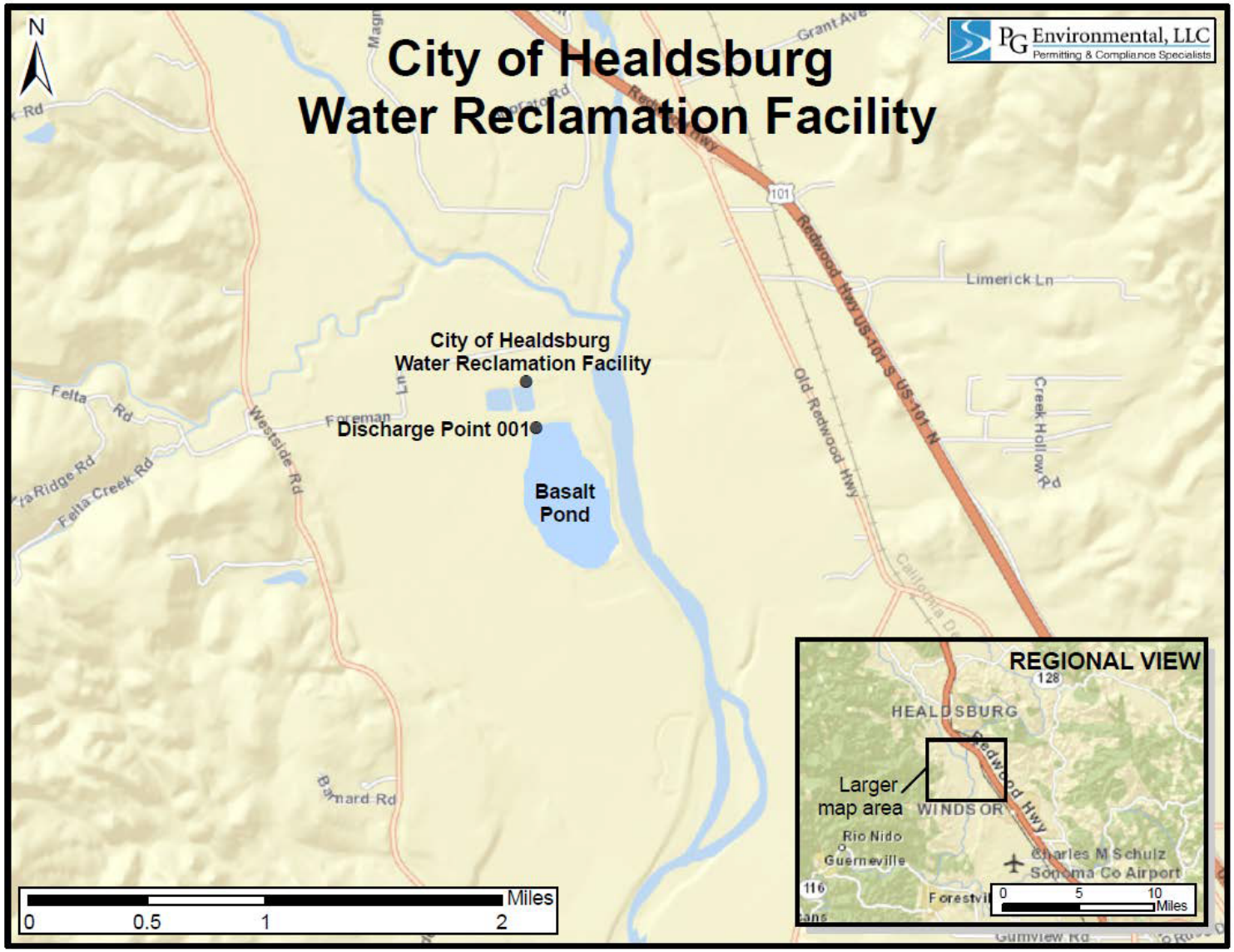
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first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

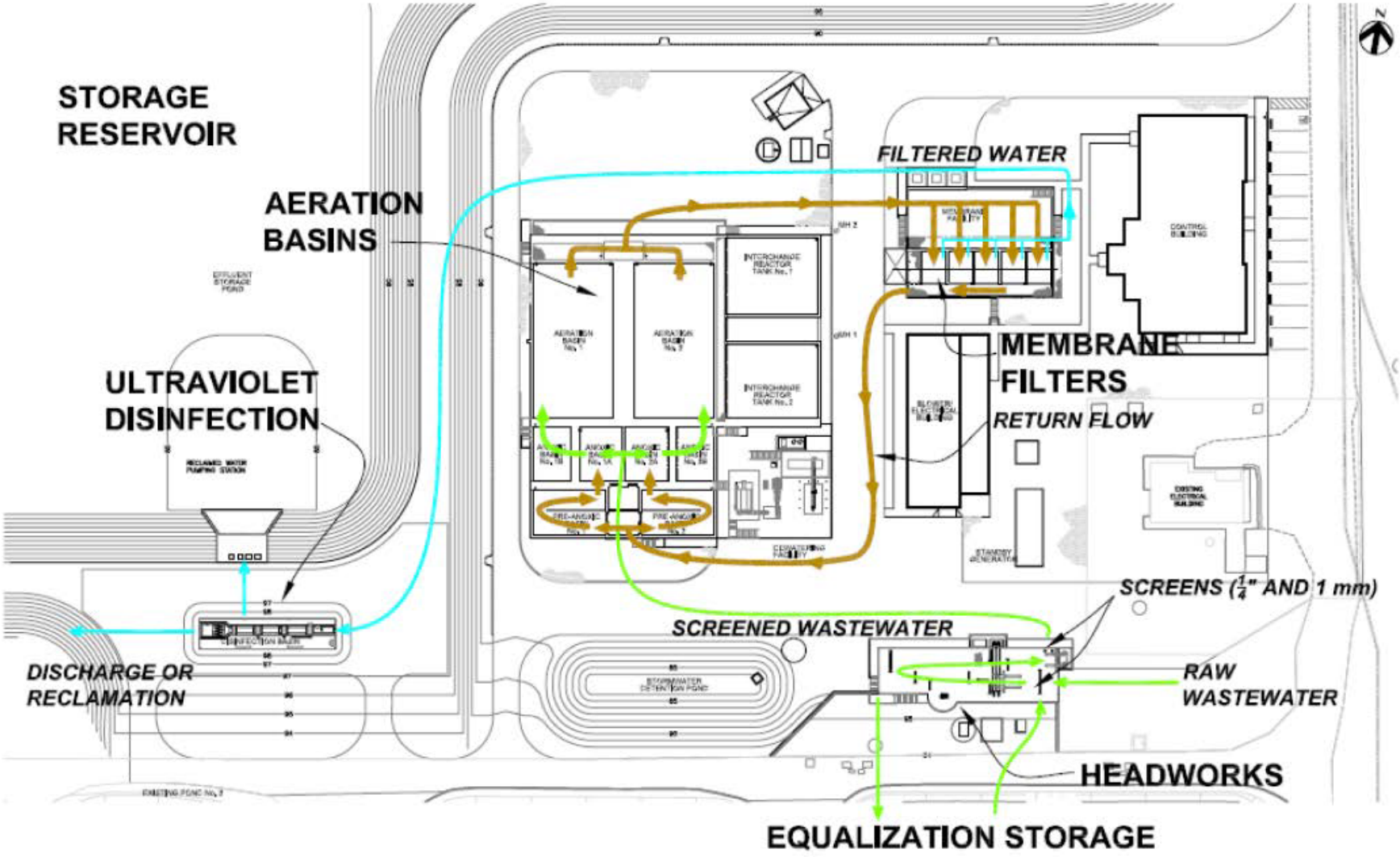
Water Quality Objective
A water quality objective is the amount of pollutant or a parameter level which is established for the reasonable protection of beneficial uses of surface waters and groundwater, and the prevention of nuisance.

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 Name> 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 Permittee 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

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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 Ocean Plan. 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.** 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	Influent at the headworks of the wastewater treatment facility (WWTF) prior to treatment.
---	INT-001A	Location for monitoring the surface loading rate through the advanced wastewater treatment (AWT) filters.
---	INT-001B	Treated effluent immediately following the AWT process for monitoring AWT turbidity.
---	INT-002	Location for monitoring ultraviolet light (UV) radiation dose and UV transmittance of the UV disinfection system.
001	EFF-001	Treated effluent from the WWTF after disinfection but prior to discharge to Basalt Pond[1]. Latitude: 38º 34’ 51” N Longitude: 122º 51’ 45” W
002	REC-001	Treated effluent from the WWTF after disinfection but prior to discharge to the Recycled Water Storage Pond(s)[1].
---	RSW-001	Ambient receiving water monitoring location. Samples shall be representative of conditions in Basalt Pond following introduction and mixing of effluent from the Facility. Samples shall be collected from a representative location on the western side of Basalt Pond, approximately 25 to 50 feet from the discharge outfall and the shore, or at another location approved by the Regional Water Board Executive Officer[2].

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	BIO-001	A representative sample of the sludge or biosolids generated when removed for disposal.

Table Notes

1. Monitoring Locations EFF-001 and REC-001 are the same location, the sampling point at the effluent end of the UV disinfection system. Different discharge point names and monitoring location names have been assigned due to differences in monitoring requirements at Discharge Points 001 (discharge to Basalt Pond) and 002 (discharge to Recycled Water Storage Pond(s)).
2. If the Permittee wants to monitor the receiving water at an alternate location, a written proposal justifying the change must be submitted to the Regional Water Board Executive Officer for review and approval.

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

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.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method [1]
2. Each month, the Permittee shall report the daily average and monthly average flows.				

4. EFFLUENT MONITORING REQUIREMENTS

4.1. Monitoring Location EFF-001

4.1.1. The Permittee shall monitor tertiary treated effluent prior to contact with the receiving water at Monitoring Location EFF-001 during periods of discharge to Basalt Pond as follows.

Table E-3. Effluent Monitoring – Monitoring Location EFF-001 [13]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method [1]
Effluent Flow [2,3]	mgd	Meter	Continuous	---
Dilution Rate	% of stream flow	Calculation	Daily	---
Biochemical Oxygen Demand 5 day @ 20°C (BOD_5)	mg/L	24-hr Composite	Weekly [4]	Standard Methods
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Weekly [4]	Standard Methods
pH	standard units	Grab	Weekly [4,5]	Standard Methods
Temperature	°C	Grab	Weekly [5]	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly [4]	Standard Methods
E. coli Bacteria [6]	MPN/100 mL	Grab	Weekly	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Monthly	Standard Methods
Hardness, Total (as $CaCO_3$) [7]	mg/L	Grab	3X/5 Years	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method [1]
Ammonia Nitrogen, Total (N)	mg/L	24-hr Composite	Monthly [8]	Standard Methods
Ammonia Nitrogen, Unionized	mg/L	Calculation	Monthly	Standard Methods
Dissolved Oxygen	mg/L	Grab	Monthly	Standard Methods
Nitrate Nitrogen Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants [9]	µg/L	24-hr Composite	3X/5 Years	Standard Methods [10,11]
Chronic Toxicity [12]	Pass or Fail, and % Effect	24-hr Composite	Quarterly	See Section 5 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. Each month, the Permittee shall report the daily average and monthly average flows.
3. Effluent flow is measured at a point that is downstream of the membrane filters and upstream of the UV disinfection system.
4. Accelerated Monitoring (weekly monitoring frequency). If two consecutive weekly test results exceed an effluent limitation, the Permittee shall take two samples each of the two weeks following receipt of the second sample result. During the intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps to return to compliance.
5. Monitoring for pH and temperature must coincide with monthly monitoring for ammonia.
6. The Permittee may use any *E. coli* method specified in 40 CFR 136 for compliance monitoring.
7. Effluent and receiving water hardness samples shall be collected concurrently with effluent CTR Priority Pollutant samples.
8. Accelerated Monitoring (monthly monitoring frequency). If a test result exceeds an effluent limitation the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. During the

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method [1]

intervening period, the Permittee shall take steps to identify the cause of the exceedance and take steps needed to return to compliance.

9. 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.
10. CTR pollutant samples shall be collected using 24-hour composite sampling, except for pollutants that are volatile.
11. 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.
12. Whole effluent chronic toxicity shall be monitored in accordance with the requirements of section 5 of this Monitoring and Reporting Program.
13. After the first year of monitoring, at the request of the Permittee the Regional Water Board may, at its Executive Officer's discretion, and after receiving and analyzing the required water quality monitoring data, choose to reduce and/or eliminate certain monitoring requirements for constituents that routinely are found in concentrations below water quality objectives.

