

North Coast Regional Water Quality Control Board

**ORDER NO. R1-2013-0029**  
**NPDES NO. CA0023272**  
**WDID NO. 1A84002OSIS**

**WASTE DISCHARGE REQUIREMENTS**

**FOR THE**

**CITY OF TULELAKE WASTEWATER TREATMENT FACILITY**  
**SISKIYOU COUNTY**

The following Permittee is subject to waste discharge requirements as set forth in this Order:

**Table 1. Permittee Information**

<b>Permittee</b>	City of Tulelake
<b>Name of Facility</b>	Tulelake Wastewater Treatment Facility
<b>Facility Address</b>	1000 Dean Callas Way
	Tulelake, CA 96134
	Siskiyou County
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW)
<b>Facility Design Flow (Existing)</b>	0.16 million gallons per day (mgd) (average dry weather design flow)

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Disinfected secondary treated municipal wastewater	41° 56' 54" N	121° 28' 18" W	TID Drain No. 44-B-1

**Table 3. Administrative Information**

This Order was adopted by the Regional Water Quality Control Board on:	June 13, 2013
This Order shall become effective on:	June 13, 2013
This Order shall expire on:	July 31, 2018
The Permittee shall file a Report of Waste Discharge as application for issuance of new waste discharge requirements in accordance with title 23, California Code of Regulations, no later than:	November 1, 2017
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

IT IS HEREBY ORDERED, that this Order supersedes Regional Water Quality Control Board (Regional Water Board) Order No. R1-2004-0075 and Monitoring and Reporting Program (MRP) No. R1-2004-0075, upon the effective date specified in Table 3. In order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the Regional Water Board from taking any enforcement action for past violations of the previous permit. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Permittee shall comply with the analogous portions of Order No. R1-2004-0075 and MRP No. R1-2004-0075, which shall remain in effect for all purposes during the pendency of the stay.

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 June 13, 2013.

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 Matthias St. John, Executive Officer

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### List of Attachments

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Attachment A – Definitions.....A-1  
Attachment B – Map Of Tulelake Wastewater Treatment Plant ..... B-1  
Attachment C – Facility Flow Schematic..... C-1  
Attachment D – Standard Provisions ..... D-1  
Attachment E – Monitoring and Reporting Program (MRP)..... E-1  
Attachment F – Fact Sheet..... F-1

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## I. FACILITY INFORMATION

Information describing the City of Tulelake Wastewater Treatment Facility (hereinafter Facility) is summarized in Table 1 of this Order and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the City's permit application.

## II. FINDINGS

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

- A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from the Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260) and a Master reclamation permit pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with sections 13260 and 13520, respectively).
- B. Basis and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Permittee's application for permit renewal, monitoring data submitted during the term of the Permittee's previous Order, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for the requirements in this Order, and is hereby incorporated into this Order as additional findings. Attachments A through G are also incorporated into this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.E, III.F, IV.B, IV.C, and V.B of this Order, and sections VI, VII, VIII.B, X.D.2, and X.E 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.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe Waste Discharge Requirements 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 of this Order.

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

### **III. DISCHARGE PROHIBITIONS**

- A.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the California Water Code (Water Code) is prohibited.
- C.** The discharge of sludge is prohibited, except as authorized under section VI.C.5.c of this Order (Sludge Disposal and Handling Requirements).
- D.** The discharge or reclamation use of untreated or partially treated waste (receiving a lower level of treatment than described in section II.A of the Fact Sheet) from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provision G (Bypass).
- E.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050 (m) is prohibited.
- F.** The discharge of waste to land that is not owned by the Permittee, governed by 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).
- G.** The discharge of waste at any point not described in Finding II.B of the fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) or another Regional Water Board is prohibited, except for use for fire suppression.
- H.** The average daily dry weather flow (ADWF) of waste into the Facility in excess of 0.16 mgd is prohibited. Compliance with this prohibition shall be determined as defined in section VII.K of this Order.
- I.** The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

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

#### **A. Effluent Limitations**

- 1.** Final Effluent Limitations – Technology-Based Effluent Limitations

- a. The discharge of treated wastewater shall comply with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (Attachment E):

**Table 4. Technology-Based Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Weekly <sup>1</sup>	Minimum Monthly Average <sup>4</sup>	Average Monthly <sup>1</sup>
Biochemical Oxygen Demand 5-day @ 20°C (BOD5)	mg/L	65	--	45
	lbs/day <sup>2,3</sup>	87	--	60
	% Removal	--	65	--
Total Suspended Solids (TSS)	mg/L	--	--	95
	lbs./day <sup>2,3</sup>	--	--	127
	% Removal <sup>4</sup>	--	65	--

Table Notes:  
 1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.  
 2. Mass-based effluent limitations apply during periods of discharge to surface waters. See section VII.H of this Order regarding compliance with mass-based effluent limitations.  
 3. Mass-based effluent limitations for dry weather are based on the existing average dry weather design flow of the Facility of 0.16 MGD.  
 4. The monthly average percent removal limitations are expressed in terms of the minimum allowable percent removal. The monthly average percent removal of BOD5 and TSS shall not be less than 65 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Location EFF-001.

**2. Final Effluent Limitations – Water Quality-Based Effluent Limitations**

- a. The Permittee shall maintain compliance with the following effluent limitations at Discharge Point EFF-001, with compliance measured at Monitoring Location EFF-001, as described in the MRP, when discharges occur:

**Table 5. Water Quality-Based Effluent Limitations**

Parameter	Units	Effluent Limitations					
		Annual Maximum <sup>1</sup>	Average Monthly <sup>1</sup>	Average Daily <sup>1</sup>	Maximum Daily <sup>1</sup>	Instantaneous Minimum <sup>1</sup>	Instantaneous Maximum <sup>1</sup>
Settleable Solids	mL/L	--	0.1	--	0.2	--	--

**Table 5. Water Quality-Based Effluent Limitations**

Parameter	Units	Effluent Limitations					
		Annual Maximum <sup>1</sup>	Average Monthly <sup>1</sup>	Average Daily <sup>1</sup>	Maximum Daily <sup>1</sup>	Instantaneous Minimum <sup>1</sup>	Instantaneous Maximum <sup>1</sup>
Coliform Organisms (Total)	MPN/100mL	--	23	--	240	--	--
Chlorine Residual (Total)	mg/L	--	0.01	--	0.02	--	--
Arsenic, Total	µg/L	--	10	--	20	--	--
Copper, Total	µg/L	--	5.9	--	12	--	--
Cyanide, Total	µg/L	--	3.9	--	9.3	--	--
Dichlorobromomethane	µg/L	--	0.56	--	1.6	--	--
Bis(2-Ethylhexyl)Phthalate	µg/L	--	1.8	--	5.5	--	--
Ammonia as N, Total	mg/L	--	0.6	--	1.4	--	--
Dissolved Inorganic Nitrogen (DIN)	Metric tons	1.0	--	--	--	--	--
	kg	--	--	2.7	--	--	--
Carbonaceous biochemical oxygen demand (CBOD)	Metric tons	3.5	--	--	--	--	--
	kg	--	--	9.6	--	--	--
pH	s.u.	--	--	--	--	7.0	9.0
<b>Table Notes:</b>	1. See Definitions in Attachment A and Compliance Determination discussion in section VII of this Order.						

- i. **Acute Toxicity.** There shall be no acute toxicity in treated wastewater discharged to the TID-Drain 44-B-1. The Permittee will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted effluent complies with the following.

(a) Minimum for any one bioassay: 70 percent survival; and

- (b) Median for any three or more consecutive bioassays: at least 90 percent survival.

Compliance with this effluent limitation shall be determined in accordance with section V.A of the MRP.

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

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

**C. Reclamation Requirements and Specifications**

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

**D. Other Requirements**

This section is not applicable to the Permittee.

**V. RECEIVING WATER LIMITATIONS**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred. Discharges from the Facility shall not cause the following in the receiving waters.

**A. Surface Water Limitations**

1. The discharge shall not cause the dissolved oxygen concentration of the receiving water to be depressed below 5.0 mg/L. In the event that the receiving waters are determined to have a dissolved oxygen concentration of less than 5.0 mg/L, the discharge shall not depress the dissolved oxygen concentration below the existing level.
2. The discharge shall not cause the pH of receiving waters to be depressed below 7.0 nor raised above 9.0. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.
3. The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

4. The discharge shall not cause the conductivity (aka specific conductance) of the receiving waters to exceed the 50% and 90% upper limits, as defined in Attachment A, of 900 and 1300 micromhos, respectively.
5. The discharge shall not cause the hardness of the receiving waters to exceed the 50% upper limit, as defined in Attachment A, of 400 mg/L.
6. The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
7. The discharge shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
8. The discharge shall not cause receiving waters to contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
9. The discharge shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.
10. The discharge shall not cause bottom deposits in receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
11. The discharge shall not cause receiving waters to contain concentrations of biostimulatory substances that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The discharge shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods, as specified by the Regional Water Board.
13. The discharge shall not cause a measurable temperature change in the receiving water at any time, unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature be increased by more than 5°F above natural receiving water temperature.
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, fungicide, wood treatment chemical, mercury, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels which are harmful to human health.
15. The discharge shall not cause receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin

Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the CCR.

16. The discharge shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.
17. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
18. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan or in excess of more stringent MCLs established for these pollutants in title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the CCR.

#### **B. Groundwater Limitations**

1. The collection, storage, and use of wastewater shall not cause a statistically significant degradation of groundwater quality unless a technical evaluation is performed that demonstrates that any degradation that could reasonably be expected to occur, after implementation of all regulatory requirements (e.g., Title 27) and reasonable best management practices, will not violate groundwater quality objectives or cause impacts to beneficial uses of groundwater.
2. The collection, treatment, storage, and/or use of wastewater shall not cause alterations of groundwater that result in chemical concentrations in excess of limits specified in title 22, sections 64431 (Tables 2 and 3) and 64444, and the Basin Plan.
3. The collection, storage, and use of wastewater shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

## **VI. PROVISIONS**

### **A. Standard Provisions**

1. **Federal Standard Provisions.** The Permittee shall comply with all applicable Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Permittee shall comply with the following Regional Water Board standard provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

- a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from the Facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, sanitary sewer overflow, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such noncompliance.. Spill notification and reporting shall be conducted in accordance with section X.E of the Monitoring and Reporting Program.

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

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

## **C. Special Provisions**

### **1. Reopener Provisions**

- a. **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.
- b. **Reasonable Potential.** This Order may be reopened for modification to include an effluent limitation, if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.
- c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- d. **303(d)-Listed Pollutants.** This Order conforms to the requirements of TMDLs for nitrogen and biochemical oxygen demand established by US EPA on December

30, 2008, to address dissolved oxygen and pH impairments in the Lost River. If the receiving waters are listed as impaired on the 303(d) list for additional parameters or pollutants and another applicable TMDL program is adopted or if the established TMDLs get modified, this Order may be reopened and the effluent limitations for the pollutant or pollutants that are the subject of the TMDL modified or an effluent concentration limitation imposed to conform this Order to the TMDL requirements. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this Order may be reopened to reevaluate the effluent limitations for the pollutant or pollutants that are the subject of the TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program.

- e. **Water Effects Ratios (WERs) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. 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 USEPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.
- f. **Salt and Nutrient Management Plans.** 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 salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects. This Order may be reopened to incorporate provisions consistent with any salt and nutrient management plan(s) adopted by the Regional Water Board.

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

### a. Toxicity Reduction Requirements

- i. **Whole Effluent Toxicity.** In addition to a numeric limitation for whole effluent acute toxicity, the MRP requires routine monitoring for whole effluent chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity. As established by the MRP, if either of the effluent limitations for acute toxicity is exceeded (a single sample with less

than 70% survival or a three sample median of less than 90% survival) or if the chronic toxicity monitoring trigger of either a single sample maximum of 1.6 chronic toxicity units (TUc) or a monthly median of 1.0 TUc (where TUc = 100/NOEC)<sup>1</sup> is exceeded, the Permittee shall conduct accelerated monitoring as specified in section V. of the MRP.

Results of accelerated toxicity monitoring will indicate a need to conduct a TRE, if toxicity persists; or it will indicate that a return to routine toxicity monitoring is justified because persistent toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE workplan prepared by the Permittee pursuant to Section VI.C.2.a.ii of this Order, below.

- ii. Toxicity Reduction Evaluations (TRE) Workplan.** The Permittee shall submit a TRE workplan to the Regional Water Board by January 1, 2016. This plan shall be reviewed at least once every 5 years 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 revision of the TRE workplan with each Report of Waste Discharge.

The TRE workplan shall describe the steps the Permittee intends to follow if toxicity is detected, and should include at least the following items:

- a) A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- b) A description of the Permittee's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of the Facility.
- c) 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).

- iii. Toxicity Reduction Evaluations (TRE) Implementation.** The TRE shall be conducted in accordance with the following:

- a) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring testing, required by Sections V.A.7 and V.B.9 of the MRP, observed to exceed either the acute or chronic toxicity trigger.
- b) The TRE shall be conducted in accordance with the Permittee's TRE workplan.

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<sup>1</sup> This Order does not allow any credit for dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

- c) The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B 99/002.
- d) The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity. The Permittee shall notify the Regional Water Board of this determination.
- e) The Permittee may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. TIEs shall be conducted in accordance with current technical guidance and reference material, including, at a minimum, the Permittee shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III).
- f) As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the source(s) 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 chronic toxicity parameters.
- g) Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.
- h) The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Permittee's actions and efforts to identify and control or reduce sources of consistent toxicity.

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

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

- i. The Permittee shall, as required by the Executive Officer, develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (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:
  - a) A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or



- i. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.
- ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
- iii. Description of laboratory and quality assurance procedures.
- iv. Process and equipment inspection and maintenance schedules.
- v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.
- vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

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

### **a. Wastewater Collection Systems**

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

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. Order No. 2006-0003-DWQ requires all public agencies that currently own or operate sanitary sewer systems to apply for coverage under the General WDRs. The deadline for existing dischargers to apply for coverage under State Water Board Order No. 2006-003-DWQ was November 6, 2006. On February 20, 2008, the State Water Board adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Permittee shall maintain coverage under, and shall be subject to the requirements of Order Nos. 2006-0003-DWQ and WQ-2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system.

In addition to the coverage obtained under Order No. 2006-0003, the Permittee's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Permittee must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system that might violate this Order [40 CFR 122.41(d)].