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:

Percent Effect at IWC = (Mean Control Response – Mean IWC Response) / 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 between August 22 and 26, 2016 remains representative of the Permittee's effluent and the species used for chronic toxicity monitoring shall be *Pimephales promelas*, 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 MMET tests to be initiated within the same calendar month[4] as the routine monitoring test.

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 MDET or MMET is not met, but not two, 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 MMET or MDET was not met. The calendar month of the MMET or MDET was not met 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 could result in the need to conduct MMET tests.

5.1.9. **MMET Test Requirements.** If a chronic aquatic toxicity routine monitoring test results in a "fail" at the IWC, then the Permittee shall complete a maximum of

[4] 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).

two MMET tests. The MMET 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 MMET tests results in a "fail" at the IWC, then the second MMET test is waived.

5.1.10. **Other Requirements.**

5.1.10.1. When a required toxicity test for routine monitoring or MMET 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 MMET 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 MMET tests, as applicable, and any MMET tests required to be conducted due to the results of the new toxicity test shall be used to determine if the MMET and the MDET are met 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 MMET 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 MMET 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.** The Permittee shall notify the Regional Water Board of not meeting any MDET or MMET as soon as the permittee learns of it, 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 January 2011. The Permittee's generic TRE Work Plan shall be reviewed no later than **August 1, 2023** 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 does not meet any combination of two or more MDET or MMET 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 MMET 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 – NOT APPLICABLE

This Order does not authorize discharges to land.

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-4. 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
TSS	mg/L	Grab	Weekly	Standard Methods
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. Each month, the Permittee shall report the daily average and monthly average flows.

8. RECEIVING WATER MONITORING REQUIREMENTS

8.1. Monitoring Location RSW-001

8.1.1. The Permittee shall monitor ambient conditions in Basalt Pond at Monitoring Location RSW-001 during periods of discharge to Basalt Pond as follows:

Table E-5. Receiving Water Monitoring Requirements – Monitoring Location RSW-001 [9]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Effluent Flow[2]	mgd	Meter	Daily	---
Biochemical Oxygen Demand 5 day @ 20°C (BOD_5)	mg/L	Grab	Monthly	Standard Methods
pH	standard units	Grab	Monthly[3]	Standard Methods
Aluminum, Total Recoverable	µg/L	Grab	Monthly[4]	Standard Methods
Dissolved Organic Carbon	mg/L	Grab	Monthly[4]	Standard Methods
Hardness, Total (as $CaCO_3$)[5]	mg/L	Grab	Monthly[4]	Standard Methods
E. coli Bacteria[6]	MPN/100 mL	Grab	Monthly	Standard Methods
Ammonia Nitrogen, Total (N)	mg/L	Grab	Monthly[3]	Standard Methods
Ammonia Nitrogen, Unionized	mg/L	Grab	Calculation	Standard Methods
Temperature	°C	Grab	Monthly	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Standard Methods
Phosphorus, Total (as P)	mg/L	Grab	Monthly	Standard Methods
CTR Priority Pollutants[7]	µg/L	Grab	Once per permit term	Standard Methods[8]

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 sum of the flows at United States Geological Survey (USGS) Gauge No. 11-4640-00 in the Russian River near Healdsburg and USGS Gauge No. 11-4653.50 in Dry Creek near its mouth.

3. Monitoring for pH and temperature must coincide with monthly effluent monitoring for ammonia.
4. Monitoring for receiving water aluminum, pH, dissolved organic carbon, and hardness shall be conducted concurrently with effluent monitoring for aluminum.
5. Hardness samples shall be collected concurrently with effluent CTR Priority Pollutants samples.
6. The Permittee may use any *E. coli* method specified in 40 CFR 136 for compliance monitoring.
7. 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. Monitoring shall occur simultaneously with the first effluent monitoring for CTR priority pollutants required by section 4.1 of this MRP.
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.
9. After the first year of monitoring, at the request of the Permittee the Regional Water Board may, at its Executive Officer's discretion, and after receiving and analyzing the required water quality monitoring data, choose to reduce and/or eliminate certain monitoring requirements for constituents that routinely are found in concentrations below water quality objectives.

8.2. **Groundwater Monitoring – Not Required**

This Order does not require groundwater monitoring at this time.

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 when discharging to all treated wastewater flows. 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 tertiary 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 Water Recycling Criteria (Cal. Code Reg., tit. 22, § 60301.320), shall be calculated based on the flow rate through each filter unit.

9.1.1.3. **Reporting.** The maximum daily filter surface loading rate shall be reported on the monthly SMRs.

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 at Monitoring Location INT-001B. 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 monthly SMRs.

9.1.2.2. **Compliance.** Compliance with the 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. 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).

9.1.2.3. **Reporting.**

9.1.2.3.1. The daily average and maximum daily values of effluent turbidity shall be reported on the monthly SMRs.

9.1.2.3.2. If the filtered effluent turbidity exceeds 0.2 NTU for more than 5 percent of the time in a 24-hour period or 0.5 NTU at any time, the incident shall be reported in the monthly 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, only if the effluent was sent to the Recycled Water Storage Pond(s) or discharged to Basalt Pond. A written report describing the incident and the actions undertaken in response shall be included in the monthly SMR.

9.1.2.3.3. A summary of compliance with all effluent filter requirements shall be included as part of the Permittee's Annual Report submitted to the Regional Water Board.

9.2. **Disinfection Process Monitoring for the UV Disinfection System (Monitoring Location INT-002)**

9.2.1. **Monitoring Locations INT-002**

9.2.1.1. **Monitoring.** The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded at Monitoring Location INT-002. The operational UV dose shall be calculated from UV transmittance and flow.

9.2.1.2. **Compliance.** The UV transmittance shall not fall below 65 percent of maximum at any time, unless otherwise approved by DDW. The operational UV dose shall not fall below 86.08 millijoules per square centimeter (mJ/cm2) at any time, unless otherwise approved by DDW. Flow through the UV disinfection system shall not exceed 4.0 mgd, unless otherwise approved by DDW.

9.2.1.3. **Reporting.** The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its monthly SMRs. The Permittee shall report daily average and maximum flow through the UV disinfection system. If the UV transmittance falls below 65 percent or UV dose falls below 86.08 mJ/cm2, the event shall be reported to the Regional Water Board by telephone within 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

9.3. **Visual Monitoring (Monitoring Location EFF-001)**

Visual observations of the discharge and receiving water 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 monthly SMRs.

9.4. **Sludge Monitoring (Monitoring Location BIO-001)**

9.4.1. Sludge sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.

9.4.2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and of 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. General Monitoring and Reporting Requirements

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

10.2. Self-Monitoring Reports (SMRs)

10.2.1. 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/). 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 provisions of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.

10.2.2. 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.

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

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

Table E-6. 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 month of sampling

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling	First day of second calendar month following the month of sampling
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following the month of sampling
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	First day of second calendar month following the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of second calendar month following the month of sampling
Annually	January 1 following (or on) permit effective date	January 1 through December 31	March 1, each year (with annual report)
3X/5 years	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

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
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

10.2.5. **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:

10.2.5.1. 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).

10.2.5.2. 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 (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

10.2.5.4. 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.

10.2.6. The Permittee shall submit SMRs in accordance with the following requirements:

10.2.6.1. 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 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.

10.2.6.2. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:

10.2.6.2.1. Facility name and address;

10.2.6.2.2. WDID number;

10.2.6.2.3. Applicable period of monitoring and reporting;

10.2.6.2.4. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);

10.2.6.2.5. Corrective actions taken or planned; and

10.2.6.2.6. The proposed time schedule for corrective actions.

10.2.6.3. 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).

10.2.6.4. 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 at http://waterboards.ca.gov/northcoast.

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

10.3. **Discharge Monitoring Reports (DMRs)**

10.3.1. 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).

10.4. **Other Reports**

10.4.1. 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-7. Reporting Requirements for Special Provisions Reports

Order Section	Special Provision Requirement	Reporting Requirement
Special Provision 6.3.2.1	Disaster Preparedness Assessment Report and Action Plan	August 1, 2025
Special Provision 6.3.3.1	Pollutant Minimization Program	If required by the Regional Water Board Executive Officer
Special Provision 6.3.3.2.5	Pollutant Minimization Program, Annual Facility Report	March 1, annually, following development of Pollutant Minimization Program
Special Provision 6.3.5.2.1	Source Control Provisions, Annual Report	March 1, annually
Special Provision 6.3.5.6	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.

Order Section	Special Provision Requirement	Reporting Requirement
MRP Effluent Monitoring Requirement 5.2.1	Generic TRE Work Plan review and update	Review by August 1, 2023 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 Reporting Requirement 10.4.2	Annual Report	March 1, annually
MRP Reporting Requirement 10.4.3	Annual Volumetric Report	April 30, annually
MRP Reporting Requirement 10.5.1	Notification of spills and unauthorized discharges.	Oral reporting within 24 hours and written report within 5 days

10.4.2. **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 10.2.6.3, above. The report shall be submitted by **March 1st** of the following year. The report shall, at a minimum, include the following:

10.4.2.1. 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.

10.4.2.2. 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.

10.4.2.3. The names and general responsibilities of all persons employed at the Facility;

10.4.2.4. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations; and

10.4.2.5. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

10.4.2.6. **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 6.3.5.2, during the past year. This annual report is due on March 1st of each year, and shall contain:

10.4.2.6.1. A copy of the source control standards, including a table presenting local limits.

10.4.2.6.2. A description of the waste hauler permit system; if applicable.

10.4.2.6.3. 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.

10.4.2.6.4. 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.

10.4.2.6.5. The name and address of each user that received a discharge limit.

10.4.2.6.6. A summary of any industrial waste survey results.

10.4.2.6.7. 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.

10.4.2.7. **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:

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

10.4.2.7.2. Sludge monitoring results;

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

10.4.2.7.4. Methods of final disposal of sludge:

10.4.2.7.4.1. 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.

10.4.2.7.4.2. 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.

10.4.2.7.4.3. 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.

10.4.2.7.5. 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.

10.4.2.8. **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.

10.4.2.9. **Chlorine Usage.** The Permittee is required to update the SOPs as needed and report any changes to the SOPs or change in chlorine usage. If there have been no changes to the SOPs or chlorine usage, the Permittee shall report that no changes have been made in the annual report.

10.4.3. **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 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 Policy for Water Quality Control for Recycled Water (Recycled Water Policy as described below:

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

10.4.3.2. **Production.** Monthly volume of waster treated, specifying level of treatment.

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

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

10.4.3.3.2. 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.

10.4.3.4. **Reuse.**

10.4.3.4.1. Monthly Volume of treated wastewater distributed.

10.4.3.4.2. 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:

10.4.3.4.2.1. Agricultural irrigation: pasture or crop irrigation.

10.4.3.4.2.2. 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.

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

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

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

10.4.3.4.2.6. Geothermal energy production: augmentation of geothermal fields.

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

10.5. **Spill Notification**

10.5.1. **Spills and Unauthorized Discharges.** Information regarding all spills and unauthorized discharges (except SSOs) that may endanger health or the

environment shall be provided orally to the Regional Water Board [5] **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:

10.5.1.1. Name and contact information of caller;

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

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

10.5.1.4. Surface water bodies impacted, if any;

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

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

10.5.1.7. Responding agencies.

10.5.2. **Sanitary Sewer Overflows.** Notification and reporting of sanitary sewer overflows are conducted in accordance with the requirements of Order No. 2006-0003-DWQ (Statewide General WDRs for Sanitary Sewer Systems), which is not incorporated herein by reference, and any revisions thereto.

10.5.3. **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:

[5] 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.

10.5.4. **Tertiary Recycled Water** [6]

10.5.5. 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.

10.5.6. 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 3 days after becoming aware of the discharge.

[6] 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

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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	1B82046OSON
Permittee	City of Healdsburg
Name of Facility	City of Healdsburg Wastewater Treatment, Recycling and Disposal Facility
Facility Address	340 Foreman Lane Healdsburg, CA 95448 Sonoma County
Facility Contact, Title and Phone	Terry Crowley, Utility Director (707) 431-3346
Authorized Person to Sign and Submit Reports	Terry Crowley, Utility Director (707) 431-3346 or other duly authorized person
Mailing Address	401 Grove Street, Healdsburg, CA 95448
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	Not Applicable
Recycling Requirements	Producer

Facility Permitted Flow	1.4 million gallons per day (mgd) (average dry weather flow) 4.0 mgd (peak daily wet weather treatment capacity)
Facility Design Flow	1.4 mgd (average dry weather flow) 4.0 mgd (peak wet weather treatment capacity)
Watershed	Russian River Hydrologic Unit, Geyserville Hydrologic Subarea
Receiving Water	Basalt Pond, part of the Russian River
Receiving Water Type	Inland Surface Waters

1.1. The City of Healdsburg (hereinafter Permittee) is the owner and operator of the City of Healdsburg Wastewater Treatment, Recycling and Disposal Facility (hereinafter Facility), a POTW.

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

1.2. The Facility discharges tertiary treated wastewater to Basalt Pond, a water of the United States. The Permittee was previously regulated by Order No. R1-2016-0015 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0025135 adopted on June 16, 2016 and expired on July 31, 2021. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

1.3. The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on October 29, 2020. The application was deemed complete on January 26, 2021.

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. Order No. R1-2016-0015 was administratively extended pursuant to these regulations.

2. FACILITY DESCRIPTION

The Permittee owns and operates a municipal wastewater treatment facility (WWTF) and associated wastewater collection, recycling, and disposal facilities that serve a population of approximately 11,800 residents, with approximately 4,890 residential,

commercial, industrial, and municipal service connections. The Permittee does not currently accept the discharge of septage or bulk loads.

2.1. Description of Wastewater and Biosolids Treatment and Controls

The Facility is located approximately 1 mile south of Healdsburg, California just west of the Russian River and serves the City of Healdsburg. Treated wastewater is discharged from Discharge Point 001 to Basalt Pond. Basalt Pond is physically connected to the Russian River within the Geyserville Hydrologic Subarea of the Russian River Hydrologic Unit. Alternatively, treated wastewater may be distributed for reuse within the City of Healdsburg's recycled water system though Discharge Point 002.

2.1.1. Collection System

The Permittee's wastewater collection system includes approximately 52 miles of sewer mains, 979 manholes, twelve sewer lift stations, and several miles of pressurized force main. The oldest portions of the system are approximately 100 years old. The Permittee is actively working to replace older collection system lines and only about 1.5 miles of 100-year old pipeline remains. Approximately 34 percent of the collection system is between 50 and 100 years old and 40 percent is between 25 and 50 years old. The remaining approximately 25 percent is under 25 years old. Mains range in size from 4 to 33 inches. Collection system pipe materials include asbestos cement pipe, vitrified clay, cast iron, and polyvinyl chloride (PVC). There are nine sewer lift stations located throughout the City of Healdsburg that convey sewage from isolated low-lying areas into the gravity main system, and two additional lift stations located within the City of Healdsburg Corporate Yard. All sewage discharged to the collection system is ultimately collected and conveyed through a 33-inch gravity main to the Magnolia Lift Station, which is the largest lift station.

The Magnolia sewer lift station handles all of the City of Healdsburg's sewage, and includes four dry pit 50-hp centrifugal pumps with a variable frequency drive level control system. These pumps draw the sewage from the wet well and pass it through two parallel 3,700 foot long, 14-inch diameter force mains to the treatment plant. In most circumstances, one pump operates in a lead position and pumps the entire sewage flow to the treatment plant. Two other pumps are configured in lag and lag-lag roles, and a fourth pump is in a standby mode for system redundancy. During periods of high flow, multiple pumps will run automatically to handle the increased flow rate. A comminutor/grinder at the lift station reduces large solids in size to less than a ¼-inch before being pumped to the treatment plant. Under all but extreme wet weather conditions, the capacity of only one of the two 14-inch force mains is necessary.

2.1.2. **Wastewater Treatment Facility**

The Facility is designed to treat an average dry weather flow of 1.4 mgd and a maximum peak wet weather flow of 4.0 mgd. The treatment system consists of influent screening and grit removal; biological removal of biochemical oxygen demand (BOD) and nitrogen in aerobic, anoxic, and pre-anoxic basins; microfiltration through a membrane bioreactor (MBR); ultraviolet (UV) light disinfection; and return activated sludge pumping from the MBR back to the aeration basins. Waste activated sludge pumping removes excessive biomass from the system, followed by a proprietary sludge digestion process, dewatering via centrifuge, and disposal to a Class III solid waste landfill.

The MBR combines the secondary biological treatment and immersed membrane filtration processes. The immersed membrane filtration process separates suspended solids from the wastewater using a very fine filter (i.e., ultrafilter). The MBR system at the Facility consists of five membrane tanks which contain immersed membrane filters with a total filter area of at least 250,000 square feet. The MBR system is designed to treat a peak daily flow of 4.0 mgd in four tanks with a fifth membrane tank, pump, and compressor available for standby capacity. Instantaneous peak inflows may exceed 4.0 mgd, and the headworks structure is sized to accommodate peak inflow spikes up to 9.6 mgd.

Disinfection is achieved in an open channel UV disinfection system with sufficient low pressure/high output lamps to disinfect a peak daily flow of 4.0 mgd. The UV disinfection system is located downstream of the MBR tanks. The MBR filtrate pumps discharge directly to the UV basin. Filtered and UV disinfected wastewater flows by gravity to the 25 million gallon recycled water storage pond, 15 million gallon recycled water storage pond, or Basalt Pond.

The Facility includes a 5 million gallon aerated influent equalization basin and a 3.35 million gallon equalization basin, which provides equalization storage capacity for extended wet weather flows and plant return flows. The Permittee has the ability to divert inadequately treated wastewater from downstream of the UV disinfection system and return it to the headworks for re-treatment.

2.1.3. **Recycled Water**

The Permittee produces disinfected tertiary recycled water. The Facility has two recycled water storage ponds, 25 million gallon and 15 million gallon capacity, with synthetic liners to provide storage for the disinfected tertiary treated recycled water and delivery it to authorized recycled water users. Recycled water is delivered by an effluent pump station from the recycled water storage pond to the recycled water system or is gravity fed to the Basalt Pond, depending upon seasonal requirements.

The Permittee has 41,300 linear feet of pipeline to deliver recycled water for agricultural, industrial, and construction uses. Approximately 1,170 acres of vineyards are directly connected to the pipeline. Additionally, the Permittee operates two filling stations for the trucked recycled water program. Trucked recycled water is used for construction uses (primarily soil compaction and dust control), non-dairy livestock drinking water, and landscape and vineyard irrigation, consistent with agronomic demand. Irrigation occurs primarily during spring, summer, and fall and may occur during dry periods in the winter. The filling stations are located at 340 Foreman Lane and 280 Kinley Lane. Syar Industries, Inc., operates its own recycled water hydrant at 13666 Healdsburg Avenue. The hydrant is used to fill Syar water trucks for dust control at the aggregate processing facility. Additionally, Syar Industries Inc. has installed a pipeline on its property to utilize recycled water for washing the aggregate materials used in asphalt and concrete production.

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**

The Permittee uses a proprietary solids removal and digestion process that combines aerobic and anaerobic processes. Solids are periodically removed from the biological process and transferred to two digester tanks, referred to as interchange reactors. Transfer to the interchange reactors occurs in a daily decant/fill process, where decanted clear liquid from the interchange reactors is returned to the biological process, and the volume decanted is replaced with solids from the biological process. All solids transferred from the biological process to the interchange tanks are first passed through a 250 micron rotary drum screen to remove inert non-biodegradable material, which is compacted and conveyed to a separate dumpster. In the final solids removal step, digested solids are pumped from the interchange reactor tanks, dosed with polymer for thickening, and then dewatered in a centrifuge and conveyed to a dumpster. All solids are then transported for disposal at Redwood Landfill in Marin County or Hay Road Landfill in Solano County.

2.2. **Discharge Points and Receiving Waters**

2.2.1. During the discharge season (October 1 through May 14), wastewater may be discharged to Basalt Pond at Discharge Point 001 (38° 34’ 48” N latitude and 122° 51’ 48” W longitude), which is hydraulically connected to the Russian River in the Geyserville Hydrologic Subarea within the Russian River Hydrologic Unit.

Basalt Pond is one of several existing gravel pits that were excavated adjacent to the Russian River in alluvial deposits of sand and gravel. These deposits are

part of an important groundwater aquifer that supplies domestic and agricultural well water. Basalt Pond has a surface area of 52 acres, and a maximum depth of 55 feet. Basalt Pond was excavated between the late 1960s and mid-1980s by the Basalt Rock Company, as part of their gravel mining operation. Basalt Pond is currently owned by Syar Industries Inc. Basalt Pond was excavated in the historic floodplain of the Russian River, and a levee, composed primarily of soil and alluvial material, was constructed to separate Basalt Pond from surface flows in the Russian River. The levee is not an engineered barrier designed for impermeability that would prevent discharges of effluent from reaching the Russian River. Flooding in February 2019 resulted in a significant breach of the levee between Basalt Pond and the Russian River, resulting in a direct surface water connection between them. Corrective actions related to the levee breach are currently under development by Syar Industries under the conditions of their Mine Reclamation Plan as required by the use permit issued by the County of Sonoma under the Surface Mining and Reclamation Act (SMARA). The final configuration between Basalt Pond and the Russian River are unknown at this time.

Even prior to the breach between Basalt Pond and the Russian River, it was determined that the discharge of wastewater to Basalt Pond, part of the Russian River, is a discharge to waters of the United States, and as such requires an NPDES permit. In an August 6, 2007, decision, the United States Ninth Circuit Court of Appeals affirmed the decision of the United States District Court for the Northern District of California that concluded that Basalt Pond is a water of the United States subject to jurisdiction under the Clean Water Act (CWA) and that the pollutants traveling to the Russian River via hydrologically connected groundwater required the Permittee to obtain an NPDES permit. The Ninth Circuit Court held that discharges to Basalt Pond are subject to the CWA because the Basalt Pond (1) contains wetlands that are adjacent to the Russian River, a navigable water of the United States, and (2) possesses a significant nexus to the Russian River because waters from the Basalt Pond seep into the Russian River and significantly affect the physical, biological, and chemical integrity of the Russian River. (Northern Calif. River Watch v. Healdsburg, 497 F.3d 993 (2007)). Additional details of the District Court decision can be found in Revised Order No. R1-2005-0084 (January 17, 2008). See additional discussion in Table F-3, Footnote 1.

2.2.2. From May 15 through September 30 and any other time seasonally appropriate, the Facility also discharges treated wastewater to the recycled water storage ponds at Discharge Point 002. Recycled water from the storage pond is delivered by an effluent pump station to the recycled water distribution system. 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. R1-2016-0015 for discharges from Discharge Point 001 (Monitoring Locations EFF-001) and representative monitoring data from the term of Order No. R1-2016-0015 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data[1]

Parameter	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biological Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	--	3.4	11	--
	% Removal	≥85	--	--	98.4 [2]	--	--
Total Suspended Solids	mg/L	10	15	--	0.4	1.5	--
	% Removal	≥85	--	--	99.7 [2]	--	--
pH	s.u.	--	--	6.5 – 8.5	--	--	6.6 – 7.7
Ammonia Nitrogen, Total (as N)	mg/L	0.19	13	0.53	0.88	0.88	0.88
Total Coliform Bacteria	MPN/100 mL	2.2[3]	23[4]	240	0.0	0[5]	13[6]
Acute Toxicity	% Survival	70[6]/90[7]	--	--	90/97.5[8]	--	--

Table Notes

1. Monitoring data from August 1, 2016 – December 31, 2021
2. Minimum observed percent removal.
3. The median of the last 7 days for which analysis have been completed.
4. Not to be exceeded in more than one sample in any 30-day period.
5. Number of results in a 30-day period that exceeded 23 MPN/100 mL.
6. Maximum observed result.
7. Minimum for any one bioassay.
8. Median for any three or more consecutive bioassays.
9. Minimum observed percent survival.

2.4. **Compliance Summary**

2.4.1. On October 19, 2016, the Executive Officer issued Administrative Civil Liability (ACL) Complaint No. R1-2017-0036 for three violations of the effluent limitation for copper (one serious violation and two chronic violations), during the term of Order No. R1 2010-0034. The ACL Complaint assessed a penalty of $3,000 for these violations. The Permittee signed the Acceptance of Conditional Resolution and Waiver of Right to Hearing (Acceptance and Waiver) agreeing pay $3,000 and waiving the right to a hearing before the Regional Water Board to dispute the allegations of violations.

2.4.2. **Seasonal Discharge Prohibition.** Prior to 2004, the discharge to Basalt Pond was regulated by WDRs. Breaches in Basalt Pond in 1995 and 1997 resulted in unpermitted discharges to the Russian River and prompted the Regional Water Board to adopt Cease and Desist Order (CDO) Nos. 95-65 and 97-27 requiring the Permittee to develop solutions to prevent future unpermitted discharges. Additionally, following a citizen lawsuit in 2004 in which it was determined that Basalt Pond was a water of the United States, the Regional Water Board adopted Order No. R1-2004-0064 (NPDES No. CA0025135) to regulate the Facility under an NPDES permit and not a WDR.