**ii. Spills and Sanitary Sewer Overflows**

- a) The Permittee shall take all feasible steps to stop spills and sanitary sewer overflows (SSOs) as soon as possible. All reasonable steps should be taken to collect spilled material and protect the public from contact with wastes or waste-contaminated soil or surfaces.
- b) The Permittee shall report orally<sup>2</sup> and in writing to the Regional Water Board staff all SSOs and unauthorized spills of waste. Spill notification and reporting shall be conducted in accordance with section X.E of the Monitoring and Reporting Program.

**b. Source Control and Pretreatment Provisions**

The Permittee shall perform source control functions and provide a summary of source control activities conducted in the Annual Facility Report (due March 1<sup>st</sup> to the Regional Water Board). Source control functions and requirements shall include the following:

- i. 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.
- ii. 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.
- iii. Conduct a waste survey to identify all dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility. The waste survey is required during the 12-month period that begins on July 1, 2013, and the results of the waste survey shall be submitted to the Regional Water Board in a written report no later than October 1, 2014.
- iv. 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.
- v. Perform ongoing inspections and monitoring, as necessary, to ensure adequate source control.
- vi. 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. The Permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d)

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<sup>2</sup> Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the California Emergency Management Agency at (800) 852-7550 or the Regional Water Board spill officer at (707) 576-2220.

and 402(d) of the CWA. The Permittee shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

- vii. 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 CFR 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.

**c. Sludge Disposal and Handling Requirements**

- i. Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.
- ii. All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and State regulations.
- iii. The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 CFR 503, which are enforceable by the USEPA, not the Regional Water Board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, the Regional Water Board may also initiate enforcement where appropriate.
- iv. Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.
- v. The beneficial use of biosolids by application to land as soil amendment is not covered or authorized by this Order. Biosolids that are applied to land as soil amendment by the Permittee within the North Coast Region shall comply with State Water Board Water Quality Order No. 2004-12-DWQ (General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities) or other permits issued by the Regional Water Board.

- vi.** 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.
- vii.** 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.
- viii.** Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm.
- ix.** The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

**d. Discharge of Biosolids**

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

**i.** Statewide General WDRs for Discharge of Biosolids to Land

If applicable, the Permittee shall obtain authorization to discharge under and meet the requirements of 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. For existing discharges of biosolids to land, the Permittee shall submit a Notice of Intent to Comply within 180 days of the effective date of this Order. For future discharges of biosolids to land, the Permittee shall submit a Notice of Intent to Comply in accordance with the enrollment requirements of Order No. 2004-0012-DWQ; or

- ii.** Alternatively, the Permittee may dispose of biosolids at another appropriately permitted facility.
- iii.** New sludge treatment and storage facilities must comply with the Water Code and title 27 of the CCR requirements for the protection of water quality.

**e. Operator Certification**

Supervisors and operators of municipal wastewater treatment facilities (WWTFs) 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 WWTF operator, the State Water Board may approve use of a water treatment facility operator of appropriate grade

certified by the California Department of Public Health (CDPH) where water reclamation is involved.

**f. Adequate Capacity**

If the Facility or effluent disposal areas 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 four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR title 23, section 2232]

**6. Other Special Provisions**

- a. Storm Water Best Management Practices (BMPs).** BMPs to control storm water at the Facility shall be developed and upgraded, as necessary. In each annual report submitted to the Regional Water Board, the Permittee shall describe the effectiveness of storm water BMPs as well as activities to maintain and upgrade these BMPs during the previous year.

**7. Compliance Schedules- Not Applicable**

This section is not applicable to the Permittee because there are no compliance schedules included in this Order, however, a compliance schedule has been established within a separate Cease and Desist Order (CDO). The CDO includes a schedule for compliance with arsenic, copper, dissolved inorganic nitrogen, carbonaceous biochemical oxygen demand, and ammonia Effluent Limitations at Discharge Point 001. The current CDO is Order No. R1-2013-0030.

## **VII. COMPLIANCE DETERMINATION**

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

### **A. General**

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP 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 the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

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

When determining compliance with 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.

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

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

1. Median. The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, DNQ determinations next, followed by quantified values. The order of the individual ND and DNQ determinations is not important. The median value is determined based on the number of data points in the set. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, the median is the average of the two middle values, unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two middle data points. DNQ is lower than a detected value, and ND is lower than DNQ.

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

**D. Average Monthly Effluent Limitation (AMEL)**

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

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

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar week (Sunday to Saturday) 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. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

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

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

**G. Instantaneous Minimum Effluent Limitation**

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a 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 CFR 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 time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

#### **H. 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 CFR 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 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.

#### **I. Mass-Based Effluent Limitations**

Compliance with mass- and concentration-based effluent limitations for the same parameter shall be determined separately. Mass-based calculations shall use discharge flow rate and effluent concentration measured at EFF-001.

1. Average Daily. Compliance with the average daily mass-based limitation shall be determined using the following formula:

$$\text{kg/day} = 3.78 * C_e * Q, \text{ where}$$

$C_e$  = average daily effluent concentration (mg/L) collected from July 1 to June 30 each hydrologic year.

$Q$  = average daily flow rate (mgd) averaged over the same hydrologic year (from July 1 to June 30) that the samples were taken.

2. Average Weekly. Compliance with the average weekly mass-based limitation shall be determined using the following formula:

$\text{lbs/day} = 8.34 * C_e * Q$ , where

$C_e$  = average of effluent concentrations collected during the calendar week (mg/L)

$Q$  = average flow rate averaged over the same calendar week (mgd)

3. Average Monthly. Compliance with the average monthly mass-based limitation shall be determined using the following formula:

$\text{lbs/day} = 8.34 * C_e * Q$ , where

$C_e$  = average of effluent concentrations collected during the calendar month (mg/L)

$Q$  = average flow rate averaged over the same calendar month (mgd)

4. Maximum Annual. Compliance with the maximum annual mass-based limitation shall be determined using the following formula:

Maximum annual metric tons =  $0.022 * C_e * Q$ , where

$C_e$  = average effluent concentration (mg/L) collected from July 1 to June 30 each hydrologic year.

$Q$  = average daily flow rate (mgd) averaged over number of days discharged during the period from July 1 to June 30 each hydrologic year.

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

1. When a single chronic toxicity test result is available in a monthly monitoring period, compliance will be determined by comparing the single result to the monthly median chronic toxicity trigger of 1.0 TUc.
2. If two or more chronic toxicity test results are available in a monthly monitoring period, compliance will be determined by calculating the median of the test results and comparing the calculated median to the monthly median chronic toxicity trigger of 1.0 TUc, and the individual sample results will be compared to the single sample chronic toxicity trigger of 1.6 TUc. If the first monthly chronic toxicity result is greater than 1.0 TUc, a minimum of three chronic toxicity test results would be needed to demonstrate compliance with the monthly median chronic toxicity trigger of 1.0 TUc.

#### **K. Mean Daily Dry Weather Flow**

1. Compliance with the mean daily dry weather flow prohibition in section III.H of this Order will be determined by evaluating all flow data collected in a calendar year. The lowest 30 day period of flow must be 0.16 MGD or less.

## ATTACHMENT A – DEFINITIONS

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

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

**Annual Maximum:** the highest allowable discharge per hydrologic year (from July 1 to June 30) calculated as the sum of all recorded discharges within the year.

**Average Daily Effluent Limitation:** the highest allowable average discharge per hydrologic year (from July 1 to June 30) calculated as the average of all recorded discharges within the hydrologic year.

**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.

**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.

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

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

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

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

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

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

**Detected, but Not Quantified (DNQ):** sample results less than the RL, but greater than or equal to the laboratory's MDL.

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

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

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

**Enclosed Bays:** 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:** 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.

**Hydrologic Year:** July 1 to June 30 each year.

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

**Inland Surface Waters:** all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

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

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

**Method Detection Limit (MDL):** the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

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

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

**Not Detected (ND):** those sample results less than the laboratory's MDL.

**Ocean Waters:** the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

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

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

implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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

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

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

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

**Standard Deviation ( $\sigma$ ):** a measure of variability that is calculated as follows:

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

where:

x is the observed value;

$\mu$  is the arithmetic mean of the observed values; and

n is the number of samples.

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

steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

**50% Upper Limit:** The 50% upper limit represents the 50 percentile values of the monthly means for a calendar year. 50% or more of the monthly means must be less than or equal to an upper limit.

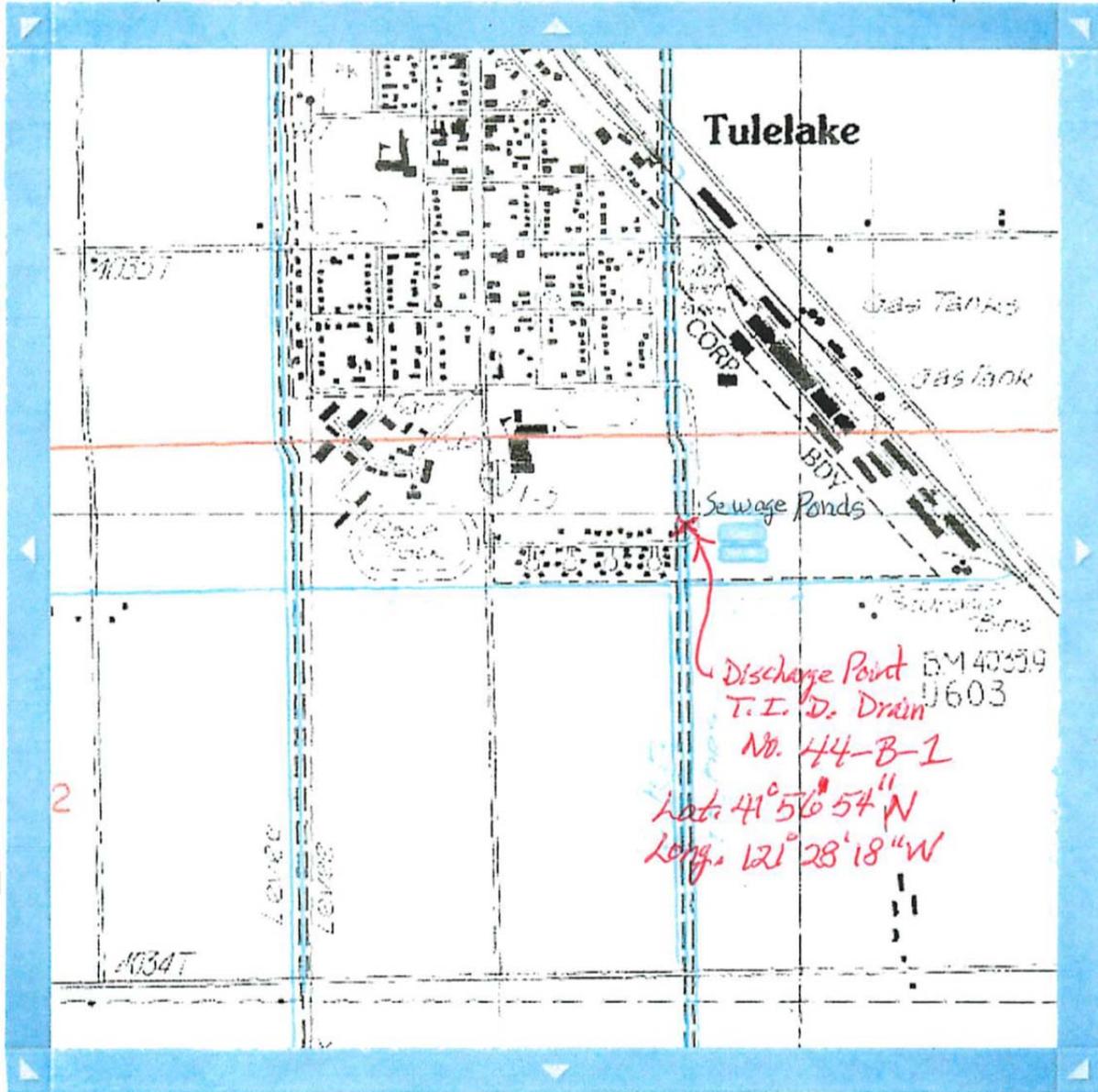
**90% Upper Limit:** The 90% upper limit represents the 90 percentile values of the monthly means for a calendar year. 90% or more of the monthly means must be less than or equal to an upper limit.