Because the Facility had not been previously regulated by an NPDES permit, the Permittee was in non-compliance with several requirements of the NPDES permit, including the prohibition of discharges to the Russian River from May 15 through September 30 (seasonal discharge prohibition). Thus, CDO No. R1-2004-0065 was adopted on October 6, 2004 establishing a schedule to achieve compliance with the prohibition by October 6, 2009. The Regional Water Board adopted CDO No. R1-2006-0002 on January 25, 2006, rescinding CDO Nos. 97-27 and R1-2004-0065. CDO No. R1-2006-0002 continued to require final compliance with seasonal discharge prohibition by October 6, 2009.

In order to comply with the requirements of the NPDES permit and CDOs, the Permittee completed an upgrade to the Facility to provide advanced wastewater treatment in May 2008. Although the upgrade resulted in compliance with most requirements, the Permittee had still not achieved compliance with the Basin Plan's seasonal discharge prohibition by the time NPDES Permit Order No R1-2010-0034 was adopted. Therefore, the Permittee proposed to construct a recycled water system and requested an extension of 5 years to complete its project and achieve final compliance. Thus, the Regional Water Board adopted CDO No. R1-2010-0035 on June 10, 2010, rescinding CDO No. R1-2006-0002 and extending the final compliance date for the seasonal discharge prohibition to September 30, 2014.

During the term of NPDES Permit Order No. R1-2010-0034, the Permittee constructed major improvements to its recycled water system, including installation of 11,000 feet of recycled water pipeline for vineyard irrigation of up to 600 acres, construction of the Dry Creek Pipe Bridge, and construction of two

filling stations for the trucked recycled water program. These improvements have reduced discharges to Basalt Pond, but are not expected to fully prevent all discharges during the seasonal discharge prohibition period. The Permittee sent a letter on April 24, 2014, to the Regional Water Board requesting a 5 year extension to further expand their recycled water system and comply with the seasonal discharge prohibition addressed in CDO No. R1-2010-0035. Additional time was requested to construct the Foreman Lane recycled water transmission pipeline by September 2017, expand recycled water storage by February 2018, and construct the Westside Road recycled water transmission pipeline by September 2019. The Regional Water Board granted an extension to comply with the seasonal discharge prohibition from September 30, 2014, to July 31, 2021 through the adoption of CDO No. R1-2016-0016.

The Permittee has subsequently requested an extension to CDO No. R1-2016-0016, in a letter dated February 8, 2021, to modify the final compliance date with the seasonal discharge prohibition from July 31, 2021 to September 30, 2024. This extension is proposed as CDO No. R1-2022-0018 and is being considered for adoption concurrently with this Order and is anticipated to allow the Permittee time to secure additional recycled water users and to gain experience managing their recycled water system to reliably comply with the seasonal discharge prohibition.

2.5. Planned Changes

The Permittee is continuing to expand its recycled water infrastructure in order to reduce and eventually cease discharges to Basalt Pond from May 15 to September 30. The Permittee is nearing completion with their Westside Road recycled water transmission pipeline and anticipates this to be complete in 2022.The Permittee has been awarded a Department of Water Resources grant to construct a pipeline to deliver recycled water for municipal service. This project is expected to be completed by the end of 2025.

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

with section 13260) and water recycling requirements pursuant to article 4, chapter 4, 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 the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

The recycling section of this permit is not, however, addressed by an NPDES permit and is regulated under waste discharge requirements under State law only. That portion of this Order is categorically exempt from CEQA pursuant to section 15301 of title 14 of the California Code of Regulations (CCR), which exempts from CEQA the permitting of existing public structures, facilities, mechanical equipment, etc. involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

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 No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Beneficial uses applicable to Basalt Pond are summarized in Table F-3, as follows:

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Basalt Pond, part of the Russian River[1] within the Geyserville Hydrologic Subarea of the Russian River Hydrologic Unit Note: The beneficial uses listed here are for the Russian River due to the hydrologic connection between Basalt Pond and the Russian River	Existing: Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); Groundwater recharge (GWR); Freshwater replenishment (FRSH); Navigation (NAV); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Commercial and Sport Fishing (COMM); 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 (SPAWN); Potential: Industrial service supply (IND); Industrial process supply (PRO); Shellfish harvesting (SHELL); and Aquaculture (AQUA).
001 and 002	Groundwater	Existing: Municipal and domestic supply (MUN); Agricultural supply (AGR); Industrial service supply (IND); and Potential: Industrial process supply (PRO); and

Table Notes

1. Basalt Pond is identified as being part of, rather than a tributary of, the Russian River. The Regional Water Board and the Permittee reached this conclusion after discussions regarding how to determine compliance with the Basin Plan requirement that discharges to the Russian River during the discharge period of October 1 through May 14 do not exceed 1 percent of the river's flow. Fact Sheet section 2.2 clearly describes the evidence that supports the conclusion that Basalt Pond is part of the Russian River, including the fact that there is a surface connection when the Russian River flows into Basalt Pond. Similarly, there is evidence of subterranean stream (underflow) flows between the river and Basalt Pond. The Basin Plan clearly states that subterranean streams are not groundwater, and have all of the beneficial uses of the surface waters (Basin Plan page 2-18.00, footnote 3). It is therefore, well established that Basalt Pond is part of the Russian River, and as such, the beneficial uses of the Russian River apply to Basalt Pond (40 C.F.R. 131.10(b) requiring that in designating uses of water body and identifying appropriate criteria for those uses, consideration must be taken to ensure downstream uses are protected.)

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 requirement 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 limitations, receiving water limitations, 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 wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On June 9, 2021, the U.S. EPA provided final approval of the 2018 303(d) List of Impaired Water Bodies 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 as impaired by specific conductivity 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.

The Permittee performed a Receiving Water Study with observations made between October 2012 and May 2013. Basalt Pond is one of several existing gravel pits that were excavated adjacent to the Russian River in alluvial deposits of sand and gravel, and a levee made of soil and alluvial material, separates the Basalt Pond from surface flows in the Russian River. For the Receiving Water Study, the Permittee performed sampling of temperature at approximately 5 foot intervals along the full depth profile at five locations in Basalt Pond. Measurements were collected weekly in October and from mid-April to mid-May, and monthly during November through March. The Study found that temperatures in the effluent are consistently a few degrees warmer than in Basalt Pond but data indicate that the influence on temperatures in Basalt Pond is minimal.

On August 14, 2019, the Regional Water Board adopted the Action Plan for the Russian River Watershed Pathogen TMDL (TMDL Action Plan or Action Plan) and Prohibition of the Discharge of Fecal Waste Materials as an amendment to the Basin Plan. The Action Plan describes the Program of Implementation designed to control fecal waste pollution, achieve bacterial water quality objectives, and restore the water contact recreation (REC-1) beneficial use to protect public health within the Russian River watershed. The Action Plan establishes wasteload allocations (WLAs) for point source discharges and load allocations (LAs) for nonpoint source discharges. Both WLAs and LAs are expressed as receiving water concentrations of *E. coli* bacteria in freshwater and enterococci in saline waters identical to the statewide bacteria objective for the protection of REC-1 for those sources that are permitted to discharge. For municipal wastewater discharges to freshwater surface waters within the Russian River Watershed, the *E. coli* bacteria WLAs are less than or equal to 100 colony forming units (CFU) per 100 milliliters (mL) as a six-week rolling geometric mean, calculated weekly, and a statistical threshold value (STV) of 320 cfu/mL not to be exceeded more than ten percent of the time, calculated monthly. There are no municipal wastewater discharges to saline water in the Russian River Watershed, so therefore there are no applicable WLAs for enterococci bacteria. A subsequent Amendment to the TMDL Action Plan, adopted December 2, 2021, expanded the Advanced Protection Management Program (APMP) boundaries to include the Porter Creek-Mark West Creek subwatershed.

For any direct discharges from the Facility to surface waters, the total coliform effluent limitations derived from title 22 requirements for disinfected tertiary recycled water are sufficient to ensure compliance with WLAs for *E. coli* bacteria because the title 22 total coliform limitations are more stringent than the applicable *E. coli* bacteria water quality objectives.

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 Basalt Pond indicates levels of BOD_5, 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 tertiary 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.

With regard to 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.

3.5. **Other Plans, Polices and Regulations**

3.5.1. On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006 0003 DWQ, Statewide General WDRs for Sanitary Sewer Systems and on August 6, 2013 adopted Order No. WQ 2013-0058-EXEC Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs. The deadline for dischargers to apply for coverage was November 2, 2006. The Permittee applied for coverage and is subject to the requirements of Order Nos. 2006-0003-DWQ and WQ 2013-0058-EXEC and any future revisions thereto for operation of its wastewater collection system.

3.5.2. All areas within the Facility, which encompasses approximately 2.5 acres, drain to the storm drain percolation pond, located just west of the headworks. If the percolation pond is unable to accommodate the runoff in a severe storm event, the storm drain pump station, which is controlled by a level switch, automatically pumps the drainage to a storage pond where it either evaporates or is pumped back to the treatment plant headworks. 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) does not require facilities to obtain coverage if

storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater or if storm water is disposed of evaporation ponds, percolation ponds, or combined sewer systems. Therefore, coverage under the Industrial Storm Water General Permit is not required for this Facility.

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 the Recycled Water Policy (State Water Board Resolution No. 2009-0011) 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 became effective on May 14, 2009. The Recycled Water Policy provides direction to the Regional Water Boards regarding the appropriate criteria to be used in issuing permits for recycled water projects and describes permitting criteria intended to streamline and provide consistency for the permitting of the vast majority of recycled water projects. Pertinent provisions and requirements of the Policy have been incorporated into this Order to address conditions specific to the Permittee's plan to implement water recycling.

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

This Order is consistent with the requirements of the Recycled Water Policy to implement 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 Land Reclamation 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 (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exists.

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. R1-2016-0015 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 Permittees, or are not reasonably anticipated to be present in

the discharge but have not been disclosed by the Permittees. 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 Permittees 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. R1-2016-0015 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 6.3.5.3 of this Order (Sludge Disposal and Handling Requirements).

This prohibition has been retained from Order No. R1-2016-0015 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. R1-2016-0015 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.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050(m) is prohibited.

This prohibition is retained from Order No. R1-2016-0015. This prohibition applies to spills related to SSOs and is based on state standards, including section 13050 of the Water Code and the Basin Plan. This prohibition is consistent with the state's antidegradation policy as specified in State Water Board Resolution No. 68-16 (*Statement of Policy with Respect to Maintaining High Quality of Water in California*) in that the prohibition imposes conditions to prevent impacts to water quality, the degradation of water quality, negative effects on receiving water beneficial uses, and lessening of water quality beyond that prescribed in State Water Board or Regional Water Board plans and policies.

This prohibition is stricter than the prohibitions stated in State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition 3.5 of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the state and land for a more complete protection of human health. The rationale for this prohibition is based on the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

4.1.6. **Discharge Prohibition 3.6.** 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.

This prohibition is retained from Order No. R1- R1-2016-0015. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract (user agreement) so that the Permittee maintains a means for ultimate disposal of treated wastewater.

4.1.7. **Discharge Prohibition 3.7.** 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.

4.1.8. **Discharge Prohibition 3.8.** The discharge of waste at any point not described in Section 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- R1-2016-0015. 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.

4.1.9. **Discharge Prohibition 3.9.** The average dry weather flow (ADWF) of waste through the Facility shall not exceed 1.4 million gallons per day (mgd), measured daily and averaged over a calendar month. The peak average daily wet weather flow of waste through the Facility shall not exceed an average daily wet weather flow of 4.0 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. R1-2016-0015 and is based on the engineering design of the Facility. The peak daily wet weather flow prohibition is also retained from Order No. R1-2016-0015 and based on the peak wet weather treatment capacity of the Facility as stated in the ROWD.

4.1.10. **Discharge Prohibition 3.10.** 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 retained from Order No. R1-2016-0015 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 Coastal Basin).

4.1.11. **Discharge Prohibition 3.11.** During the period from October 1 through May 14, discharges of treated wastewater to Basalt Pond, part of the Russian River, shall not exceed one percent of the flow of the Russian River, as measured by the sum of flows at United States Geological Survey (USGS) Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth.

This prohibition has been retained from Order No. R1-2016-0015 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. Order No. R1-2016-0015 contained a prohibition that limited discharges of wastewater to one percent of the flow of the Russian River and a compliance schedule for the Permittee to demonstrate compliance with this

waste discharge rate limitation. In addition, Cease and Desist Order No. R1-2006-0002, adopted by the Regional Water Board on January 25, 2006, included a compliance schedule for the Permittee to submit a plan and schedule to comply with the waste discharge rate limitation.