DRAFT

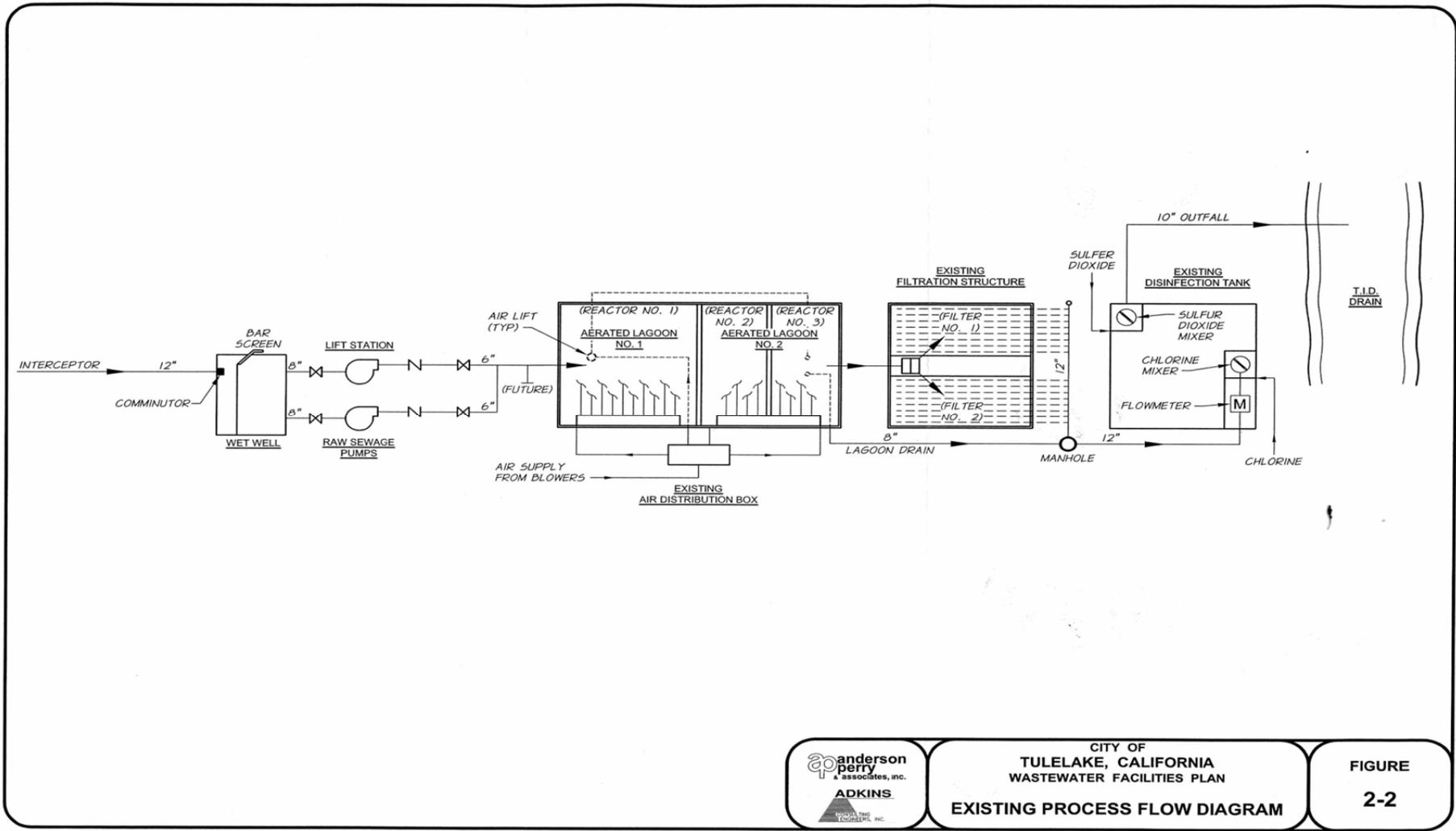
ORDER NO. R1-2013-0029  
City of Tulelake  
WDID No. 1A840020SIS  
NPDES NO. CA0023272

### ATTACHMENT B - MAP OF TULELAKE WASTEWATER TREATMENT FACILITY

USGS Map Name: Tulelake, CA Map MRC: 41121H4  
Map Center: N41.94814° W121.47390° Datum: NAD27 Zoom: 4m/pixel



# ATTACHMENT C – FACILITY FLOW SCHEMATIC




**anderson perry & associates, inc.**  
**ADKINS**  
CONSULTING ENGINEERS, INC.

**CITY OF TULELAKE, CALIFORNIA**  
**WASTEWATER FACILITIES PLAN**  
**EXISTING PROCESS FLOW DIAGRAM**

**FIGURE 2-2**

## **ATTACHMENT D – STANDARD PROVISIONS**

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

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

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a).)
2. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1).)

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

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

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

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

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

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

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

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

## **F. Inspection and Entry**

The Permittee shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR § 122.41(i); Wat. Code, § 13383):

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

## **G. Bypass**

1. Definitions
  - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
  - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 CFR § 122.41(m)(4)(i)):
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));



contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):

- a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));
  - c. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and
  - d. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

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

### **A. General**

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

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

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

### **C. Transfers**

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

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

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in

Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

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

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

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

##### **A. Duty to Provide Information**

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

## **B. Signatory and Certification Requirements**

- 1.** All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)
- 2.** All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR § 122.22(a)(3).)
- 3.** All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a.** The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));
  - b.** The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and
  - c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)
- 4.** If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)
- 5.** Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 CFR § 122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)
3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

### **D. Compliance Schedules**

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

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

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A).)



the Regional Water Board, State Water Board, or USEPA, the Permittee shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

## **VI. STANDARD PROVISIONS – ENFORCEMENT**

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

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

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

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

- 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 CFR § 122.42(b)(1)); and
- 2.** Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR § 122.42(b)(2).)
- 3.** Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3).)

**ATTACHMENT E – MONITORING AND REPORTING PROGRAM**

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**Attachment E – Monitoring and Reporting Program (MRP)**

The Code of Federal Regulations (CFR) at 40 CFR 122.48 requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements, which implement the federal and California regulations.

**I. GENERAL MONITORING PROVISIONS**

- A.** Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.
- B.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.
- C.** Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (CDPH) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.
- D.** Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitation. If no Minimum Level (ML) value is below the effluent limitations, the lowest ML shall be selected as the Reporting Level (RL). Table E-1 lists the test methods the Permittee may use for compliance and reasonable potential monitoring to analyze priority pollutants with effluent limitations.

**Table E-1. Test Methods and Minimum Levels for Priority Pollutants**

CTR#	Constituent Types of Analytical Methods Minimum Levels (µg/L)	Types of Analytical Methods Minimum Levels (µg/L)						
		GFAA	SPGFAA	ICP	ICPMS	COLOR	GC	GCMS
2	Arsenic	2	2	10	2	---	---	---
6	Copper	5	2	---	0.5	---	---	---
14	Cyanide	---	---	---	---	5	---	---
27	Dichlorobromomethane	---	---	---	---	---	0.5	---
68	Bis(2-Ethylhexyl)Phthalate	---	---	---	---	---	10	5

**II. MONITORING LOCATIONS**

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

**Table E-2. Monitoring Station Locations**

Discharge/Distribution Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Untreated influent wastewater collected at the plant headworks at a representative point preceding primary treatment. Formerly M-INF.
--	INT-001	Secondary treated wastewater immediately preceding the sand filter.
--	INT-002	Secondary treated wastewater immediately following the sand filter, but preceding the chlorine contact chamber.
--	INT-003	Location for monitoring chlorine dosage
001	EFF-001	Treated wastewater following all treatment and before it enters the TID Drain No. 44-B-1.
--	RSW-001U	At a point in TID Drain No. 44-B-1 just upstream of the discharge.
--	RSW-001D	At a point in TID Drain No. 44-B-1 immediately downstream of the discharge.

**III. INFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location INF-001**

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

**Table E-3. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent Flow <sup>1</sup>	mgd	Meter	Continuous	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	8-hr composite <sup>2</sup>	Weekly	Standard Methods <sup>3</sup>
Total Suspended Solids	mg/L	8-hr composite	Weekly	Standard Methods
Table Notes: 1. Each month, the Permittee shall report average daily and average monthly flows. 2. 8-hour composite samples shall be collected, except for those constituents that are volatile and or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.) 3. 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 CFR Part 136.				

**IV. EFFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location EFF-001**

1. The Permittee shall monitor disinfected, treated wastewater at Monitoring Location EFF-001 when discharging to Discharge Point 001, as follows:

**Table E-4. Effluent Monitoring for Discharges to 001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Effluent Flow <sup>1</sup>	mgd	Meter	Continuous	--
pH	s.u.	Grab	Daily	Standard Methods
Chlorine Residual, Total	mg/L	Grab	Daily	Standard Methods
Temperature	°F or °C	Grab	Daily	Standard Methods
Biochemical Oxygen Demand (5-day @20°C)	mg/L	8-hour composite <sup>2</sup>	Weekly	Standard Methods <sup>3</sup>
	lbs/day	Calculate	Weekly	--
Total Suspended Solids	mg/L	8-hour composite <sup>2</sup>	Weekly	Standard Methods
	lbs/day	Calculation	Weekly	--
Settleable Solids	mL/L	Grab	Weekly	Standard Methods
Total Coliform Bacteria	MPN/100 mL	Grab	Weekly	Standard Methods
Dissolved Oxygen <sup>3</sup>	mg/L	Grab	Monthly	Standard Methods
Specific Conductivity	µmhos/cm	Continuous	Monthly	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Hardness	mg/L	Grab	Monthly	Standard Methods
Arsenic	µg/L	Grab	Monthly	Standard Methods
Copper	µg/L	Grab	Monthly	Standard Methods

Cyanide	µg/L	Grab	Monthly	EPA Method 4500 CN
Dichlorobromomethane	µg/L	Grab	Monthly	EPA Method 8260
Bis(2-ethylhexyl)phthalate	µg/L	Grab	Monthly	EPA Method 8270
Carbonaceous Biochemical Oxygen Demand (CBOD)	mg/L	8-hour composite	Quarterly	Standard Methods
	average kg/day	Calculation	Annually	---
Dissolved Inorganic Nitrogen	mg/L	8-hour composite	Quarterly	Standard Methods
	average kg/day	Calculation <sup>5</sup>	Annually	---
Ammonia, Total	mg/L	Grab	Quarterly	Standard Methods
Unionized Ammonia		Calculation <sup>5</sup>		---
Acute Toxicity	% Survival	Grab	Quarterly	See Section V.A.
Carbonaceous Biochemical Oxygen Deman (CBOD)	metric tons/year	Calculation <sup>6</sup>	Annually	---
Dissolved Inorganic Nitrogen (as N), Total	metric tons/year	Calculation <sup>6</sup>	Annually	---
Chronic Toxicity	TUc	Grab	Annually	See section V.B below
Chronic Toxicity (narrative)	Passed/Triggered <sup>4</sup>			---
Remaining CTR Priority Pollutants	µg/L	8-hr composite	1x/5 years	40 CFR 136

**Table Notes:**

1. Mean and peak daily and peak weekly effluent flow rates.
2. 8-hour composite samples shall be collected, except for those constituents that are volatile and or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.)
3. 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 CFR Part 136.
4. The Permittee shall include reporting regarding compliance with the narrative toxicity objective in Receiving Water Limitation V.A.10 by reporting whether the chronic toxicity test “passed” or “triggered” in relation to the chronic toxicity trigger of 1.6 TUc (where TUc=100/NOEC) for each single sample or 1.0 TUc as a monthly median. For narrative chronic toxicity reporting, “Passed” shall be reported when chronic toxicity effluent results do not trigger accelerated testing (e.g., a single sample result of ≤1.6 TUc or a monthly median of ≤1.0 TUc). :Triggered” shall be reported when chronic toxicity effluent results trigger accelerated testing by exceeding the chronic toxicity trigger of 1.6 TUc for a single sample or 1.0 TUc as a monthly median.
5. Calculation of the average kg/day discharged for both DIN and CBOD shall be the average of quarterly concentrations for those respective constituents within a hydrologic year (July 1 to June 30).

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity Testing

The Permittee shall conduct acute whole effluent toxicity testing (WET) to determine compliance with the effluent limitation for acute toxicity established by section IV.A., 2 of the Order.

1. **Test Frequency.** The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Points 001, as summarized in Table E-4, above.
2. **Sample Type.** For 96-hour static renewal or 96-hour static non-renewal testing, the effluent samples shall be 24-hr composite samples.
3. **Test Species.** Test species for acute WET testing shall be with an invertebrate, the water flea (*Ceriodaphnia dubia*) and a vertebrate, the rainbow trout (*Oncorhynchus mykiss*) for the first two suites of testing. After this screening period, monitoring shall be conducted annually using the most sensitive species. The next two species acute WET test shall be conducted during the next surface water discharge.
4. **Test Methods.** The presence of acute toxicity shall be estimated as specified in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each acute toxicity report submitted to the Regional Water Board. The control of pH in acute toxicity tests is allowed, provided the test pH is maintained at the effluent pH measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The acute toxicity test shall be conducted using 100 percent effluent.
6. **Test Failure.** If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
7. **Accelerated Monitoring.** If the result of any acute toxicity test fails to meet the single test minimum limitation (70 percent survival), and the testing meets all test acceptability criteria, the Permittee shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. If any one of the

additional samples do not comply with the three sample median minimum limitation (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section VI.C.2.a.(2) of the Order. If the two additional samples are in compliance with the acute toxicity requirement and testing meets all test acceptability criteria, then a TRE will not be required. If the discharge stops before additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the effluent limitation.

- 8. Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after receipt of test results exceeding the acute toxicity effluent limitation during regular or accelerated monitoring. The notification will describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.
- 9. Reporting.** The acute toxicity test results shall include the contracting laboratory's complete report provided to the Permittee and shall be in accordance with section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*. The submitted report shall clearly identify test results.
- 10. Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

## **B. Chronic Toxicity Testing**

The Permittee shall conduct chronic toxicity testing to demonstrate compliance with the Basin Plan's water quality objective for toxicity. The Permittee shall meet the following chronic toxicity testing requirements:

- 1. Test Frequency.** The Permittee shall conduct quarterly chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Tables E-4, above.
- 2. Sample Type.** For 96-hour static non-renewal testing, the effluent samples shall be 24-hour composite samples and shall be representative of the volume and quantity of the discharge. When tests are conducted off-site, a minimum of three samples shall be collected, in accordance with USEPA test methods.
- 3. Test Species.** Test species for chronic WET testing shall be shall be a vertebrate, the fathead minnow, *Pimephales promelas* (larval survival and growth Test Method 1000.0), an invertebrate, the water flea, *Ceriodaphnia dubia* (survival and reproduction Test Method 1002.01), and a plant, the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (growth Test Method 1003.0). At least one time every 5

years, the Permittee shall conduct two suites of chronic WET testing using the three species listed above. After this screening period, monitoring shall be conducted annually using the most sensitive species. The next multiple species chronic WET test shall be conducted by during the next discharge to surface waters.

4. **Test Methods.** The presence of chronic toxicity shall be estimated as specified in USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms* (USEPA Report No. EPA-821-R-02-013, or subsequent editions).

Test procedures related to pH control, sample filtration, aeration, temperature control and sample dechlorination shall be performed in accordance with the USEPA method and fully explained and justified in each chronic toxicity report submitted to the Regional Water Board. The control of pH in chronic toxicity tests is allowed, provided the test pH is maintained at the pH of the receiving water measured at the time of sample collection, and the control of pH is done in a manner that has the least influence on the test water chemistry and on the toxicity of other pH sensitive materials such as some heavy metals, sulfide and cyanide.

5. **Test Dilutions.** The chronic toxicity test shall be conducted using a series of at least five dilutions and a control. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent, and a control. Effluent dilution and control water may be receiving water or standard synthetic laboratory water, as described in the USEPA test methods manual. Where toxicity or biostimulatory issues are not a concern in the receiving water, receiving water is preferred for control and dilution water. If the dilution water used is different from the test organism culture water, a second control using culture water shall be used.
6. **Reference Toxicant.** If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).
7. **Test Failure.** If either the reference toxicant test or the chronic toxicity test does not meet all test acceptability criteria, as specified in the test method, the Permittee shall re-sample and re-test as soon as possible, not to exceed 14 days following notification of test failure.
8. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after receipt of test results exceeding the chronic toxicity monitoring trigger during regular or accelerated monitoring.

- 9. Accelerated Monitoring Requirements.** If the result of any routine chronic toxicity sampling exceeds the chronic toxicity monitoring trigger of 1.6 TUc as specified in section VI.C.2.a. of the Order, and the testing meets all test acceptability criteria, the Permittee shall initiate accelerated monitoring. Accelerated monitoring shall consist of up to four additional effluent samples and dilution series (specified in number 5 above) – with one test for each test species showing toxicity results exceeding the toxicity trigger, as defined by conditions a. through c. below. Accelerated monitoring test shall be conducted approximately every week over a four week period.

Testing shall commence within 14 days of receipt of initial sample results which indicated an exceedance of the chronic toxicity trigger. If the discharge will cease before the additional samples can be collected, the Permittee shall contact the Executive Officer within 21 days with a plan to address elevated levels of chronic toxicity in effluent and/or receiving water. The following protocol shall be used for accelerated monitoring and TRE implementation:

- a.** If the result of any accelerated toxicity test exceeds 1.0 TUc, the Permittee shall cease accelerated monitoring, and within 30 days of the date of completion of the accelerated monitoring, initiate the TRE Workplan developed in accordance with section VI.C.2.a (2) of the Order to investigate the cause(s) and identify actions to reduce or eliminate the chronic toxicity. Within 30 days of completing the TRE Workplan implementation, the Permittee shall submit a report to the Regional Water Board that shall include, at a minimum:
  - i.** Specific actions the Permittee took to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
  - ii.** Specific actions the Permittee took to mitigate the impact of the discharge and prevent the recurrence of toxicity;
  - iii.** Recommendations for further actions to mitigate continued toxicity, if needed; and
  - iv.** A schedule for implementation of recommended actions.
- b.** If the results of four consecutive accelerated monitoring tests do not exceed 1.0 TUc, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, if there is adequate evidence of a pattern of effluent toxicity, the Regional Water Board's Executive Officer may require that the Permittee initiate a TRE.
- c.** If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Permittee shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the

monitoring “trigger.” Upon confirmation that the chronic toxicity has been removed, the Permittee may cease accelerated monitoring and resume regular chronic toxicity monitoring.

**10. Ammonia Toxicity.** The chronic toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

### **C. Chronic Toxicity Reporting**

**1. Routine Reporting.** All toxicity test reports shall include the contracting laboratory’s complete report provided to the Permittee and shall be in accordance with the appropriate “Report Preparation and Test Review” sections of the method manuals and this MRP. Chronic toxicity test results shall be submitted with the self-monitoring report.

The WET test report shall contain a narrative report that includes details about WET test procedures and results, including the following:

#### **a. Test Procedures.**

- i.** Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics;
- ii.** The source and make-up of the lab control/diluent water used for the test;
- iii.** Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
- iv.** Identification of any reference toxicant testing performed;
- v.** Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of NOEC,  $TU_c$  and  $IC_{25}$ ;
- vi.** Identification of any anomalies or nuances in the test procedures or results; and
- vii.** Summary and conclusions section.

#### **b. Test Results. Test results shall include, at a minimum, for each test:**

- i.** sample date(s);
- ii.** test initiation date;
- iii.** test species;

- iv. end point values for each dilution (e.g., number of young, growth rate, percent survival);
- v. NOEC value(s) in percent effluent;
- vi. IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
- vii. TUC values (100/NOEC);
- viii. Mean percent mortality ( $\pm$ s.d.) after 96 hours in 100 percent effluent (if applicable);
- ix. NOEC and LOEC values for reference toxicant test(s);
- x. IC50 or EC50 value(s) for reference toxicant test(s);
- xi. Available water quality measurements for each test (e.g., pH, DO, temperature, conductivity, hardness, salinity, ammonia);
- xii. Statistical methods used to calculate endpoints;
- xiii. the statistical output page, which includes the calculation of percent minimum significant difference (PMSD); and
- xiv. results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test procedures or problems encountered in completing the test and how the problems were resolved.

**2. Quality Assurance Reporting.** Because the permit requires sublethal hypothesis testing endpoints from methods 1000.0, 1002.0, and 1003.0 in the test methods manual titled *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA-821-R-02-013, 2002), with-in test variability must be reviewed for acceptability and variability criteria (upper and lower PMSD bounds) must be applied, as directed under section 10.2.8 – *Test Variability* of the test methods manual. Under section 10.2.8, the calculated PMSD for both reference toxicant test and effluent toxicity test results must be compared with the upper and lower PMSD bounds variability criteria specified in Table 6 – *Variability Criteria (Upper and Lower PMSD Bounds) for Sublethal Hypothesis Testing Endpoints Submitted Under NPDES Permits*, following the review criteria in paragraphs 10.2.8.2.1 through 10.2.8.2.5 of the test methods manual. Based on this review, only accepted effluent toxicity test results shall be reported.

**3. Compliance Summary.** The monthly self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency (routine, accelerated, or TRE). The final report shall clearly demonstrate that the Permittee is in compliance with effluent limitations and other permit requirements.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

**VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE**

This section is not applicable to the Permittee as treated wastewater is not reclaimed.

**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER**

**A. Surface Water Monitoring Locations RSW-001**

1. The Permittee shall monitor upstream conditions in receiving waters at Monitoring Locations RSW-001, respectively, during periods of discharge as follows:

**Table E-5. Receiving Water Monitoring Requirements –RSW-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	Monthly	Standard Methods <sup>1</sup>
Dissolved Oxygen	mg/L	Grab	Monthly	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Temperature	°F	Grab	Monthly	Standard Methods
Specific Conductivity	µmhos/cm	Grab	Monthly	Standard Methods
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	Monthly	Standard Methods
Ammonia Nitrogen	mg/L	Grab	Annually	Standard Methods
Un-ionized Ammonia	mg/L	Calculation		---
Remaining CTR Priority Pollutants	µg/L	Grab	1x/5years	40 CFR 136

**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 CFR Part 136.

2. The Permittee shall monitor downstream conditions in receiving waters at Monitoring Location RSW-001D when discharging at Discharge Point 001 as follows:

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

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	Monthly	Standard Methods <sup>1</sup>
Dissolved Oxygen	mg/L	Grab	Monthly	Standard Methods
Turbidity	NTU	Grab	Monthly	Standard Methods
Temperature	°F	Grab	Monthly	Standard Methods
Specific Conductivity	µmhos/cm	Grab	Monthly	Standard Methods
Hardness (as CaCO <sub>3</sub> )	mg/L	Grab	Monthly	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 CFR Part 136.

**B. Groundwater**

There are no groundwater monitoring requirements in this monitoring and reporting program. Groundwater monitoring may be established in the future, if necessary, to assess impacts of effluent discharge to the reclamation system.

**IX. OTHER MONITORING REQUIREMENTS**

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

- 1. Monitoring.** The chlorine residual of the effluent shall be monitored continuously at a point prior to dechlorination (INT-001) and recorded.
- 2. Compliance.** The monitoring data shall demonstrate that there is a chlorine residual at the end of the chlorine disinfection system at all times. In addition, monitoring shall demonstrate compliance with total coliform effluent limitations in sections IV.A.1.c and IV.C.1.b of the Order.
- 3. Reporting.** If effluent following disinfection does not have a chlorine residual, or if there is a failure of the chlorine disinfection system, the event shall be reported to the Regional Water Board in accordance with Standard Provision VI.A.2.b of the Order.

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

- 1.** The Permittee shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
- 2. Schedules of Compliance.** Not Applicable

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

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

**Table E-7. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
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 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 month of sampling
Twice 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 month of sampling

**Table E-7. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January through March April through June July through September October through December	First day of second calendar month following end of quarter
Annually	January 1 following or on permit effective date	January 1 through December 31	March 1, each year
Once per Permit Term	Permit effective date	All	With application for permit renewal

**5. Reporting Protocols.** The Permittee shall report with each sample result the applicable Minimum Level (ML), the Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

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

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

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
- d. Permittees are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee

to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. The Permittee shall submit SMRs in accordance with the following requirements:
- a. The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular format as an attachment.
  - b. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
    - i. Facility name and address;
    - ii. WDID number;
    - iii. Applicable period of monitoring and reporting;
    - iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
    - v. Corrective actions taken or planned; and
    - vi. The proposed time schedule for corrective actions.
  - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). In the event that paper submittal of SMRs is required, the Permittee shall submit the SMR to the address listed below:

Regional Water Quality Control Board  
North Coast Region  
5550 Skylane Blvd., Suite A  
Tulelake, CA 95403

### C. Discharge Monitoring Reports (DMRs)

DMRs are currently required for facilities designated as major dischargers. This Facility is a minor discharger; therefore, DMR requirements do not apply at this time.

#### **D. Other Reports**

- 1. Special Studies.** The Permittee shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C.2 and VI.C.3 of this Order.
- 2. Annual Report.** The Permittee shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:
  - a.** Both tabular and, where appropriate, 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 CFR, section 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
  - b.** A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
  - c.** The names, certificate grades, and general responsibilities of all persons employed at the Facility;
  - d.** The names and telephone numbers of persons to contact regarding the wastewater treatment facility for emergency and routine situations;
  - e.** A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration; and
  - f.** A statement certifying whether the current operation and management manual and spill contingency plan, reflect the wastewater treatment facility as currently constructed and operated, and the dates when these documents were last reviewed and last revised for adequacy.
  - g. 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 Provision VI.C.5.b. of this Order.
    - i.** A copy of the source control standards;
    - ii.** A description of the waste hauler permit system

- iii. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Permittee, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user;
- iv. A summary of any industrial waste survey results; and
- v. A summary of public participation activities to involve and inform the public.
- h. Biosolids 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 twelve months. If biosolids are not generated at the Facility during the year, the report shall state, "No biosolids generated this year." If biosolids are generated at the Facility during the year, the report shall contain at a minimum:
  - i. Annual sludge production, in dry tons and percent solids
  - ii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.), if any and a solids flow diagram.
  - iii. Methods of final disposal of sludge:
    - (a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.
    - (b) For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs;
    - (c) For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

- i. 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 storm water, as well as activities to maintain and upgrade these BMPs.

## **E. Spills and Overflows Notification**

- 1.** All spills and unauthorized discharges equal to or in excess of 1,000 gallons of waste not treated as described in section II.A of the Fact Sheet or any size spill or unauthorized discharge of any waste not treated as described in section II.A of the Fact Sheet that result in a discharge to a drainage channel or a surface water or any unauthorized discharge of recycled water not treated as described in section II.A of the Fact Sheet in excess of 50,000 gallons:
  - a.** As soon as possible, but not later than two (2) hours after becoming aware of the discharge, the Permittee shall notify the California Emergency Management Agency (CalEMA), which in turn is required to notify both the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas, and the Regional Water Board.<sup>1</sup>

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

- i.** Name and contact information of caller;
  - ii.** Date, time and location of spill occurrence;
  - iii.** Estimates of spill volume, rate of flow, and spill duration, if available and reasonably accurate;
  - iv.** Surface water bodies impacted, if any;
  - v.** Cause of spill, if known at the time of the notification;
  - vi.** Cleanup actions taken or repairs made at the time of the notification; and
  - vii.** Responding agencies.
- a.** As soon as possible, but not later than **twenty-four (24) hours** after becoming aware of a discharge, the Permittee shall submit to the Regional Water Board a certification that CalEMA and the local health officer or directors of environmental health with jurisdiction over affected water bodies or land areas have been notified of the discharge. For the purpose of this requirement, "certification" means a CalEMA certification number and, for the local health department, name of local health staff, department name, phone number and date and time contacted.

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<sup>1</sup> The contact number for spill reporting for CalEMA is (800) 852-7550. The contact number of the Regional Water Board during normal business hours is (707) 576-2220. After normal business hours, spill reporting to CalEMA will satisfy the 2 hour notification requirement for the Regional Water Board.

- b.** Within **five (5) business days**, the Permittee shall submit a written report to the Regional Water Board office. The report must include all available details related to the cause of the spill and corrective action taken or planned to be taken, as well as copies of reports submitted to other agencies.
    - i.** Information provided in the verbal notification;
    - ii.** Other agencies notified by telephone;
    - iii.** Detailed description of cleanup actions and repairs taken; and
    - iv.** Description of actions that will be taken to minimize or prevent future spills.
  - c.** In the cover letter of the monthly monitoring report, the Permittee shall include a brief written summary of the event and any additional details related to the cause or resolution of the event, including, but not limited to results of any water quality monitoring conducted.
- 2.** All spills, unauthorized discharges, and sanitary sewer overflows (SSOs) less than 1,000 gallons that do not reach a drainage channel or a surface water:
- a.** As soon as possible, but not later than **twenty-four (24) hours** after becoming aware of the discharge, the Permittee shall notify the Regional Water Board and provide the applicable information in requirement 1.a of this section.
  - b.** In the cover letter of the monthly monitoring report, the Permittee shall include a written description of the spill event.

**ATTACHMENT F – FACT SHEET**

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**ATTACHMENT F – FACT SHEET**

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

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

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the City of Tulelake Wastewater Treatment Facility.

**Table F-1. Facility Information**

<b>WDID</b>	1A840020SIS
<b>Permittee</b>	City of Tulelake
<b>Name of Facility</b>	Tulelake Wastewater Treatment Facility
<b>Facility Address</b>	1000 Dean Callas Way
	Tulelake, CA 96134
	Siskiyou County
<b>Facility Contact, Title and Phone</b>	Hank Ebinger, Director of Public Works, (541) 667-5522
<b>Authorized Person to Sign and Submit Reports</b>	Hank Ebinger
<b>Mailing Address</b>	PO Box 847, 591 Main Street, Tulelake, CA 96134
<b>Billing Address</b>	Same as Mailing Address
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW)
<b>Major or Minor Facility</b>	minor
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	B
<b>Pretreatment Program</b>	No
<b>Reclamation Requirements</b>	N/A
<b>Facility Permitted Flow</b>	0.16 million gallons per day (mgd) (average daily dry weather flow)
<b>Facility Design Flow (Existing)</b>	
<b>Watershed</b>	Lost River Hydrologic Unit, Tule Lake Hydrologic Subarea
<b>Receiving Waters</b>	Tulelake Irrigation District (TID) Drain No. 44-B-1, tributary to Tule Lake
<b>Receiving Water Type</b>	Inland surface water

- A.** The City of Tulelake (hereinafter Permittee) is the owner and operator of the Tulelake Wastewater Treatment Facility (hereinafter Facility), a POTW, as shown on Attachment B.