The Permittee submitted a letter dated March 13, 2007, to the Regional Water Board proposing that compliance with this prohibition be measured as the sum of flows at USGS Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth. These stations measure total flows just above the confluence of Dry Creek and the Russian River and there are no significant diversions or other activities between these points and the discharge to Basalt Pond that would significantly affect the measured flows. The Regional Water Board concurs with the Permittee's proposed method of determining compliance with this discharge prohibition. The Basin Plan's one percent discharge limitation is based on the flow of the receiving water and Basalt Pond does not have a flow. Due to the physical connection between Basalt Pond and the Russian River, it is appropriate to use the flow of the Russian River for assessing compliance with the one percent discharge limitation.

Basin Plan Prohibition No. 4 does not specify how compliance with the one percent flow requirement should be determined. This prohibition, set forth in Provision 3.11 of this Order, specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Permittee makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Russian River, as represented by the sum of flows at USGS Gauge No. 11-4640.00 in the Russian River near Healdsburg and at USGS Gauge No. 11-4653.50 in Dry Creek near its mouth. This modification provides day-to-day operational flexibility for the Permittee while retaining the intent of the prohibition.

The Permittee's March 13, 2007 letter indicated that the Dry Creek gauge is not rated for flows greater than 200 cubic feet per second (cfs) because it is in backwater from the Russian River at these flows. The Permittee proposed using a flow of 200 cfs in the compliance calculation because the Permittee would be able to achieve compliance with the discharge rate prohibition at levels above 200 cfs. Therefore, this Order allows the Permittee to use a flow of 200 cfs in Dry Creek in the calculation of the sum of flows in the Russian River when flows in Dry Creek exceed 200 cfs to determine compliance with this prohibition.

4.1.12. **Discharge Prohibition 3.12.** The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

This prohibition is retained from Order No. R1-2016-0015 and is based the discharge prohibitions contained in section 13375 of the Water Code and section 13375 of the Water Code and 33 U.S. Code section 1311.

4.1.13. **Discharge Prohibition 3.13.** The acceptance of septage to a location other than an approved septage receiving station and in accordance with a septage management program approved by the Regional Water Board Executive Officer is prohibited.

This prohibition is newly established by this Order and is necessary to ensure that septage is not accepted in the absence of a septage management program to ensure that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

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 and Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

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

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

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH, as follows:

4.2.1.1.1. BOD_5 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 BOD_5, 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. This Order uses the terms "disinfected tertiary wastewater" and "disinfected tertiary recycled water" in place of the term "advanced treated wastewater".

4.2.2.1. **BOD_5 and TSS.** As described above, the secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH. For the purpose of regulating municipal waste discharges from the Facility to the Russian River, tertiary wastewater treatment is defined as achieving a monthly average concentration for BOD_5 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. R1-2016-0015.

4.2.2.2. **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 technology based effluent limitation is applied to discharges from the treatment system to the Effluent Storage Pond at Discharge Point 001. 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.

4.2.2.3. **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):

4.2.2.3.1. BOD_5 and TSS, because these two parameters are expressed in terms of concentration and percent removal; and

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

4.2.2.4. **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. R1-2016-0015.

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.

Table F-4. Summary of Technology Based Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Unit	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biological Oxygen Demand 5-day @20°C (BOD_5)	mg/L	10	15	--	--	--
	% Removal	85	--	--	--	--
Total Suspended Solids (TSS)	mg/L	10	15	--	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.5[1]	8.5[1]
Total Coliform Bacteria	MPN/100 mL	23[2]	2.2[3]	240[4]	--	--

Table Notes

1. This Order includes final instantaneous minimum and maximum effluent limitations for pH of 6.5 and 8.5, respectively, based on the more stringent water quality criteria.
2. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.
3. The median of the last 7 days for which analysis have been collected.
4. No sample shall exceed an MPN of 240 per 100 milliliters.

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 tertiary treatment, 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.** The Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including the Eel River and its tributaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the MCLs established by the State Water Board, Division of Drinking Water (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 this receiving water are established by the CTR, established by the U.S. EPA at 40 C.F.R. section 131.38; and the NTR, established by the U.S. EPA at 40 C.F.R. section 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

The SIP, which is described in section 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 in the CTR and NTR 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 Reasonable Potential Analysis

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

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

The RPA for discharges to Basalt Pond, part of the Russian River at Discharge Point 001 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. R1-2016-0015. 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. **Nitrogen Compounds.** Untreated domestic wastewater contains ammonia nitrogen. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream and inadequate or incomplete denitrification may result in the discharge of nitrate to the receiving stream. The Facility is designed to use nitrification to remove ammonia from the waste stream and denitrification to remove

nitrate from the waste stream, culminating in an overall reduction in total nitrogen.

4.3.3.1.2.1. **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 at title 22 of the CCR, sections 64431 (Inorganic Chemicals) and 64444 (Organic Chemicals), as applicable water quality criteria. The MCL for nitrate (10 mg/L as N) is therefore applicable as a water quality criterion. The Permittee sampled its treated wastewater monthly during August 2016 through December 2021. Effluent water monitoring results ranged between 0.3 mg/L and 5.2 mg/L based on 58 samples. Furthermore, the permittee sampled the receiving waters monthly during periods of discharge during August 2016 through December 2021. Receiving water monitoring results ranged from non-detect and 5.0 mg/L. Because nitrate levels in both the effluent and receiving water have been measured at concentrations lower than 10 mg/L N, the Regional Water Board concludes that discharges from the Facility do not have a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for the receiving water for nitrate.

4.3.3.1.2.2. **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 R1-2016-0015 included the requirement for the Permittee to complete an Ammonia to Study determine the presence of freshwater mussels in the receiving waters. While the Permittee submitted the required workplan for this study, the study has not yet been conducted and adequate information is not available to determine if these freshwater mussels are present in the receiving water. The 2013 Freshwater Criteria document states, “In the case of ammonia, where a state demonstrates that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.”

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

Between August 2016 and May 2021, effluent monitoring results ranged from non-detect to 0.88 mg/L based on 55 samples collected at Monitoring Location EFF-001. Receiving water monitoring was not required or performed during the term of Order No. R1-2016-0015.

Because ammonia levels in the treated wastewater have been measured at concentrations greater than EPA’s 2013 Freshwater Criteria at Monitoring Location EFF-001, the Regional Water Board concludes that discharges from the Facility have a reasonable potential to cause or contribute to exceedances of the Basin Plan’s applicable narrative water quality criterion for toxicity. Therefore, this Order includes effluent limitations for ammonia for the protection of aquatic life. This Order establishes an average monthly effluent limitation (AMEL) of 1 and a maximum daily effluent limitation of 1 as an AIR. Fact Sheet section 4.3.4 provides calculations of the ammonia AMEL and MDEL.

4.3.3.1.3. **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 the growth rate of photosynthetic bacteria, algae, and other

aquatic plants. The overabundance of nitrogen and phosphorus compounds in surface water bodies can result in the excessive growth and decay of these organisms, thus accelerating the process of eutrophication. 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.

4.3.3.1.4. **Pathogens (*E. coli* bacteria).** On August 7, 2018, the State Water Board adopted Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy (Statewide Bacteria Provisions), which establishes water quality objectives for reasonable protection of people that recreate within all surface waters, enclosed bays, and estuaries of the state that have the water contact recreation beneficial use (REC-1). In accordance with the water quality objectives outlined in the Statewide Bacteria Provisions for the protection of freshwaters used for water contact recreation, disinfected effluent shall not contain *E. coli* bacteria exceeding the following limitations:

4.3.3.1.4.1. The concentration of *E. coli* bacteria shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL) as a six-week rolling geometric mean, calculated weekly.

4.3.3.1.4.2. A statistical threshold value (STV) of 320 cfu/100 mL shall not be exceeded by more than 10 percent of the samples collected in a calendar month and calculated in a static manner.

As discussed in section 4.2.2.4 of this Fact Sheet, this Order contains effluent limitations for total coliform bacteria that 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. Because *E. coli* bacteria is a subset of the total coliform group, the *E. coli* bacteria limitations established in the Statewide Bacteria Provisions are not as stringent as the title 22 total coliform standards implemented in this Order for assessment of treatment performance. POTWs utilizing more stringent effluent limitations based on title 22 are not required to comply with the less stringent bacteria water quality objectives for protection of water contact recreation, so the effluent limitations from the Statewide Bacteria Provisions have not been included in this Order. The effluent limitations established for total coliform will ensure that bacterial standards for water contact recreation are maintained throughout the receiving water.

4.3.3.1.5. **Aluminum.** Aluminum 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 aluminum toxicity, the Regional Water Board relies on U.S. EPA's recommended water quality criteria for aluminum to interpret the Basin Plan's narrative objective for toxicity. For freshwater, the recommended criteria are from the December 2018 Aquatic Life Ambient Water Quality Criteria for Aluminum EPA 822-R-18-001 (2018 National Ambient Water Quality Criteria (NAWQC)). The 2018 Aluminum Criteria supersedes the August 1988 Ambient Water Quality Criteria for Aluminum (1988 NAWQC), which established water quality objectives for the protection of freshwater aquatic life for aluminum of 750 µg/L (acute) and 87 µg/L (chronic).

The 2018 Aluminum Criteria reflect the latest science and allow for development of criteria reflecting the impact of local receiving water chemistry on aluminum toxicity to aquatic life. The updated criteria account for the site-specific bioavailability of aluminum in receiving waters, which is dependent on pH, dissolved organic carbon, and hardness. Due to a lack of sufficient receiving water information (pH, dissolved organic carbon, and hardness) for calculating criteria, the 2018 NAWQC criteria has not been implemented in this permit. Instead, the MRP includes requirements to monitor effluent for aluminum and receiving water for aluminum, pH, dissolved organic carbon, and hardness in order to have sufficient data to evaluate for aluminum toxicity based on the 2018 NAWQC.

The Permittee most recently sampled its discharge for aluminum in October 2013. Effluent monitoring results for this sample was 7.4 µg/L. The Permittee also sampled the upstream receiving water monthly on the same day, with monitoring results indicting 110 µg/L. Because aluminum monitoring has not been performed concurrently with dissolved organic carbon, inadequate data is available to determine if reasonable potential exists for the Facility's discharge to cause, contribute to, or exceed aluminum water quality objectives in the receiving water.

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. R1-2016-0015, priority pollutant sampling on effluent water was conducted on December 12, 2018, March 10, 2020, and May 14, 2020 at Monitoring Location EFF-001. Additionally, priority pollutant sampling on receiving water was conducted on December 11, 2018 at Monitoring Location RSW-001. 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 120 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**

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 all 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	RPA Result[2]
1	Antimony	µg/L	6	0.46	<0.2	No
2	Arsenic	µg/L	10	1	1	No
6	Copper	µg/L	70[3]	12	1.9	No
7	Lead	µg/L	4.0	0.14	<0.06	No
9	Nickel	µg/L	61	2.7	2.7	No
10	Selenium	µg/L	5	0.32	<0.3	No
13	Zinc	µg/L	140	44	6.4	No
14	Cyanide	µg/L	5.2	0.0052	<0.002	No

CTR No.	Pollutant	Unit	C or Most Stringent WQO/WQC	MEC or Minimum DL[1]	B or Minimum DL	RPA Result[2]
26	Chloroform	µg/L	No Criteria	0.41	<0.4	No
44	Vinyl Chloride	µg/L	0.5	0.41	<0.4	No
81	Di-n-Butyl Phthalate	µg/L	2,700	2.4	<0.9	No
114	Endosulfan Sulfate	µg/L	110	<0.003	0.0037	No
Not Applicable	Ammonia	mg/L	0.82[4]	0.88	---[5]	Yes
Not Applicable	Nitrate (as N)	mg/L	10	5.2	5.8	No

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. 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).
3. Copper WQO calculated with a water effect ratio (WER) of 6.39 and the most stringent WQO from the CTR using the lowest receiving water hardness of 120 mg/L (6.39 x 11 µg/L = 70 µg/L).
4. Ammonia criteria are determined on a sliding scale based upon temperature and pH. The criterion represented in this table is based upon chronic exposure and a temperature of 25.1°C and a pH of 7.7.
5. Receiving water monitoring for ammonia was not required or performed during the term of Order No. R1-2016-0015.