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

- B.** The Facility discharges wastewater to Tulelake Irrigation District (TID) Drain No. 44-B-1, which is tributary to the Tulelake-Lower Klamath Lake reach of the Lost River Basin, waters of the United States. TID Drain No. 44-B-1 is hydraulically connected to the Tulelake Refuge. Water from the Tulelake Refuge is pumped across Sheepy Ridge to Lower Klamath Lake, through the Tulelake Tunnel. The Straits Drain hydraulically connects the Lower Klamath Lake area to the Klamath River. This discharge was regulated by Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (MRP) Order No. R1-2004-0075, which were adopted on October 6, 2004, and expired on October 5, 2009.
- C.** The Permittee filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its WDRs and NPDES permit on January 11, 2013. The permit application was deemed complete on January 31, 2013.

## **II. FACILITY DESCRIPTION**

The Permittee owns and operates a wastewater collection, treatment, and disposal facility and provides sewerage service to a population of approximately 1,000, including residential and commercial customers. The Facility has historically accepted septage from commercial septage haulers, but closed its septage receiving facility by March 4, 2013, to enhance compliance with effluent limitations. The Permittee provides wastewater treatment and disposal services for residences and commercial businesses within the city limits. The Facility currently has design treatment capacities of 0.16 mgd (average daily dry weather flow).

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

#### **1. Collection System**

The Permittee’s waste water collection system was constructed in 1947 and now consists of two pump stations and 4.5 miles of mainly 8-inch and some 6-inch vitrified clay gravity sewer pipes at an average of 6 feet below grade. Most manholes are brick with grout lining. In 2002, the Permittee inspected approximately 2,000 feet of the collection system with TV equipment.

#### **2. Wastewater Treatment**

The Facility is designed to provide secondary treatment for up to an average daily dry weather flow of 0.16 mgd. The current treatment system consists of a 10-inch

grinder-type comminutor in the headworks wet well with a bypass bar screen followed by two aerated waste water stabilization ponds. Pond No. 2 is divided equally into two reactor cells with a redwood plank baffle. The two ponds have a design average depth of 10-feet and a capacity of 4.08 million gallons. According to the design flows of 0.16 mgd, the total detention time in the ponds is 25.5 days. The oxidized wastewater then flows through two parallel sand filters and subsequently through a chlorine contact chamber prior to sulfur dioxide dechlorination and discharge to the TID drain No. 44-B-1 at Discharge Point 001.

The comminutor was refurbished in 2006, although the blades need replacement again and the electronic control system is not functional and limited to on/off operation. The aerated stabilization ponds have not been dredged since the Facility was constructed resulting in increased oxygen demand and nutrient supply within the stabilization ponds, which inhibits effective waste water nitrification. The sand filters have been only partially functional and intermittently used since the early 1980's. Facility operators assert that the filters are clogged with solids carryover from the stabilization ponds and are in need of overhaul. Facility inspections have revealed that some aerators need maintenance, the effluent flow meter needs calibration and the automated chlorination and dechlorination system is nonoperational. Leakage has been observed by Facility operators from the east side of Pond No. 2 when the water depth exceeds approximately 11.5 feet. The stabilization ponds were originally designed with a matrix of airlines and diffusers, which was replaced by a mat aerator system that was again replaced by the current network of static tube diffusers. The number of installed diffusers is not known, but the Permittee's Wastewater Facilities Plan (2008) indicates that "over the years the operational number has been decreasing such that currently there are eight working in Reactor No. 1 and three each in Reactors No. 2 and 3."

### **3. Effluent Storage**

Equivalent-to-secondary treated effluent is discharged directly to TID Drain No. 44-B-1 at Discharge Point 001 with no effluent storage capability.

### **4. Biosolids**

Biosolids generated during the treatment process settle out in the stabilization ponds and need to be removed, dewatered and disposed of regularly. The ponds have not been dredged or sampled since the Facility was constructed.

## **B. Discharge Points and Receiving Waters**

1. The Facility's Treatment Plant is located at the NE  $\frac{1}{4}$  of Section 2, T47N, R4E, MDB&M. A map of the area is shown in Attachment B to this Order.

- The Permittee discharges equivalent-to-secondary treated wastewater directly from the end of the chlorine contact chamber to TID Drain No. 44-B-1 at Discharge Point 001. The upstream receiving water monitoring location RSW-001U is located in TID Drain No. 44-B-1 approximately 100 feet upstream of the Facility.

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

- Surface water discharges from the Facility during the permit term of Order No. R1-2004-0075 occurred solely from Discharge Point 001. Effluent limitations contained in Order No. R1-2004-0075 for discharges from Discharge Point 001 (Monitoring Location M-001) and representative monitoring data from the term of Order No. R1-2004-0075 are as follows:

**Table F-2. Historic Effluent Limitations and Monitoring Data - EFF-001**

Parameter	Units	Effluent Limitations			Monitoring Data (From October 2004 through October 2009)
		Average Monthly	Average Weekly	Maximum Daily	Reported Value of Highest Violation
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	45	65	--	133
	lbs./day (dry-weather)	60	87	--	277
	% Removal	65	--	--	23
Total Suspended Solids	mg/L	--	--	95	440
	lbs./day (dry-weather)	--	--	127	--
	% Removal	65	--	--	0
Settleable Solids	mL/L	0.1	--	0.2	--
Total Coliform Organisms	MPN/100 mL	23	--	240	811.5, (30-day median) >1,600, (daily max.)
pH	standard units	7.0 - 9.0			5.2
Chlorine residual, total	mg/L	--	--	--	--
Acute Toxicity	% Survival	90	--	70	0
Cyanide	µg/L	4.26	--	8.54	--
Bis-(2-Ethylhexyl)phthalate	µg/L	1.80	--	3.61	4
Dichlorobromomethane	µg/L	0.56	--	1.12	1.1

**D. Compliance Summary**

**1. Violations Summary**

During the previous permit term, the Permittee consistently violated effluent limitations for BOD, TSS, total coliform, chlorine residual, pH, and acute toxicity. One hundred sixty-nine violations were assessed in Administrative Civil Liability (ACL) Order No. R1-2007-0045 as described below in section D.2b. Numerous additional violations have occurred since the issuance of the ACL Order, which have not yet been assessed penalties. Regional Water Board staff are currently reviewing the self-

monitoring reports and are in the process of developing an ACL Complaint regarding unassessed violations.

## **2. Enforcement Action Summary**

The Regional Water Board has issued multiple enforcement orders that have been active during the term of the previous permit, including ACL Order No. R1-2007-0045 and Cease and Desist Order No. R1-2004-0074. These orders were issued to address numerous violations of effluent limitations contained in Order Nos. 99-62 and R1-2004-0075. A summary of formal enforcement actions taken by the Regional Water Board follows:

### **a. CDO R1-2004-0074**

The Permittee had accumulated multiple violations to the terms in Order No. 99-62, which preceded and was superceded by Order No. R1-2004-0075. The Permittee had also violated BOD, TSS, total coliform, chlorine residual, pH, and acute toxicity limitations in Order No. 99-62 and, as a result, violated discharge prohibitions 2 and 4 of that Order by polluting and/or contaminating the receiving waters and by discharging untreated wastewater to surface waters. Those violations were the result of leaky waste stabilization ponds, dysfunctional automation of chlorination/dechlorination and flow monitoring, dysfunctional aeration and filtration systems, and bypass of the filtration system. The Permittee also failed to monitor and report chlorine residual, daily flow, and settleable solids on various occasions. A CDO was issued on October 6, 2004, as a result of the latter violations and required the Permittee to initiate a facilities planning process to evaluate viable alternatives for upgrading the Facility; comply with CEQA; design, finance, and construct the preferred alternative Facility upgrades. The CDO includes a schedule with various deadlines for each step in the planning and development process. The Permittee did not comply with the majority of the deadlines in the CDO due to financial constraints. For example, the Permittee was required to submit a final report demonstrating compliance with the CEQA process for the wastewater treatment plant upgrade project by July 1, 2005, but the Permittee did not submit a notice of determination until April 7, 2009. The CDO also required project design and construction, both of which the Permittee has yet to complete.

### **b. ACLO R1-2007-0045**

On July 25, 2007, the Regional Water Board issued Administrative Civil Liability (ACL) Order No. R1-2007-0045 assessing a penalty of \$495,000 for one hundred sixty-nine effluent limitation violations from January 1, 2000, through April 30, 2006. The violations were primarily related to insufficient

operation and maintenance, treatment, and dechlorination. ACL Complaint No. R1-2006-0070 shows each violation including total coliform, BOD, TSS, percent removal of BOD and TSS, pH, and chlorine residual.

### **3. Compliance Project**

Since the Permittee is classified as a small disadvantaged community, it is eligible to implement compliance projects to offset assessed penalties in accordance with the State Water Resources Control Board Enforcement Policy. As part of the facilities planning process required by the CDO described in section II.D.2, above, two possible capital improvement projects (CIPs) were identified by the Permittee, including a wetland-type land disposal system and a spray irrigation reclamation system. The Permittee identified in its Facilities Plan that the wetland-type land disposal system was the preferred alternative; however, the Permittee is still developing an antidegradation analysis that may alter the preferred alternative. Nonetheless, the ACL Order described in section II.D.2, above, conditionally offset \$488,000 if the Permittee meets the task schedule requirements contained in the ACL Order and if the Executive Officer determines that the Permittee has completed the compliance project satisfactorily.

### **4. Planned Changes**

The Permittee has plans to rehabilitate and upgrade the existing Facility by July, 2015. Rehabilitation efforts will include collection system improvements, replacing the headworks, installing and calibrating a new effluent flow meter, dredging the aeration basins, fixing any nonfunctional aerators, and fixing the automated disinfection system. Facility upgrades will include enhanced treatment units and the creation of a land disposal system at a new location south of the Facility. The details of these facility upgrades are yet to be determined, pending completion of the antidegradation analysis. The Permittee has a \$3,794,350 conditional grant funding agreement with the State Revolving Fund for planning, design and construction of the Facility rehabilitation and upgrades.

## **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the requirements and authorities described in this section. This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

### **A. California Environmental Quality Act (CEQA)**

Under California Water Code (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. Accordingly, this exemption from

CEQA applies to the Regional Water Board's action to adopt those portions of the Order that regulate NPDES discharges.

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

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR) 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 Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

## **C. Water Quality-Based Effluent Limitations.**

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

Section 122.44(d)(1)(i) mandates 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) USEPA 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).

## **D. State and Federal Regulations, Policies, and Plans**

**1. Water Quality Control Plans.** The Regional Water Quality Control Board (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.

The Basin Plan states that the beneficial uses of any specifically identified water body apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for the TID Drain No. 44-B-1 or the Tule Lake Refuge, but does identify present and potential uses for the Tule Lake Hydrologic Subarea, within which these waterbodies are contained. Thus, beneficial uses applicable to the TID Drain No. 44-B-1 and the Tule Lake Refuge are as follows in Table F-3:

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

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	TID Drain No. 44-B-1 (Tule Lake Hydrologic Subarea - 105.92)	<p><u>Existing:</u></p> <ul style="list-style-type: none"> <li>• Agricultural Supply (AGR)</li> <li>• Ground Water Recharge (GWR)</li> <li>• Freshwater Replenishment (FRSH)</li> <li>• Non-Contact Water Recreation (REC-2)</li> <li>• Commercial and Sport Fishing (COMM)</li> <li>• Warm Freshwater Habitat (WARM)</li> <li>• Wildlife Habitat (WILD)</li> <li>• Preservation of Rare, Threatened, or Endangered Species (RARE)</li> <li>• Migration of Aquatic Organisms (MIGR)</li> <li>• Spawning, Reproduction, and/or Early Development (SPWN)</li> </ul> <p><u>Potential:</u></p> <ul style="list-style-type: none"> <li>• Municipal and Domestic Supply (MUN)</li> <li>• Industrial Service Supply (IND)</li> <li>• Industrial Process Supply (PRO)</li> <li>• Water Contact Recreation (REC-1)</li> <li>• Cold Freshwater Habitat (COLD)</li> <li>• Aquaculture (AQUA)</li> </ul>

Requirements of this Order implement the Basin Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives

established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

- 4. Compliance Schedules and Interim Requirements.** The provision in section 2.1 of the SIP that allowed for the use of compliance schedules and interim limitations in an NPDES permit for CTR constituents ended on May 18, 2010. Based on a permittee's request and demonstration that it is infeasible to comply with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in a cease and desist order or time schedule order adopted by the Regional Water Board.

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 a compliance schedule.

- 5. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- 6. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

- 7. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations<sup>1</sup> (40 CFR) section 122.44(l) prohibit 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.
- 8. Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

#### **E. Impaired Water Bodies on CWA 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, to USEPA by April of each even numbered year. 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. Placement on the 303(d) list generally triggers development of a pollution control plan called a total maximum daily load (TMDL) for each water body and associated pollutant/stressor on the list. 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) for point sources and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources) for nonpoint sources.

On November 12, 2010, the USEPA provided final approval of the 303(d) list of impaired water bodies prepared by the State. The list identifies the entire Lost River hydrologic area, including the Tule Lake Sump and Refuge, as impaired by nutrients and pH. The TMDLs established by the USEPA on December 30, 2008, determined that the most significant nutrient-related impairment in the system is low dissolved oxygen levels, but also found that DIN and CBOD reductions would attain the dissolved oxygen and pH standards. The Lower Lost River TMDLs contain wasteload allocations (WLAs) for the Permittee that have been included as effluent limitations in this Order. Compliance with

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<sup>1</sup> All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

the effluent limitations in this Order for DIN and CBOD will ensure that the Permittee is in compliance with the Lower Lost River TMDLs.

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

- 1. Sanitary Sewer Systems.** 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 February 20, 2008 adopted Order No. WQ 2008-0002-EXEC Adopting Amended Monitoring and Reporting Requirements 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 permittees 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 2008-0002-EXEC and any future revisions thereto for operation of its wastewater collection system.
- 2. Storm Water.** The State Water Board Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities regulates storm water discharges from wastewater treatment facilities with design flows greater than 1.0 mgd unless all 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 to evaporation ponds, percolation ponds, or combined sewer systems. The discharge from this Facility is less than 1 mgd, therefore coverage under the General Storm Water Permit is not required for this Facility. Section VII.B.11.a of this Fact Sheet discusses the Permittee's handling of storm water.
- 3. Discharge of Biosolids to Land.** 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.
- 4. Water Rights.** Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Permittee must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

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

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

##### A. Discharge Prohibitions

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

This prohibition is based on the Basin Plan, the previous Order, and State Water Board Order WQO No. 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Permittee. It specifically does not apply to constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

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

Whether or not the Permittee reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Permittee disclosed the constituent to the Regional Water Board or whether the presence of the pollutant in the discharge can otherwise be reasonably contemplated by the Regional Water Board at the time of Order adoption.

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

This prohibition is based on section 13050 of the Water Code, and has been retained from the previous Order.

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

This prohibition is based on restrictions on the disposal of sewage sludge found in federal regulations [40 CFR Part 503 (Biosolids), Part 527 and Part 258] and Title 27 of the California Code of Regulations (CCR). This prohibition has been retained from the previous Order.

- 4. Discharge Prohibition III.D.** The discharge or reclamation use of untreated or partially treated waste from anywhere within the collection, treatment, or disposal systems is prohibited, except as provided for in Attachment D, Standard Provisions (Bypass).

This prohibition has been retained from the previous Order and is based on the Basin Plan to protect 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 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

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

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 2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order No. 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that cause a nuisance, compared to Prohibition III.E of this Order, which prohibits SSO discharges that create nuisance or pollution to waters of the State, groundwater, and land for a more complete protection of human health. The rationale for this prohibition is because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

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

This prohibition is retained from Order No. R1-2004-0075. Land used for the application of wastewater must be owned by the Permittee or be under the control of the Permittee by contract so that the Permittee maintains a means for ultimate disposal of treated wastewater. This prohibition has been retained from the previous Order

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

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. This prohibition has been retained from the previous Order

8. **Discharge Prohibition III.H.** The average daily dry weather flow (ADWF) of waste into the Facility in excess of 0.16 mgd is prohibited. Compliance with this prohibition shall be determined as defined in section VII.K of this Order.

The prohibition limiting the ADWF to 0.16 mgd is retained from the previous permit and is consistent with the report of waste discharge.

9. **Discharge Prohibition III.I.** The discharge of any radiological or biological warfare agent into waters of the state is prohibited under Water Code section 13375.

This prohibition is based on section 13375 of the Water Code.

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

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

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 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 equivalent to secondary treatment standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

Regulations promulgated in section 125.3(a)(1) require technology-based effluent limitations for municipal permittees 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 USEPA Administrator.

Based on this statutory requirement, USEPA developed equivalent to secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by equivalent to secondary treatment in terms of BOD<sub>5</sub>, TSS, and pH.

Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that U.S. EPA had not “sanctioned” the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD<sub>5</sub> and TSS for secondary treatment. Therefore to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statues [Section 23 of Pub. L. 97-147] that required U.S. EPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in 40 CFR 133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for “equivalent to secondary treatment.” These “equivalent to secondary treatment” limitations are up to 45 mg/L (monthly average) and up to 65 mg/L (weekly average) for BOD<sub>5</sub> and TSS. 40 CFR 133.103 also allows for higher TSS limitations if the operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved.

Therefore, POTWs that use waste stabilization ponds, identified in 40 CFR 133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum levels of effluent quality for TSS adjusted upwards.

Furthermore, in order to address the variations in facility performance due to geographic, climatic, or seasonal conditions in different States, the Alternative State Requirements (ASR) provision contained in section 133.105(d) was written. ASR allows States the flexibility to set permit limitations above the maximum levels of 45 mg/L (monthly average) and 65 mg/L (weekly average) for TSS from lagoons. However, before ASR limitations for suspended solids can be set, the effluent must meet the BOD limitations as prescribed by 40 CFR 133.102(a). Presently, the maximum TSS value set by the State of California for lagoon effluent is 95 mg/L. This value corresponds to a 30-day consecutive average or an average over duration of less than 30 days.

In order to be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria:

- The principal treatment process must be either a trickling filter or waste stabilization pond.
- The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD<sub>5</sub> and TSS.
- The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD<sub>5</sub> is consistently attained (30-day average). (40 CFR 133.101(g))

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

The Facility uses wastewater treatment stabilization ponds as the principal process providing significant biological treatment of municipal wastewater. In accordance with 40 CFR 133.105, a facility that consists of a stabilization pond or a trickling filter system and cannot meet the secondary standards after proper operation and maintenance may be allowed to meet treatment equivalent to secondary limits for BOD<sub>5</sub> and TSS as follows:

- a. The 30-day average shall not exceed 45 mg/L.
- b. The 7-day average shall not exceed 65 mg/L.
- c. The 30-day average percent removal shall not be less than 65%.

In accordance with 40 CFR 133.103(c), the Regional Water Board is authorized to adjust the minimum levels of equivalent to secondary treated effluent quality provided that waste stabilization ponds are the principal process used for secondary treatment and operations and maintenance data indicate that TSS equivalent to secondary standards are not achievable. As both of the latter conditions apply to the Facility, the Regional Water Board adopted an effluent limitation for TSS of 95 mg/L as a daily maximum effluent limitation in the previous permit, which is more stringent than the weekly or monthly average ASR.

An average weekly effluent limitation for TSS has not been established in the Permit because the California ASR is only expressed in terms of a monthly average and translation to a weekly limitation is impracticable. Part 122.45(d)(2) states that effluent limitations for POTWs must be expressed as average weekly and average monthly limitations unless impracticable. The average weekly limitation would be calculated by multiplying the average monthly limitation of 95 mg/L by 1.5 to obtain a result of 142.5 mg/L, which is greater than is allowable by the ASR for California and, therefore, impracticable. The previous Order contained the TSS ASR of 95 mg/L as a daily maximum, which was a misinterpretation of the ASR and has accordingly been modified to be a monthly average limitation to be consistent with the ASR.

Average weekly and monthly mass limitations for BOD are retained from the previous permit while the daily maximum mass limitations for TSS have been modified to be monthly average mass limitations in accordance with the antibacksliding provisions of 40 CFR 122.44(l).

Federal regulations at 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Section 122.45(f)(2) allows the permit writer discretion to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the discharger must comply with both. The actual values of the limitations were based on the best professional judgment (BPJ) of the permit writer and calculated from the concentration limits and the design flow of the waste treatment system (0.16 mgd) using the equation: (concentration limit)(8.34)(design flow) = mass limit.

In general, mass-based effluent limitations prevent dischargers from artificially diluting their effluent to meet concentration-based limitations. Mass effluent limitations for BOD<sub>5</sub> and TSS established in this Order are necessary and appropriate to protect water quality because mass loading of these pollutants may degrade water quality. Mass-based effluent limitations established in the Order are technology-based; and for this permit are based on the Facility's existing design dry-weather capacity of 0.16 mgd.

### **3. pH**

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

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

In addition, section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

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

The applicable technology-based effluent limitations (TBELs) in this Order include BOD<sub>5</sub> and TSS as shown below in Table F-4:

**Table F-4. Technology-Based Effluent Limitations**

Parameter	Units	Effluent Limitations		
		Average Weekly	Minimum Monthly Average	Average Monthly
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	65	--	45
	lbs/day	87	--	60
	% Removal	--	65	--
Total Suspended Solids (TSS)	mg/L	--	--	95
	lbs./day	--	--	127
	% Removal	--	65	--

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

**1. Scope and Authority**

Section 301(b) of the CWA and 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 technology equivalence requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of secondary wastewater treatment, is discussed in section IV.B.4 of the Fact Sheet. In addition, this Order contains additional requirements to meet applicable water quality standards. The rationale for these requirements is discussed in section IV.C.3 of this Fact Sheet.

Section 122.44(d)(1)(i) mandates 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. A reasonable potential analysis (RPA) conducted for discharges at Discharge Point 001 demonstrated reasonable potential for discharges from the Facility to cause or contribute to exceedances of WQOs for dichlorobromomethane, bis(2-ethylhexyl)phthalate, arsenic, copper, cyanide, and ammonia.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

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

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

- a. **Beneficial Uses.** Beneficial use designations for receiving waters for discharges from the Facility are presented in section III.D.1 of this Fact Sheet.
- b. **Basin Plan Water Quality Objectives.** In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for specific conductance, hardness, 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, and includes the Tule Lake Sump, Tule Lake Refuge, Lower Lost River and their tributaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by CDPH for the protection of public water supplies at title 22 of the California Code of Regulations section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals).
- c. **SIP, CTR and NTR.** Water quality criteria and objectives applicable to this receiving water are established by the CTR, established by the USEPA at section 131.38; and the NTR, established by the USEPA at section 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and the NTR.

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

Human health criteria are further identified as “water and organisms” and “organisms only.” “Water and organism” criteria are designed to address risks to human health from multiple exposure pathways. The criteria from the “water and organisms” column of CTR were used for the RPA because the Basin Plan identifies the potential municipal water supply beneficial use for Tule Lake hydrologic subarea.

The SIP, which is described in section III.D.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, CDPH 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.

Attachment F-1 includes a summary of RPA results for Discharge Point 001 for all priority toxic pollutants and ammonia, with water quality criteria/objectives that are applicable to the TID Drain No. 44-B-1, the Tule Lake Refuge and the Lower Lost River.

### **3. Determining the Need for WQBELs**

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

#### **a. Non-Priority Pollutants**

##### **i. pH**

The Basin Plan includes a water quality objective for pH for the Tule Lake Hydrologic Subarea that requires pH to be maintained with the range of pH 7.0

to pH 9.0. Federal technology-based requirements prescribed in 40 CFR 133 are not sufficient to meet these Basin Plan water quality standards.

**ii. Total 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 limits because they reflect technology standards for tertiary treatment. Coliform bacteria are a pollutant of concern in all wastewaters of domestic origin, and therefore, the Order retains the effluent limitations for total coliform bacteria from Order No. R1-2004-0075

**iii. Settleable Solids**

Effluent limitations for settleable solids are retained from the previous Order and reflect levels of treatment attainable by secondary treatment facilities. This limitation is based on the water quality objective prohibiting bottom deposits for all surface waters of the North Coast Region established by the Basin Plan.

**iv. Chlorine Residual**

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

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

The water quality criteria recommended by U.S. EPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual in this Order.

Order No. R1-2004-0075 required that there be no detectable level of total chlorine in the effluent using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L. The Order revises effluent limitations for chlorine residual to be consistent with the water quality criteria, which are below current analytical detection limits. The water quality criteria

recommended by USEPA have been translated to average monthly and maximum daily effluent limitations for total chlorine residual. The new chlorine residual effluent limitations established in this Order are numerically lower than the minimum detection limit for the final effluent limitation in the previous Order that required no detectable level of chlorine in effluent at the point of discharge at a detection limit of 0.1 mg/L.

**v. TMDL Pollutants**

**a) Dissolved Inorganic Nitrogen (DIN) and Carbonaceous Biochemical Oxygen Demand (CBOD)**

The Lost River TMDLs for nitrogen and biochemical oxygen demand to address dissolved oxygen and pH impairments were established by USEPA on December 30, 2008. These TMDLs include wasteload allocations for the Facility that have been incorporated into this permit directly as effluent limitations for DIN and CBOD.

**vi. 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.” Discharges of toxic concentrations of ammonia would violate the Basin Plan narrative toxicity objective. Due to concerns regarding ammonia toxicity, the Regional Water Board relies on USEPA’s recommended water quality criteria for ammonia in fresh water from the 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014 (1999) to interpret the Basin Plan’s narrative objective for toxicity. USEPA has recommended acute and chronic water quality criteria for the protection of aquatic life, which are dependent on receiving water pH and the presence/absence of salmonids (acute criteria), and pH, temperature, and the presence/absence of early life stages of fish (chronic criteria). EPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature.

The Tule Lake Refuge does not currently provide and is not expected to provide regular salmonid habitat, but does provide habitat for the federally endangered shortnose suckers (*Chasmistes brevirostris*) and Lost River suckers (*Deltistes luxatus*). Therefore, only the formulas and tables summarizing

calculations related to the absence of salmonids and the presence of early life stages of fish are presented in the discussion below.

The Permittee has analyzed the effluent for acute and chronic whole effluent toxicity quarterly and annually, respectively, during the previous permit term. The analyses for whole effluent toxicity include analyses for ammonia including pH and temperature. The Permittee also analyzed the effluent and upstream receiving waters for pH and temperature daily and monthly, respectively.

The thirty-day average concentration of total ammonia (in mg/L N in effluent) shall not exceed the continuous concentration criteria (CCC or chronic criterion), applied here as the AMEL, calculated using the following equation:

When fish early life stages are present:

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

Calculated chronic criteria are summarized in Table F-5, below.

**Table F-5. USEPA Chronic (30-day average) Criteria for Ammonia**

Continuous Concentration Criteria for Fish Early Life Stages Present, 30-day average (mg N/L)											
pH	Temperature, °C										
	0	14	15	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.46	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	6.36	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	6.25	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	6.10	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.93	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.73	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.49	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	5.22	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.92	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.59	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	4.23	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.85	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.47	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	3.09	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.71	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.36	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.90
8.1	2.10	2.10	2.03	1.91	1.68	1.47	1.29	1.14	1.00	0.88	0.77
8.2	1.79	1.79	1.74	1.63	1.43	1.26	1.11	0.97	0.86	0.75	0.66
8.3	1.52	1.52	1.48	1.39	1.22	1.07	0.94	0.83	0.73	0.64	0.56
8.4	1.29	1.29	1.25	1.17	1.03	0.91	0.80	0.70	0.62	0.54	0.48
8.5	1.09	1.09	1.06	0.99	0.87	0.76	0.67	0.59	0.52	0.46	0.40
8.6	0.92	0.92	0.89	0.84	0.73	0.65	0.57	0.50	0.44	0.39	0.34
8.7	0.78	0.78	0.75	0.71	0.62	0.55	0.48	0.42	0.37	0.33	0.29
8.8	0.66	0.66	0.64	0.60	0.53	0.46	0.41	0.36	0.32	0.28	0.24
8.9	0.56	0.56	0.55	0.51	0.45	0.40	0.35	0.31	0.27	0.24	0.21
9.0	0.49	0.49	0.47	0.44	0.39	0.34	0.30	0.26	0.23	0.20	0.18

For example, receiving water conditions of a pH of 7.8, a temperature of 18 °C, and fish early life stages present would have a chronic ammonia effluent limitation of 2.54 mg/L.