Additional details regarding priority pollutant constituents for which reasonable potential was not found, but warrant further explanation are included in the following paragraphs:

Copper. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are 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

chronic criteria. The default WER for calculating criteria for copper is 1.0. The Permittee conducted a WER study to determine the site-specific toxicity of copper in the receiving water at the point of discharge. The Permittee submitted the results of the WER study in a technical memorandum on April 4, 2017. Regional Water Board staff reviewed the WER study technical memorandum and determined that the WER test results were developed in accordance with the methodology in EPA's guidance document Streamlined Water Effect Ratio Procedure for Discharges of Copper (EPA-822-R-01-005). The Permittee's study concluded that a site specific WER of 6.39 for total recoverable copper applies to the discharge. Using the worst-case measured hardness from the receiving water (120 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 70 µg/L and the applicable acute criterion (maximum 1-hour average concentration) is adjusted to 106 µg/L.

During the term of Order No. R1-2016-0015, the Permittee sampled for copper in the effluent twenty times and copper in the receiving water once in December 2018. Copper was detected in the effluent in all twenty effluent samples, with results ranging from 6.2 µg/L to 13 µg/L. Copper was also detected in the receiving water sample in December 2018 with a result of 1.9 µg/L. A determination of no reasonable potential has been made based on the MEC of 13 µg/L not exceeding the most stringent water quality objective of 70 µg/L and receiving water sample results not exceeding 70 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 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, 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 reasonable potential analysis described in Fact Sheet section 4.3.3 did not identify the need to calculate effluent limitations for any pollutants with aquatic life criteria, therefore Steps 2 and 3 are included to describe the procedure that would be used in the future if reasonable potential is found for any pollutant(s) with aquatic life criteria.

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. The sampling frequency is set equal to 4 (n = 4) for the acute criterion and chronic 4-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. Since reasonable potential was not found for any pollutants with aquatic life criterion/objectives, no effluent limitations were calculated for this permit.

Step 4: When the most stringent water quality criterion/objective is a human health criterion/objective, the AMEL is set equal to the ECA. No human health water quality criteria/objectives were exceeded, therefore there is no need to calculate any human health WQBELs.

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 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 No Observed Effect Concentration (NOEC) approach previously used to establish effluent limitations for acute toxicity.

In a letter dated February 12, 2014, the State Water Board submitted an ATP request to USEPA Region 9 for the statewide use of a two-concentration toxicity test design when using the Test of Significant Toxicity (TST) approach. This two-concentration test design is composed of a single effluent concentration and a control concentration. USEPA 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 State Water Board in a memo dated February 11th, 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 Code of Federal Regulations, title 40, section 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 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 test shall be run using a multi-concentration test design in accordance with Code of Federal Regulations, title 40, section 136.3, and the TST shall be utilized with the biological responses from the permitted 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 TST for statistical analysis of whole effluent aquatic toxicity data

Test of Significant Toxicity Design. The TST's null hypothesis for chronic toxicity is:

H0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ 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 003 is 100%. The chronic toxicity trigger for Discharge Point 003 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) ≤ 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 one MDET or MMET is not met, but not two 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 MDET or MMET are not met 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 MDET or MMET, per the Toxicity Provisions. Verbal notification of aquatic toxicity test results 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. R1-2016-0015 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. The sensitivity species screening conducted during the term of Order R1-2016-0015 concluded that the most sensitive species for acute toxicity testing is Rainbow Trout (*Oncorhynchus mykiss)*. Acute aquatic toxicity test results for the term of Order No. R1-2016-0015 are summarized in Table F-6 below:

Table F-6. Summary of Acute Toxicity Results (Rainbow Trout)

Date	Pass/Fail	Percent Effect (Survival)
11/15/2016	Pass	No Effect
02/15/2017	Pass	No Effect
4/12/2017	Pass	No Effect
7/26/2017	Pass	No Effect
10/16/2017	Pass	No Effect
2/21/2018	Pass	No Effect
5/23/2018	Pass	No Effect
8/9/2018	Pass	No Effect
11/26/2018	Pass	No Effect
3/13/2019	Pass	No Effect
5/15/2019	Pass	No Effect
8/6/2019	Pass	-2.5%
11/18/2019	Pass	-10%
2/12/2020	Pass	No Effect
5/13/2020	Pass	No Effect
11/16/2020	Pass	-2.5%
2/23/2021	Pass	No Effect
5/12/2021	Pass	No Effect
11/15/2021	Pass	No Effect

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), of if any of the acute aquatic toxicity tests have a percent effect at the IWC greater than 10 percent. As shown in Table F-6, acute aquatic toxicity testing did not result in a “fail” and that no resulting percent effect exceeded 10%. As such, 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. R1-2016-0015, 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. The sensitivity species screening conducted during the term of Order R1-2016-0015 concluded that the most sensitive species for chronic toxicity testing is Fathead minnow (*Pimephales promelas)*. Chronic aquatic toxicity test results for the term of Order No. R1-2016-0015 are summarized in Table F-7 below:

Table F-7. Summary of Chronic Toxicity Results (Fathead Minnow)

Date	Pass/Fail	Percent Effect (Survival)	Percent Effect (Growth)
10/16/2017	Pass	No Effect	No Effect
11/26/2018	Pass	No Effect	No Effect
11/18/2019	Pass	No Effect	-8.7%
11/16/2020	Pass	-5.3%	-19.2%
11/15/2021	Pass	-8.8%	-6.5%

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, of if any of the chronic aquatic toxicity tests have a percent effect at the IWC greater than 10 percent. As shown in Table F-7, chronic aquatic toxicity testing did not result in a "fail" result, however the November 16, 2020 chronic aquatic toxicity test resulted in a percent effect for growth that exceeded 10%. As shown in Table F-7, chronic aquatic toxicity testing did not result in a "fail" and that no resulting percent effect exceeded 10% (a negative percent effect indicates that the effluent sample performed better than the control sample). As such, 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 chronic toxicity and corresponding MDET and MMET have been included in this Order, as required by the Toxicity Provisions. 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 acute toxicity, as previously discussed in section 4.3.5.1. The updated effluent data for acute toxicity constitutes new information, which permits the removal of effluent limitations consistent with CWA section 402(o)(2)(B). Therefore, the Order does not retain the effluent limitation for acute toxicity.

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. R1-2016-0015.

Table F-8. Summary of Effluent Limitations – Discharge Point 001 (Monitoring Location EFF-001)

Parameter	Unit	Average Monthly Effluent Limitation	Average Weekly Effluent Limitation	Maximum Daily Effluent Limitation	Instantaneous Minimum Effluent Limitation	Instantaneous Maximum Effluent Limitation	Basis [1]
Biochemical Oxygen Demand 5-day @ 20°C (BOD_5)	mg/L	10	15	---	---	---	TT
	% Removal	85	---	---	---	---	CFR
Total Suspended Solids (TSS)	mg/L	10	15	---	---	---	TT
	% Removal	85	---	---	---	---	CFR
pH	Standard Units	---	---	---	6.5	8.5	BP
Ammonia Impact Ratio	Ratio	1	---	1	---	---	NAWQC
Total Coliform Bacteria	MPN/100 mL	2.2 [2]	23 [3]	240 [5]	---	---	Title 22
Discharge Rate	%	---	---	---	---	1 [4]	BP

Table Notes

1. Definitions of acronyms in Table F-6:
   BP - Basin Plan
   CFR – 40 C.F.R.part 133
   CTR – California Toxics Rule
   NAWQC – National Ambient Water Quality Criteria
   TP - Toxicity Provisions
   TT - Based on the treatment capability of the Facility.
2. The median number of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters (mL), in the last seven days for which analysis have been completed.
3. The number of total coliform bacteria shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters (mL), in more than one sample in any 30-day period.
4. During the period from October 1 through May 14, discharge of treated wastewater shall not exceed 1 percent (1:100) of the upstream receiving water flow. For purposes of this Order, the flow in the Russian River shall be measured at USGS Gauge Nos. 11-4640.00 and 11-1653.50.
5. No Sample shall exceed an MPN of 240 per 100 milliliters.

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 BOD_5 and TSS. 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 effluent limitations for ammonia, pH, and total coliform bacteria that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section 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

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

4.6. Land Discharge Specifications

This Order does not authorize discharges of waste to land.

4.7. Recycling Specifications

This Order authorizes the Permittee to discharge treated municipal wastewater to the Recycled Water Storage Pond(s) that complies with the Water Recycling Specifications and Requirements contained in section 4.3 of the Order. The Permittee has obtained coverage under the Recycled Water General Order to distribute recycled water to authorized use sites (described in section 2.1 of this Fact Sheet); 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 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 change 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 waste discharge requirements for the recycled water discharge. Limitations for BOD_5 and TSS 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 Basalt Pond, part of the Russian River Hydrologic Unit, in the Geyserville Hydrologic Subarea, the coordinated control of all factors which 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**

4.7.3.1. The Water Recycling Specifications are established in this Order to conform to requirements contained in the California Code of Regulations, title 22, division 4, chapter 3 for the production 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 water, including requirements of Water Code sections 13500 – 13577 (Water Reclamation) and DDW regulations at title 22, sections 60301 – 60357 of the California Code of Regulations (Water Recycling Criteria). The requirement to comply with title 22 requirements is retained from Order No. R1-2016-0015. The Permittee has obtained coverage under the Recycled Water General Order. As such this Order no longer includes use area requirements, rather only contains requirements for discharges to the recycled water storage pond.

4.7.3.2. **BOD_5 and TSS.** Consistent with Order No. R1-2016-0015, this Order establishes discharge limitations for BOD_5 and TSS based on technology-based effluent limitations 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 advanced wastewater treatment system. These limits are included in the Order to ensure that discharges to the water recycling system receive proper treatment.

4.7.3.3. **Coliform Bacteria.** Consistent with Order No. R1-2016-0015, this Order includes recycling specifications for coliform bacteria that reflect standards for tertiary treated recycled water adopted by the DDW in title 22 of the CCR and are included to ensure that recycle water quality is protective of human health. Recycled water from this Facility meets the highest title 22 treatment and disinfection standards and is suitable for the broad range of recycled water uses identified in title 22, including urban land uses.

4.7.3.4. **pH.** Consistent with Order No. R1-2016-0015, 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 protection of groundwater when discharging to the recycled water system.

4.7.4. **Other Requirements**

The Order contains additional specifications that apply to the Facility regardless of the disposal method (surface water discharge or water recycling), including:

4.7.4.1. **Filtration Process Requirements.** The turbidity requirements in section 4.4.1.2 of the Order are in accordance with 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 disinfection facilities. Properly designed and operated effluent filters will meet this standard. The point of compliance for the turbidity requirements is a point following filtration and before discharge to the UV disinfection system.

4.7.4.2. **Disinfection Process Requirements for the UV Disinfection System.** The Order contains monitoring requirements for the UV disinfection system in section 4.4.2. These requirements are needed to determine compliance with requirements for recycled wastewater systems, established at CCR title 22, division 4, chapter 3 and to ensure that the disinfection process achieves effective pathogen reduction.

UV system operation requirements are necessary to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses, bacteria) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, and wastewater flow through the UV system. Minimum dosage requirements are based on recommendations by DDW and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research (AWWARF) "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 revised as a Third Edition dated August 2012. Furthermore, a Memorandum dated November 1, 2004, issued by DDW to Regional Water Board Executive Officers recommended that provisions be

included in permits for water recycling treatment plants employing UV disinfection requiring permittees to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines). Minimum UV dosage requirements specified in section 4.4.2 of the Order ensures that adequate disinfection of wastewater will be achieved.

4.7.4.3. **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, suspended material, tastes and odors, temperature, 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. Standard Provisions

6.1.1. Federal Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D to the Order. The Permittee must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42. The rationale for the special conditions contained in the Order is provided in section 6.2, below.

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

6.1.2. 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.

6.1.2.1. 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)).

6.1.2.2. 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.

6.2. Special Provisions

6.2.1. Reopener Provisions

6.2.1.1. **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:

6.2.1.1.1. 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.

6.2.1.1.2. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

6.2.1.2. **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.

6.2.1.3. **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.

6.2.1.4. **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.

6.2.1.5. **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.

6.2.1.6. **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.

6.2.1.7. **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. On April 4, 2017, the Permittee provided new information and justification for applying a WER for copper, as described in section 4.3.3.3 of the Fact Sheet.

6.2.1.8. **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.

6.2.1.9. **Salt and Nutrient Management Plans (Special Provision 6.3.1.9).** This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional SNMP that is applicable to the Permittee.

6.2.1.10. **Title 22 Recycled Water 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.

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

6.2.2.1. **Disaster Preparedness Assessment Report and Action Plan (Special Provisions 6.3.2.1).** 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.

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

6.2.3.1. **Pollutant Minimization Program (Special Provision 6.3.3.1).** 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.

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

6.2.4.1. **Operation and Maintenance (Special Provisions 6.3.4.1 and 6.3.4.2).** 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 6.3.4.2 of this Order, is an integral part of a well-operated and maintained facility.

6.2.4.2. **Standard Operating Procedures (SOPs) for Chlorine Usage (Special Provision 6.3.4.3).** Although the Permittee has discontinued the use of chlorine for disinfection, the Permittee periodically uses chlorine for maintenance cleaning of the filter tanks and clean-in-place procedures for the filter membranes. The Permittee submitted SOPs on July 9, 2009, that describe the Permittee's method to ensure that chlorine is not discharged to Basalt Pond in concentrations that have a reasonable potential to cause or contribute to an exceedance of water quality objectives. This provision requires the Permittee to maintain SOPs for the use of chlorine at the Facility to control and abate the discharge of chlorine to the receiving water. The Permittee is required to update the SOPs as needed and report any changes to the SOPs or change in chlorine usage in the Annual Report (due March 1 to the Regional Water Board). The Permittee shall report any chlorine spills at the Facility in accordance with section 6.1.2.2 of the Order.

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

6.2.5.1. **Wastewater Collection Systems (Special Provision 6.3.5.1)**

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

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

6.2.5.2. **Source Control Provisions (Special Provision 6.3.5.2).** Pursuant to Special Provision 6.3.5.2.1, 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 Permittee did not report any known industrial wastes subject to regulation under the NPDES Pretreatment Program being discharged to the Facility in section 4 of EPA Application Form 2A and the permitted flow of the Facility is less than 5 mgd; therefore, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, the Order requires the Permittee to implement a source control program.

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

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

6.2.5.2.1. Water and sewer billing records

6.2.5.2.2. Applications for sewer service

6.2.5.2.3. Local telephone directories

6.2.5.2.4. Chamber of Commerce and local business directories

6.2.5.2.5. Business license records

6.2.5.2.6. POTW and wastewater collection personnel and field observations

6.2.5.2.7. Business associations

6.2.5.2.8. The internet

6.2.5.2.9. 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.

6.2.6. **Sludge Disposal and Handling Requirements (Special Provision 6.3.5.3).** 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 transported and are either disposed of in the Redwood Landfill in Marin County or Hay Road Landfill in Solano County. The Permittee's Facility does not have a process for meeting Vector Attraction Reduction, thus this requirement from 40 C.F.R. part 503.33 must be met by incorporating land applied biosolids within six hours. In addition, Healdsburg does not have a "Process to Significantly Reduce Pathogens" as required by 40 C.F.R. part 503, Appendix B, thus the Permittee must demonstrate Class B pathogen reduction by monitoring fecal coliform levels.

This provision includes new monitoring and reporting requirements specified by U.S. EPA to demonstrate compliance with the EPA Part 503 Biosolids Rule requirements and also requires the Permittee to comply with the state's regulations relating to the discharge of biosolids to land. The discharge of biosolids through land application is not currently regulated under this Order. In the event that the Permittee wishes to discharge biosolids to land, the Permittee is required to either submit a report of waste discharge or dispose of biosolids at another permitted facility.

6.2.7. **Biosolids Management (Special Provision 6.3.5.4).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. The Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in

Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.

6.2.8. **Operator Certification (Special Provision 6.3.5.5).** 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.

6.2.9. **Adequate Capacity (Special Provision 6.3.5.6).** 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.

6.2.10. **Other Special Provisions**

6.2.10.1. **Storm Water (Special Provision 6.3.6.1).** This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001). Currently, the Facility is exempted from these requirements because all storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater.

The Order requires the Permittee to implement and maintain BMPs to control the run-on of storm water to the Facility and to describe the effectiveness of these storm water BMPs, as well as activities to maintain and upgrade these BMPs during the previous year, in its Annual Facility Report to the Regional Water Board.

6.2.11. **Compliance Schedules – Not Applicable**

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

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 BOD_5 and TSS are retained from Order No. R1-2016-0015 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. R1-2016-0015 and are necessary to determine compliance with Discharge Prohibition 3.9.

7.2. **Effluent Monitoring**

7.2.1. Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Location EFF-001 is necessary to demonstrate compliance with effluent limitations and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.

7.2.1.1. Effluent monitoring frequencies and sample types for flow, BOD_5, TSS, pH, temperature, total coliform bacteria, hardness, ammonia (total and unionized), dissolved oxygen, nitrate, and phosphorus at Monitoring Location EFF-001 have been retained from Order No. R1-2016-0015.

7.2.1.2. Effluent monitoring for *E. coli* bacteria has been established at Monitoring Location EFF-001 in this Order to inform Regional Water Board staff of the reasonable potential for the Permittee to exceed water quality objectives when discharging to Basalt Pond.

7.2.1.3. Effluent monitoring for aluminum has been established at Monitoring Location EFF-001 in this Order to inform Regional Water Board staff of the reasonable potential for the Permittee to exceed water quality objectives when discharging to Basalt Pond.

7.2.1.4. Consistent with Order No. R1-2016-0015, effluent monitoring requirements for CTR priority pollutants is required three times per five years to generate adequate data to perform an RPA.

7.3. **Whole Effluent Toxicity Testing Requirements**

Effluent monitoring data collected during the term of Order No. R1-2016-0015 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 quarterly effluent monitoring requirements for acute aquatic toxicity. Furthermore, effluent data indicates that the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives for chronic aquatic toxicity. This Order includes quarterly effluent

monitoring requirements for chronic aquatic toxicity to demonstrate compliance with the water quality objective for toxicity and as required by the Toxicity Provisions.

In addition to routine chronic 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 routine and MMET testing for chronic aquatic toxicity.

The Toxicity Provisions allow the Regional Water Broad 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 August 22 and 26, 2016 meets the above requirements, and the species used for chronic toxicity monitoring shall be *Pimephales promelas*.

7.4. Recycled Water Monitoring Requirements

This Order requires that the Permittee comply with applicable state and local requirements regarding the production of recycled water. Recycled water monitoring requirements at Monitoring Location REC-001 for flow, BOD_5, TSS, total coliform bacteria, and pH have been retained from Order No. R1-2016-0015.

7.5. Receiving Water Monitoring

7.5.1. Surface Water Monitoring

7.5.1.1. The Permittee discharges treated disinfected effluent to Basalt Pond, an effluent dominated water body. The Regional Water Board recognizes the unique circumstances associated with having a discharge into a pond and the difficulties associated with establishing receiving water monitoring in a pond environment. Compliance with most receiving water limitations can be assessed based on evaluation of effluent monitoring data. However, it is difficult to assess compliance with regard to temperature, pH and dissolved oxygen due to the ponded conditions.

The Permittee submitted a Special Studies Report Reference Receiving Water Study Ammonia Monitoring Study (Reference Receiving Water Study) in August 2013. In the Reference Receiving Water Study, the Permittee conducted monitoring for temperature, dissolved oxygen, pH, specific conductance, and total dissolved oxygen at various depths at each of three sample locations within Basalt Pond (Monitoring Locations RSW-001, RSW-002, and RSW-003) and three locations within the Phase V Pond (Monitoring

Locations PV-001, PV-002, and PV-003), a nearby pond located just to the west of Basalt Pond. The Phase V Pond was considered to be an "upstream" location based on the direction of groundwater flow. The Permittee used the monitoring data to compare conditions in Basalt Pond with conditions in the Phase V Pond in order to assess compliance with receiving water limitations for dissolved oxygen, pH, and temperature. Based on the monitoring results, the Permittee concluded the following:

7.5.1.1.1. **Temperature.** Effluent temperatures are consistently a few degrees warmer than those in Basalt Pond; however, the data indicate the influence of the effluent on temperatures in Basalt Pond are minimal.

7.5.1.1.2. **pH.** The pH of the effluent is consistently near neutral. The pH in Basalt Pond is commonly higher than in both the effluent and Phase V Pond, but is relatively consistent throughout different locations within the pond. The pH in the Phase V Pond was more variable with low pH values (~3) measured on several dates. It is unlikely that effluent discharges are a significant influence affecting pH levels in the pond.

7.5.1.1.3. **Dissolved Oxygen.** Dissolved oxygen concentrations measured in the effluent at the current monitoring locations are relatively low, but re-aeration occurs during turbulence in the path to pond discharge. Dissolved oxygen concentrations are generally higher in the Phase V Pond and a trend in increasing dissolved oxygen with distance from the discharge was occasionally evident. Dissolved oxygen concentrations do not correlate with nutrient loading in the effluent. Possible explanations for the dissolved oxygen levels include the potential for an increase in surface turbulence in the middle of the pond, or increased algal respiration occurring at shallow depths during the season. In addition, dissolved oxygen concentrations are typically lower in pond environments than in a riverine environment.

In Order No. R1-2016-0015, the Regional Water Board recognized that the effluent must meet all effluent limitations and applicable receiving water limitations and contained a "downstream" receiving water monitoring station at Monitoring Location RSW-001, located within 25 to 50 feet of the point of discharge. Subsequently, this Order retains the requirement that the effluent meet all applicable effluent limitations for Discharge Point 001 at Monitoring Location EFF-001 and continues to require ambient receiving water monitoring at Monitoring Location RSW-001.

7.5.1.2. Receiving water monitoring is required to demonstrate compliance with the Receiving Water Limitations.

7.5.1.3. Monitoring requirements at Monitoring Location RSW-001 for flow, BOD_5, pH, hardness, temperature, turbidity, nitrate, phosphorus, and CTR priority pollutants have been retained from Order No. R1-2016-0015.

7.5.1.4. Receiving water monitoring for *E. coli* bacteria has been established in this Order to determine background levels of *E. coli* in the receiving water.

7.5.1.5. Receiving water monitoring for aluminum total dissolved carbon has 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 aluminum.

7.5.2. **Groundwater Monitoring – Not Applicable**

This Order does not require groundwater monitoring at this time.

7.6. **Other Monitoring Requirements**

7.6.1. **Filtration Process Monitoring (MRP sections 9.1).** 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 the UV Disinfection System (MRP section 9.2).** UV disinfection system monitoring requirements at Monitoring Location INT-002 are included to assess compliance of the UV disinfection system with title 22 and guidelines established by the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWARF) Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse (3rd or subsequent editions).

7.6.3. **Visual Monitoring (Monitoring Locations EFF-001 and RSW-001).** Visual monitoring requirements are retained from the previous Order and are necessary to ensure compliance with receiving water limitations in section 5. of the Order.

7.6.4. **Sludge Monitoring (MRP section 9.4).** 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 10.4.2.7 of the MRP.

7.6.5. **Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program (MRP section 1.6).** 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 Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

7.6.6. **Notification and Reporting for Recycled Water Spills.** Section 10.5.5 of the MRP includes reporting requirements for spills of tertiary treated water in excess of 50,000 gallons. This requirement implements Water Code section 13529.2.

7.6.7. **Flow Monitoring.** Section 1.4 of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.

8. PUBLIC PARTICIPATION

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

8.1. Notification of Interested Parties

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

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 DCD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at http://www.waterboards.ca.gov/northcoast.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **July 15, 2022**.