The one-hour average concentration of total ammonia nitrogen (in mg/L N) where salmonid fish are not present shall not exceed the continuous maximum concentration (CMC or acute criterion), applied here as the MDEL, as calculated using the following equations:

(b) Where salmonid fish are not present:

$$CMC = (0.411 / (1 + 10^{7.204 - pH})) + (58.4 / (1 + 10^{pH - 7.204}))$$

Calculated acute criteria are summarized in Table F-6, below.

**Table F-6. USEPA Acute (1-hour average) Criteria for Ammonia**

<b>Criteria Maximum Concentration, 1-hour average, (mg N/L)</b>	
<b>pH</b>	<b>Salmonids Absent</b>
6.5	48.8
6.6	46.8
6.7	44.6
6.8	42.0
6.9	39.2
7.0	36.1
7.1	32.9
7.2	29.5
7.3	26.2
7.4	23.0
7.5	19.9
7.6	17.0
7.7	14.4
7.8	12.1
7.9	10.1
8.0	8.41
8.1	6.95
8.2	5.73
8.3	4.71
8.4	3.88
8.5	3.20
8.6	2.65
8.7	2.20
8.8	1.84
8.9	1.56
9.0	1.32

For example, receiving water conditions with a pH of 7.8 and the absence of salmonid fish would have an acute limitation for ammonia of 12.1 mg/L.

**Total Ammonia Reasonable Potential Analysis.**

The Permittee sampled its effluent discharge to TID Drain No. 44-B-1 for ammonia 53 times between February 2008 and December 2012. The monitoring data shows a range of ammonia concentrations between 0.06 and 34.9 mg/L and an average total ammonia concentration of 9.26 mg/L. The maximum concentration of 34.9 mg/L occurred in November 2008. The Permittee also sampled its discharge to TID Drain No. 44-B-1 for pH and temperature daily. A reasonable potential analysis conducted on the effluent data discharged to TID Drain No. 44-B-1 shows that there is reasonable

potential for the discharge to cause or contribute to an excursion above the applicable criterion or objective for ammonia, thus effluent limitations for ammonia are included in this Order.

USEPA’s recommended acute and chronic criteria for the protection of aquatic life from ammonia toxicity with the known presence of early life stages of fish in the Tule Lake Refuge, to which the TID Drain No. 44-B-1 discharges are 1.32 mg/L and 1.78 mg/L total ammonia, respectively, expressed as N (using the maximum allowable downstream pH=9.0 for the acute condition and highest average monthly effluent temperature=22.1°C and highest average monthly downstream pH of 8.46 for the chronic condition).

Because ammonia has been measured in the effluent at concentrations greater than USEPA’s recommended water quality criteria for fresh waters, 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. The Order therefore establishes final effluent limitations for ammonia for the protection of aquatic life. USEPA requires discrete final effluent limitations rather than floating limits (limits determined based on the receiving water pH and temperature at the time of the sampling event) for total ammonia therefore, discrete effluent limitations for ammonia are included in the Order.

The reasonable potential analysis was conducted using 53 ammonia results between February 2008 and December 2012. The average of the 53 samples is 9.26 and the standard deviation is 8.689 resulting in a coefficient of variation of 0.94. A spreadsheet was used to calculate the final effluent limitations, with key values used in the calculation summarized as follows:

**Table F-7. Determination of Long Term Averages for Ammonia**

Pollutant	ECA			ECA Multiplier			LTA (mg/L)		
	Acute <sup>1</sup>	Chronic 30-day <sup>2</sup>	Chronic 4-day <sup>3</sup>	Acute	Chronic 30-day	Chronic 4-day	Acute	Chronic 30-day	Chronic 4-day
Ammonia	1.32	0.71	1.78	0.42	0.68	0.39	0.19	0.48	0.69

Table Notes:  
 1. Acute ECA from Table F-6 using pH=9.0  
 2. Chronic 30-day ECA from Table F-5 using pH = 8.46 and temperature = 22.1°C  
 3. According to the USEPA criterion document, effluent limits should ensure that the 4-day average concentration will not be exceeded. The 4-day average concentration that should not be exceeded is derived by multiplying the 30-day continuous concentration criteria (CCC, chronic) by 2.5.

**Table F-8. Determination of Final WQBELs Based on Aquatic Life Criteria for Ammonia**

Pollutant	Lowest LTA (mg/L)	MDEL Multiplier	AMEL Multiplier	MDEL (mg/L)	AMEL (mg/L)
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Pollutant	Lowest LTA (mg/L)	MDEL Multiplier	AMEL Multiplier	MDEL (mg/L)	AMEL (mg/L)
Ammonia	0.29	4.64	1.89	1.4	0.6

The average monthly effluent limitation (AMEL) is based on continuous criteria established by USEPA and the maximum daily effluent limitation (MDEL) is based on criteria maximum concentrations established by USEPA.

The Permittee provided an infeasibility study dated March 7, 2013, demonstrating that it is infeasible to achieve immediate compliance with final effluent limitations for ammonia. A CDO adopted concurrently with this Order includes a maximum daily interim effluent limitation for ammonia of 35 mg/L based on existing Facility performance.

**b. Priority Pollutants**

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

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. During the term of the previous permit discharges to surface water occurred only at Discharge Point 001. Accordingly for this RPA, the Regional Water Board used effluent data at Discharge Point 001 and receiving water data at TID Drain No. 44-B-1 upstream of 001 from July, 2002, through December, 2012.

**c. Hardness:**

The California Toxics Rule and the National Toxics Rule 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 hardness-dependent metal criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. Effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be

properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as CaCO<sub>3</sub>), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones (See 40 CFR 131.38(c)(4)(i)). The CTR does not define whether the term “ambient”, as applied in the regulations, necessarily requires the consideration of the upstream as opposed to downstream hardness conditions.

State Water Board Order No. WQ-2008-0008 (City of Davis) further interpreted the SIP by stating “...*the regional water boards have considerable discretion in the selection of hardness. Regardless of which method is used for determining hardness, the selection must be protective of water quality criteria, given the flow conditions under which a particular hardness exists....Regardless of the hardness used, the resulting limits must always be protective of water quality under all flow conditions.*”

The point in the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water can change. Therefore, where reliable, representative data are available, it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria.

A 2006 Study (Emerick, R.W.; Booroum, Y.; & Pedri, J.E., 2006. *California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations*, WEFTEC, Chicago, Ill.) demonstrates that using the lowest recorded receiving water hardness for establishing water quality criteria is not always protective of the receiving water under various mixing conditions (e.g., when the effluent hardness is less than the receiving water hardness).

The 2006 study evaluated the relationships between hardness and the CTR metals criterion that is calculated using the CTR metals equation. The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

$$\text{CTR Criterion} = \text{WER} \times (e^{m[\ln(H)]+b}) \quad (\text{Equation 1})$$

Where:

WER = water effect ratio

H = Hardness

b = metal- and criterion-specific constant

m = metal- and criterion-specific constant

In accordance with the CTR, the default value for the WER is 1. A permittee-specific WER study must be conducted in order to use a WER value other than 1. The constants “m” and “b” are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The relationship between hardness and the resulting criterion in Equation 1 can exhibit either a downward-facing (i.e., concave downward) or an upward-facing (i.e., concave upward) curve depending on the values of the criterion-specific constants. The curve shapes for acute and chronic criteria for the metals are as follows:

**Concave Downward Metals:** acute and chronic chromium (III), copper, nickel, and zinc; and chronic cadmium.

For those contaminants where the regulatory criteria exhibit a concave downward relationship as a function of hardness, any mixture of receiving water that is compliant with water quality objectives for that metal and effluent that is compliant with water quality objectives for that metal will always result in a mixture that is compliant with water quality objectives and use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. Use of the lowest recorded effluent hardness is also protective under all possible mixing conditions between the effluent and the receiving water (i.e., from high dilution to no dilution).

**Concave Upward Metals:** cadmium (acute), lead, and silver (acute).

For Concave Upward Metals, the 2006 Study demonstrates that due to a different relationship between hardness and the metals criteria, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may be out of compliance. The 2006 Study provides a mathematical approach to calculate the final effluent limitations for Concave Upward Metals that are based on the lowest of receiving water and effluent hardness.

For this RPA, the lowest available effluent hardness from July 2002 to September 2012 was 83 mg/L on November 20, 2008. The minimum observed effluent hardness was used for the development of the copper effluent limitation.

To conduct each 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.

**d. Reasonable Potential Determination**

The RPA demonstrated reasonable potential for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for arsenic, cyanide, dichlorobromomethane, and bis(2-ethylhexyl)phthalate at Discharge Point 001. 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 the remainder of the 126 priority pollutants.

The following table summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent or the receiving water (detected values are indicated in bold type). 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. Table F-13 of the Fact Sheet summarizes the RPA for all 126 priority pollutants.

**Table F-9. Summary of RPA Results – Discharge Point 001**

CTR #	Priority Pollutants	C or Most Stringent WQO/WQC (µg/L)	MEC or Minimum DL (µg/L) <sup>1</sup>	B or Minimum DL (µg/L) <sup>1</sup>	RPA Results <sup>2</sup>
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**Table F-9. Summary of RPA Results – Discharge Point 001**

CTR #	Priority Pollutants	C or Most Stringent WQO/WQC (µg/L)	MEC or Minimum DL (µg/L) <sup>1</sup>	B or Minimum DL (µg/L) <sup>1</sup>	RPA Results <sup>2</sup>
1	Antimony	6	0.17	<0.10	No
2	Arsenic	10	9.0	1.1	Yes
3	Beryllium	4	<0.1	Data Not Available	Ud
4	Cadmium	3.6	<0.02	Data Not Available	Ud
5b	Cromium, Total	11	0.72	<0.70	No
6	Copper	8.2	13	1.8	Yes
7	Lead	5.8	0.8	<0.10	No
8	Mercury	0.050	0.00856	Data Not Available	Ud
9	Nickel	78	10	6.2	No
10	Selenium	5	1.0	Data Not Available	Ud
11	Silver	9.11	0.58	Data Not Available	Ud
12	Thallium	1.7	<0.01	Data Not Available	Ud
14	Cyanide	5.2	7	<2.4	Yes
15	Asbestos	7	Data Not Available	Data Not Available	Ud
16	2,3,7,8-TCDD (Dioxin)	1.3E-08	Data Not Available	Data Not Available	Ud
26	Chloroform	No Criteria	16.3	<0.12	Uo
27	Dichlorobromomethane	0.56	3.4	<0.14	Yes
34	Methyl Bromide	48	Data Not Available	Data Not Available	Ud
35	Methyl Chloride	No Criteria	ND (no available detection limit)	Data Not Available	Ud
39	Toluene	150	0.17	28	No
45	Chlorophenol	120	ND (no available detection limit)	<3.7	Ud
53	Pentachlorophenol	0.28	ND (no available detection limit)	<0.12	Ud
68	Bis(2-	1.8	4.0	<30	Yes

**Table F-9. Summary of RPA Results – Discharge Point 001**

CTR #	Priority Pollutants	C or Most Stringent WQO/WQC (µg/L)	MEC or Minimum DL (µg/L) <sup>1</sup>	B or Minimum DL (µg/L) <sup>1</sup>	RPA Results <sup>2</sup>
	ethylhexyl)phthalate				
--	Total Ammonia	520	34,900	14,000	Yes

Table Notes

- The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration, including estimated concentrations, 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).
- RPA Results:  
 = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;  
 = No, if MEC and B are < WQO/WQC or all effluent data are undetected;  
 = Undetermined (Ud), if insufficient data are available or if the quality of the data is questionable.

**4. WQBEL Calculations**

Final WQBELs for chlorodibromomethane and dichlorobromomethane were 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:

$$ECA = C + D (C - B), \text{ where}$$

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

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

B = the background concentration

Because no credit for dilution is being allowed, D=0, and the ECA is 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 non-detect

(ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in section 1.4 of the SIP.

**Step 3:** WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (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 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier.

**Step 4:** When the most stringent water quality criterion/objective is a human health criterion/objective (i.e., chlorodibromomethane, dichlorobromomethane, and bis(2-ethylhexyl)phthalate), the AMEL is set equal to the ECA. AMEL and MDEL multipliers are determined based on CV and are from Table 2 of the SIP. Final WQBELs for chlorodibromomethane and dichlorobromomethane are determined as follows:

**Table F-10. Determination of Final WQBELs Based on Human Health Criteria**

Pollutant	Units	CV	ECA	AMEL Mult95	MDEL Mult99	MDEL/AMEL	MDEL	AMEL
Arsenic	µg/L	0.60	10	1.55	3.11	2.01	20	10
Copper	µg/L	0.60	8.0	1.55	3.11	2.01	12	5.9
Cyanide	µg/L	0.89	5.2	1.84	4.42	2.40	9.3	3.9
Dichlorobromomethane	µg/L	1.40	0.56	2.31	6.56	2.83	1.59	0.56
Bis(2-ethylhexyl)Phthalate	µg/L	1.86	1.8	2.69	8.15	3.03	5.5	1.80

A summary of WQBELs established by the Order is given in the table below.

**Summary of Water Quality-based Effluent Limitations**

**Table F-11. Summary of Water Quality-Based Effluent Limitations**

Parameter	Units	Effluent Limitations					
		Annual Maximum	Average Monthly	Average Daily	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	mL/L	--	0.1	--	0.2	--	--
Coliform Organisms (Total)	MPN/100mL	--	23	--	240	--	--
Chlorine Residual (Total)	mg/L	--	0.01	--	0.02	--	--
Arsenic, Total	µg/L	--	10	--	20	--	--
Copper	µg/L	--	5.9	--	12	--	--
Cyanide, Total	µg/L	--	3.9	--	9.3	--	--
Dichlorobromo methane	µg/L	--	0.56	--	1.6	--	--
Bis(2-Ethylhexyl)Pht halate	µg/L	--	1.80	--	5.5	--	--
Ammonia as N, Total	mg/L	--	0.6	--	1.4	--	--
Dissolved inorganic nitrogen (DIN)	Metric tons	1.0	--	--	--	--	--
	kg	--	--	2.7	--	--	--
Carbonaceous biochemical oxygen demand (CBOD)	Metric tons	3.5	--	--	--	--	--
	kg	--	--	9.6	--	--	--
pH	s.u.	--	--	--	--	7.0	9.0

## 5. Whole Effluent Toxicity (WET)

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

The Basin Plan states “... effluent limits based upon acute bioassays of effluent will be prescribed.” USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled “Guidance for NPDES Permit Issuance”, dated February 1994. In section B.2 “Toxicity Requirements”, the USEPA document states that, “In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion ‘no toxics in toxic amounts’ applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90 percent survival, 50 percent of the time, based on the monthly median, or 2) less than 70 percent survival, 10 percent of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUC.”