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: **October 7, 2022**
Time: 9:00 a.m. or as announced in the Regional Water Board's agenda
Location: Regional Water Board Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

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 at Water Quality Petitions Website
http://www.waterboards.ca.gov/public_notices/petitions/waterquality/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[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Antimony	µg/L	0.46	<0.2	6	---	---	14	---	6	No
Arsenic	µg/L	1	1	10	340	150	---	---	10	No
Beryllium	µg/L	<0.05	<0.05	4	---	---	---	---	4.0	No
Cadmium	µg/L	<0.06	<0.06	2.8	5.55	2.8	---	---	5.0	No
Chromium (III)	µg/L	<0.5	<0.5	240	2,016	240	---	---	---	No
Chromium (VI)	µg/L	<0.005	<0.3	11	16	11	---	---	50	No
Copper	µg/L	13	1.9	70	106	70	1,300	---	---	No
Lead	µg/L	0.14	0.06	4.0	103	4.0	---	---	---	No
Mercury	µg/L	<0.02	<0.02	0.01	---	---	0.050	---	2.0	No
Nickel	µg/L	2.7	2.7	61	547.4	60.9	610	---	100	No
Selenium	µg/L	0.32	<0.3	5	---	5	---	---	50	No
Silver	µg/L	<0.05	<0.05	5.6	5.6	---	---	---	---	No
Thallium	µg/L	<0.05	<0.05	1.7	---	---	1.7	---	2	No
Zinc	µg/L	44	6.4	140	139.8	139.8	---	---	---	No
Cyanide	µg/L	0.0052	<0.002	5.2	22	5.20	700	---	150	No
Asbestos	MFL	---	---	7	---	---	7	---	7	Ud[5]
2,3,7,8 TCDD	µg/L	<7.72E-07	<1.49E-06	1.3E-08	---	---	1.3E-08	---	3.0E-05	No
Acrolein	µg/L	<0.9	<2	320	---	---	320	780	---	No
Acrylonitrile	µg/L	<0.4	<0.4	0.059	---	---	0.059	---	---	No

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Benzene	µg/L	<0.3	<0.3	1	---	---	1.2	---	1	No
Bromoform	µg/L	<0.3	<0.3	4.3	---	---	4.3	---	---	No
Carbon Tetrachloride	µg/L	<0.4	<0.4	0.25	---	---	0.25	---	0.5	No
Chlorobenzene	µg/L	<0.3	<0.3	70	---	---	680	---	70	No
Chlorodibromomethane	µg/L	<0.4	<0.4	0.4	---	---	0.401	---	---	No
Chloroethane	µg/L	<0.4	<0.4	No Criteria	---	---	---	---	---	Uo[6]
2-Chloroethylvinyl ether	µg/L	<0.7	<0.7	No Criteria	---	---	---	---	---	Uo[6]
Chloroform	µg/L	0.41	<0.4	No Criteria	---	---	---	---	---	Uo[6]
Dichlorobromomethane	µg/L	<0.4	<0.4	0.56	---	---	0.56	---	---	No
1,1-Dichloroethane	µg/L	<0.1	<0.1	5	---	---	---	---	5	No
1,2-Dichloroethane	µg/L	<0.4	<0.4	0.38	---	---	0.38	---	0.5	No
1,1-Dichloroethylene	µg/L	<0.3	<0.3	0.057	---	---	0.057	---	6	No
1,2-Dichloropropane	µg/L	<0.4	<0.4	0.52	---	---	0.52	---	5	No
1,3-Dichloropropylene	µg/L	<0.4	<0.4	0.5	---	---	10	---	0.5	No
Ethylbenzene	µg/L	<0.4	<0.4	300	---	---	3,100	---	300	No
Methyl Bromide	µg/L	<0.4	<0.4	48	---	---	48	---	---	No
Methyl Chloride	µg/L	<0.4	<0.4	No Criteria	---	---	---	---	---	Uo[6]
Methylene Chloride	µg/L	<0.5	<0.5	4.7	---	---	4.7	---	5	No

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
1,1,2,2-Tetrachloroethane	µg/L	<0.3	<0.3	0.17	---	---	0.17	---	1	No
Tetrachloroethylene	µg/L	<0.4	<0.4	0.8	---	---	0.8	---	5	No
Toluene	µg/L	<0.3	<0.3	150	---	---	6,800	---	150	No
1,2-Trans-Dichloroethylene	µg/L	<0.4	<0.4	10	---	---	700	---	10	No
1,1,1-Trichloroethane	µg/L	<0.4	<0.4	200	---	---	---	---	200	No
1,1,2-Trichloroethane	µg/L	<0.4	<0.4	0.6	---	---	0.6	---	5	No
Trichloroethylene	µg/L	<0.4	<0.4	2.7	---	---	2.7	---	5	No
Vinyl Chloride	µg/L	0.41	<0.4	0.5	---	---	2	---	0.5	No
2-Chlorophenol	µg/L	<0.7	<0.7	120	---	---	120	---	---	No
2,4-Dichlorophenol	µg/L	<0.7	<0.7	93	---	---	93	---	---	No
2,4-Dimethylphenol	µg/L	<1	<1	540	---	---	540	---	---	No
2-Methyl- 4,6-Dinitrophenol	µg/L	<3	<3	13	---	---	13	---	---	No
2,4-Dinitrophenol	µg/L	<5	<5	70	---	---	70	---	---	No
2-Nitrophenol	µg/L	<0.9	<0.9	No Criteria	---	---	---	---	---	Uo[6]
4-Nitrophenol	µg/L	<3	<3	No Criteria	---	---	---	---	---	Uo[6]
3-Methyl 4-Chlorophenol	µg/L	<1	<1	No Criteria	---	---	---	---	---	Uo[6]
Pentachlorophenol	µg/L	<4	<4	0.28	3	2	0.28	---	1	No
Phenol	µg/L	<0.5	<0.5	21,000	---	---	21,000	---	---	No
2,4,6-Trichlorophenol	µg/L	<0.7	<0.7	2.1	---	---	2.1	---	---	No

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Acenaphthene	µg/L	<0.2	<0.2	1,200	---	---	1,200	---	---	No
Acenaphthylene	µg/L	<0.2	<0.2	No Criteria	---	---	---	---	---	Uo[6]
Anthracene	µg/L	<0.09	<0.09	9,600	---	---	9,600	---	---	No
Benzidine	µg/L	<3	<3	0.00012	---	---	0.00012	---	---	No
Benzo(a)Anthracene	µg/L	<0.2	<0.2	0.0044	---	---	0.0044	---	---	No
Benzo(a)Pyrene	µg/L	<0.2	<0.2	0.0044	---	---	0.0044	---	0.2	No
Benzo(b)Fluoranthene	µg/L	<0.2	<0.2	0.0044	---	---	0.0044	---	---	No
Benzo(ghi)Perylene	µg/L	<0.1	<0.1	No Criteria	---	---	---	---	---	Uo[6]
Benzo(k)Fluoranthene	µg/L	<0.2	<0.2	0.0044	---	---	0.0044	---	---	No
Bis(2-Chloroethoxy)Methane	µg/L	<0.9	<0.4	No Criteria	---	---	---	---	---	Uo[6]
Bis(2-Chloroethyl)Ether	µg/L	<0.9	<0.3	0.031	---	---	0.031	---	---	No
Bis(2-Chloroisopropyl)Ether	µg/L	<1	<0.4	1,400	---	---	1400	---	---	No
Bis(2-Ethylhexyl)Phthalate	µg/L	<0.83	<3	1.8	---	---	1.8	---	4	No
4-Bromophenyl Phenyl Ether	µg/L	<1	<0.4	No Criteria	---	---	---	---	---	Uo[6]
Butylbenzyl Phthalate	µg/L	<0.6	<0.6	3,000	---	---	3,000	---	---	No
2-Chloronaphthalene	µg/L	<0.6	<0.6	1,700	---	---	1,700	---	---	No
4-Chlorophenyl Phenyl Ether	µg/L	<0.9	<0.9	No Criteria	---	---	---	---	---	Uo[6]

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Chrysene	µg/L	<0.2	<0.2	0.0044	---	---	0.0044	---	---	No
Dibenzo(a,h)Anthracene	µg/L	<0.1	<0.1	0.0044	---	---	0.0044	---	---	No
1,2-Dichlorobenzene	µg/L	<0.4	<0.4	600	---	---	2700	---	600	No
1,3-Dichlorobenzene	µg/L	<0.4	<0.4	400	---	---	400	---	---	No
1,4-Dichlorobenzene	µg/L	<0.1	<0.1	5	---	---	400	---	5	No
3,3 Dichlorobenzidine	µg/L	<2	<3	0.04	---	---	0.04	---	---	No
Diethyl Phthalate	µg/L	<0.3	<0.3	23,000	---	---	23000	---	---	No
Dimethyl Phthalate	µg/L	<0.8	<0.9	313,000	---	---	313000	---	---	No
Di-n-Butyl Phthalate	µg/L	2.4	<0.9	2,700	---	---	2700	---	---	No
2,4-Dinitrotoluene	µg/L	<0.8	<0.2	0.11	---	---	0.11	---	---	No
2,6-Dinitrotoluene	µg/L	<0.8	<0.3	No Criteria	---	---	---	---	---	Uo[6]
Di-n-Octyl Phthalate	µg/L	<0.6	<0.6	No Criteria	---	---	---	---	---	Uo[6]
1,2-Diphenylhydrazine	µg/L	<0.6	<0.6	0.04	---	---	0.04	---	---	No
Fluoranthene	µg/L	<0.07	<0.07	300	---	---	300	---	---	No
Fluorene	µg/L	<0.2	<0.2	1,300	---	---	1300	---	---	No
Hexachlorobenzene	µg/L	<0.9	<0.9	0.00075	---	---	0.00075	---	1	No
Hexachlorobutadiene	µg/L	<0.8	<0.8	0.44	---	---	0.44	---	---	No
Hexachlorocyclopentadiene	µg/L	<4	<4	50	---	---	240	---	50	No
Hexachloroethane	µg/L	<0.6	<0.6	1.9	---	---	1.9	---	---	No

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Indeno(1,2,3-cd)Pyrene	µg/L	<0.03	<0.03	0.0044	---	---	0.0044	---	---	No
Isophorone	µg/L	<0.3	<0.3	8.4	---	---	8.4	---	---	No
Naphthalene	µg/L	<0.09	<0.09	No Criteria	---	---	---	---	---	Uo[6]
Nitrobenzene	µg/L	<0.9	<0.3	17	---	---	17	---	---	No
N-Nitrosodimethylamine	µg/L	<0.3	<0.3	0.00069	---	---	0.00069	---	---	No
N-Nitrosodi-n-Propylamine	µg/L	<0.8	<0.3	0.005	---	---	0.005	---	---	No
N-Nitrosodiphenylamine	µg/L	<1	<0.3	5	---	---	5	---	---	No
Phenanthrene	µg/L	<0.1	<0.1	No Criteria	---	---	---	---	---	Uo[6]
Pyrene	µg/L	<0.2	<0.2	960	---	---	960	---	---	No
1,2,4-Trichlorobenzene	µg/L	<0.6	<0.6	5	---	---	---	---	5	No
Aldrin	µg/L	<0.002	<0.002	0.00013	3	---	0.00013	---	---	No
alpha-BHC	µg/L	<0.004	<0.004	0.0039	---	---	0.0039	---	---	No
beta-BHC	µg/L	<0.004	<0.004	0.014	---	---	0.014	---	---	No
gamma-BHC	µg/L	<0.004	<0.004	0.019	0.95	---	0.019	---	0.2	No
delta-BHC	µg/L	<0.002	<0.002	No Criteria	---	---	---	---	---	Uo[6]
Chlordane	µg/L	<0.01	<0.01	0.00057	2.4	0.0043	0.00057	---	0.1	No
4,4'-DDT	µg/L	<0.003	<0.003	0.00059	1.1	0.001	0.00059	---	---	No
4,4'-DDE	µg/L	<0.004	<0.004	0.00059	---	---	0.00059	---	---	No
4,4'-DDD	µg/L	<0.005	<0.005	0.00083	---	---	0.00083	---	---	No

Pollutant	Units	MEC[0]	B	C	CMC	CC	Water & Org[2]	Org Only[3]	MCL	RP[4]
Dieldrin	µg/L	<0.005	<0.005	0.00014	0.24	0.056	0.00014	---	---	No
alpha-Endosulfan	µg/L	<0.004	<0.004	0.056	0.22	0.056	110	---	---	No
beta-Endolsulfan	µg/L	<0.005	<0.005	0.056	0.22	0.056	110	---	---	No
Endosulfan Sulfate	µg/L	<0.003	0.0037	110	---	---	110	---	---	No
Endrin	µg/L	<0.008	<0.008	0.036	0.086	0.036	0.76	---	2	No
Endrin Aldehyde	µg/L	<0.004	<0.004	0.76	---	---	0.76	---	---	No
Heptachlor	µg/L	<0.005	<0.005	0.00021	0.52	0.0038	0.00021	---	0.01	No
Heptachlor Epoxide	µg/L	<0.009	<0.009	0.0001	0.52	0.0038	0.0001	---	0.01	No
PCBs sum	µg/L	<0.48	<0.48	0.00017	---	0.014	0.00017	---	0.5	No
Toxaphene	µg/L	<0.2	<0.2	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	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
6.6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6.7	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6.8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6.9	8	8	8	8	8	8	8	8	8	8	8	8	7.7	7.7	7.7	7.7	7.7	7.7
7.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
7.1	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
7.2	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
7.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
7.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
7.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
7.6	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
7.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
7.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
7.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
8.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
8.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
8.3	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
8.4	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
8.5	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
8.6	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.50
8.7	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.40
8.8	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.35	0.32
8.9	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.30	0.28	0.26
9.0	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.22	0.21

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

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

ATTACHMENT H - EXAMPLE AMMONIA IMPACT RATIO (AIR) CALCULATOR

A	B	C	D	E	F	G
Date of Sample	Ammonia Value in Effluent (mg/L N)	Receiving Water pH	Receiving Water Temperature (°C)	Ammonia Standard as determined from Ammonia Criteria Tables	MDEL Ammonia Impact Ratio (Column B/Column E)	AMEL Ammonia Impact Ratio (Column B/Column E)