Notification requirements for acute and chronic WET testing include a 72 hour verbal notification requirement and a 14 day written report requirement, if test results indicate toxicity. The 14 day written notification is established in the USEPA WET Guidance documents cited in the MRP. The 72 hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72 hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test

exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

**a. Acute Aquatic Toxicity**

Consistent with Order No. R1-2004-0075, this Order includes an effluent limitation for acute toxicity. In accordance with the February 1994 USEPA guidance document cited two paragraphs above, effluent limitations for acute toxicity have been included in this Order which require that the average survival of test organisms in undiluted effluent for any three consecutive 96-hour bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

The Order also implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring permittees to conduct acute toxicity tests on a fish species and on an invertebrate to determine the most sensitive species. According to the USEPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test are the fathead minnow, *Pimephales promelas* and the rainbow trout, *Oncorhynchus mykiss*. The acceptable invertebrate species for the acute toxicity test are the water flea, *Ceriodaphnia dubia*, *Daphnia magna*, and *D. pulex*.

The Permittee conducted acute toxicity tests on its effluent using the rainbow trout, *Oncorhynchus mykiss* and *Ceriodaphnia dubia* to identify the most sensitive species. Because both species exhibited toxicity, the Permittee continued testing primarily with *O. mykiss* with occasional testing including *C. dubia*. The Permittee had repeated noncompliance with the acute toxicity limitations during the term of the previous permit.

**b. Chronic Aquatic Toxicity**

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum*.

The Permittee was required in the previous monitoring and reporting program to monitor for chronic toxicity annually. The Permittee, however, only monitored for chronic toxicity in the effluent in 2008, 2009, 2011, and 2012. Each chronic toxicity test indicated toxicity in at least one of the test species. The Permittee's chronic toxicity monitoring results for *S. capracornutum*, *C. dubia*, and *P. promelas*

are summarized in the table below. Order No. R1-2004-0075 required the Permittee to prepare and submit a Toxicity Reduction Evaluation (TRE) Workplan within 180 days of the effective date. The Permittee, however, never completed a TRE Workplan and never completed the accelerated chronic toxicity testing required in the previous permit. This Order also requires the preparation and submission of a TRE Workplan and completion of accelerated monitoring if chronic toxicity exceeds the monitoring trigger.

**Table F-12. Whole Effluent Chronic Toxicity Monitoring Results**

Date	<i>Selenastrum capricornutum</i>		<i>Ceriodaphnia dubia</i>				<i>Pimephales promelas</i>			
	Growth		Survival		Reproduction		Survival		Growth	
	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc	NOEC	TUc
12/15/2011	12.5	8	100	1	25	4	100	1	50	2
11/03/2009	<12.5	8	100	1	75	1.33	100	1	100	1
10/14/2008	---	---	25	4	25	4	---	---	---	---
04/01/2008	25	4	100	1	75	1.33	100	1	50	2

Chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in Basin Plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a TRE in the event that persistent toxicity is detected. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in a petition for State Water Board review of a NPDES permit in the Los Angeles Region that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, *“In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works, that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.”* The process to revise the SIP is underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision, it is infeasible to develop numeric effluent limitations for chronic toxicity at this time. The SIP revision may require a permit modification to incorporate new statewide toxicity criteria established by the upcoming SIP revision.

However, the State Water Board found in WQO-2003-012 that, while it is not appropriate to include final numeric effluent limitations for chronic toxicity in NPDES permits for POTWs, permits must contain a narrative effluent limitation, numeric benchmarks for triggering accelerated monitoring, rigorous TRE/TIE conditions, and a reopener to establish numeric effluent limitations for either chronic toxicity or the chemical(s) causing toxicity. This Order includes a reopener that allows the Regional Water Board to reopen the permit and include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

To ensure compliance with the narrative effluent limitation and the Basin Plan's narrative toxicity objective, the Permittee is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E, section V). Furthermore, Special Provision IV.C.2.a of this Order requires the Permittee to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a TRE in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Permittee is required to perform accelerated chronic toxicity monitoring, as well as the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

Section V.B.9 of the MRP defines the chronic toxicity monitoring trigger as a single sample result of 1.6 TUC and a monthly median of 1.0 TUC and section V.C.1.g of the MRP requires TUC to be calculated as 100/NOEC for purposes of determining if the Permittee's effluent exceeds the chronic toxicity monitoring trigger. Although the federal requirements may provide for flexibility in determining how to calculate TUC for compliance purposes (e.g., 100/NOEC, 100/IC25, 100/EC25), USEPA Region 9 recommends that effluent limitations and triggers be based on the no observed effect concentration (NOEC) when the permit language and chronic toxicity testing methods incorporate important safeguards that improve the reliability of the NOEC. These safeguards include the use of a dilution series (testing of a series of effluent concentrations) to verify and quantify a dose-response relationship and a requirement to evaluate specific performance criteria in order to determine the sensitivity of each chronic toxicity test. The goal is to demonstrate that each test is sensitive enough to determine whether or not the effluent is toxic or not.

The use of 100/IC25 or 100/EC25 as methods for calculating chronic toxicity are point estimates that automatically allow for a 25 percent effect before calling an effluent toxic. The Basin Plan has a narrative objective for toxicity that requires that *"all waters 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.”* Allowance of a possible 25 percent effect would not meet the Basin Plan’s narrative toxicity requirement. In addition, California has historically used the NOEC to regulate chronic toxicity for ocean discharges, thus it is fitting that the same method be used to regulate chronic toxicity in inland surface water discharges.

Because no dilution has been granted for the chronic condition, chronic toxicity testing results exceeding 1.6 TUC as a single sample result and 1.0 TUC as a monthly median demonstrates that the discharge is in violation of the narrative toxicity water quality objective.

If accelerated sampling of the discharge demonstrates a pattern of toxicity exceeding the chronic toxicity trigger, the Permittee is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan to determine whether the discharge is contributing chronic toxicity to the receiving water. Special Provision VI.C.2.a.ii requires the Permittee to maintain the TRE Work Plan to ensure 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 provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as requirements for TRE initiation if a pattern of toxicity is demonstrated.

**c. Ammonia-related Toxicity**

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

## **D. Final Effluent Limitations**

### **1. Satisfaction of Anti-Backsliding Requirements**

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, except for the maximum daily TSS concentration and mass limitations, the maximum daily effluent limitations (MDEL) for cyanide, dichlorobromomethane, and bis(2-ethylhexyl)phthalate at Discharge Point 001.

The previous permit included daily maximum effluent limitations for TSS of 95/mg/L, which incorrectly implemented the TSS ASR of 95 mg/L for waste stabilization pond-based treatment systems that is expressed as a monthly average. To be consistent with the adopted statewide ASR, the effluent limitations for TSS have been modified to be expressed as a monthly average and anti-backsliding requirements are satisfied.

The previous permit contained effluent limitations for cyanide, dichlorobromomethane, and bis(2-ethylhexyl)phthalate, which were based on the CTR criteria for the protection of aquatic life and were developed from a limited data set with an assumed coefficient of variation (CV) of 0.6. The larger effluent data set resulting from increased monitoring during the permit term resulted in larger CV values and higher MDELs for these pollutants. The increased data set for cyanide, dichlorobromomethane, and bis(2-ethylhexyl)phthalate constitutes new information, which permits the relaxation of effluent limitations consistent with CWA section 402(o)(2)(B). As a result of the RPA, effluent limitations for cyanide, dichlorobromomethane, and bis(2-ethylhexyl)phthalate are appropriately relaxed in the proposed Order and anti-backsliding requirements are satisfied.

### **2. Satisfaction of Antidegradation Policy**

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 to surface waters beyond that which was permitted to discharge in accordance with the previous Order.

The authorized rate of discharge to surface waters has not increased. The Order retains mass-based limits for BOD<sub>5</sub> and TSS from the previous permit. These mass-based limits ensure that the rate of discharge to surface waters is not increased above the rate authorized in the previous permit. Therefore, antidegradation requirements are met.

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

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The terms of this Order meet the minimum federal technology-based effluent limitations for secondary treatment, and in addition include additional

requirements, expressed as technology equivalence requirements, for BOD<sub>5</sub>, TSS, pH, and total coliform bacteria that are necessary to achieve secondary treatment of wastewater. Restrictions on these pollutants are discussed in section IV.B in this Fact Sheet.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic-pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA 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 USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to section 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically the addition of the beneficial uses Water Quality Enhancement (WQE), Flood Peak Attenuation/Flood Water Storage (FLD), Wetland Habitat (WET), Native American Culture (CUL), and Subsistence Fishing (FISH)) and the General Objective regarding antidegradation) were approved by USEPA on, March 4, 2005, 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.

In addition, 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. Factors set forth in section 13241 must be evaluated for requirements that go beyond what is required by the Clean Water Act.

Water Code section 13263 requires that waste discharge requirements “*implement any relevant water quality control plans that have been adopted and 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 section 13241.*” These requirements, however, only apply to those portions of the permit that exceed the requirements of the federal CWA, and not to those requirements that are necessary to meet the technology-based effluent limitations or the WQBELs necessary to protect water quality objectives for surface waters set out in the Basin Plan. (*City of Burbank v. State Water Resources Control Board*, 35 Cal. 4th 613, 627.) In this Order, those requirements that exceed the requirements of the federal CWA are those that solely apply to the land discharge. Nonetheless, the Regional Water Board has attempted to include permit terms that

allow for compliance with all applicable federal and state requirements in the most cost effective manner possible.

The Regional Water Board considered the factors set forth in section 13263 and 13241 throughout various portions of the permit, including Attachment F, which contains background information and rationale for the requirements set forth in the permit. Section III.D of Attachment F identifies the beneficial uses identified in the Basin Plan. Section IV of Attachment F sets forth the rationale for the effluent limits, particularly the beneficial uses to be protected and water quality objectives required for that purpose. All effluent limitations established for surface water discharges are required by the CWA, Basin Plan or CTR-SIP.

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

**F. Land Discharge Specifications**

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

**G. Reclamation Specifications**

This section is not applicable to the Permittee as treated wastewater is not reclaimed.

**V. OTHER REQUIREMENTS**

This section is not applicable to the Permittee.

**VI. RATIONALE FOR RECEIVING WATER LIMITATIONS**

**A. Surface Water**

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

Receiving Surface Water Limitations 4 and 5 for conductivity and hardness have been newly added to this permit to implement water quality objectives for these parameters contained in the Basin Plan.

## **B. Groundwater**

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters.
2. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.
3. Discharges from the Facility shall not cause exceedance of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.
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 California Code of Regulations, 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.

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

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP.

### **A. Influent Monitoring**

Influent monitoring requirements for flow, BOD<sub>5</sub>, and TSS are retained from the previous permit, Order No. R1-2004-0075 and are necessary to determine compliance with the Order's 65 percent removal requirement for these parameters.

### **B. Effluent Monitoring**

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 technology-based effluent limitations, demonstrate compliance with WQBELs, and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives.

Most effluent monitoring requirements for discharges from the Facility at Discharge Point 001 are retained from the previous permit. Changes in effluent monitoring requirements include:

1. Routine (monthly) effluent monitoring for arsenic and copper has been established at EFF-001 for determination of compliance with the newly established limitations for these parameters at Discharge Point 001. Routine monitoring has been increased from quarterly to monthly for cyanide, dichlorobromomethane and bis(2-ethylhexyl)phthalate at EFF-001 for Discharge Point 001 to determine compliance with the modified effluent limitations for these parameters.
2. Routine (monthly) effluent monitoring is required for dissolved inorganic nitrogen and carbonaceous biochemical oxygen demand to determine compliance with the newly established effluent limitations for these parameters.
3. Routine (monthly) effluent monitoring is required for dissolved oxygen, specific conductivity, turbidity and hardness to determine compliance with receiving water limitations.
4. Effluent monitoring for settleable solids has been decreased from daily to weekly. Existing monitoring data for this parameter indicates that the treatment plant is consistently effective in removal of settleable solids and daily monitoring is no longer necessary.

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

Whole effluent toxicity (WET) limitations and monitoring requirements are retained from the previous Order and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. This Order includes effluent limitations and monitoring requirements for acute toxicity; as well as monitoring requirements for chronic toxicity to assess compliance with the Basin Plan's narrative water quality objective for toxicity.

#### **D. Land Discharge Monitoring Requirements**

This section is not applicable to the Permittee as treated wastewater is not discharged to or applied to land for the purpose of disposal.

#### **E. Reclamation Monitoring Requirements**

This section is not applicable to the Permittee as the Permittee does not reclaim its wastewater.

## **F. Receiving Water Monitoring**

### **1. Surface Water**

Receiving water monitoring requirements are retained from Order No. R1-2004-0075 with the following exceptions:

Routine (monthly) receiving water monitoring for specific conductivity, hardness and turbidity has been added to determine compliance with receiving water limitations for these parameters. Routine (monthly) receiving water monitoring for biochemical oxygen demand has been eliminated because is not directly associated with a receiving water limitation.

### **2. Groundwater**

Order No. R1-2004-0075 did not require groundwater monitoring. Consistent with the previous permit, this Order does not require groundwater monitoring. Groundwater monitoring may be established in the future, if necessary.

### **3. Other Monitoring Requirements**

Not applicable.

## **VIII. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

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

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

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

## 2. Regional Water Board Standard Provisions

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

- a. Order Provision VI.A.2.a identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations [e.g., sections 122.41(j)(5) and (k)(2)].
- b. Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

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

See section VI of this Fact Sheet.

## C. Special Provisions

### 1. Reopener Provisions

- a. **Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in section 122.62, which include the following:
  - i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.
  - ii. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

**Reasonable Potential (Special Provision VI.C.1.b).** This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the Permittee governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

**Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

**303(d)-Listed Pollutants (Special Provision VI.C.1.d).** This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any future TMDL action.

**Water Effects Ratios (WERs) and Metal Translators (Special Provision VI.C.1.e).** This provision allows the Regional Water Board to reopen this Order if future studies undertaken by the Permittee provide new information and justification for applying a water effects ratio or metal translator to a water quality objective for one or more priority pollutants.

**Salt and Nutrient Management Plans (Special Provision VI.C.1.f).** This provision allows the Regional Water Board to reopen this Order if it adopts a regional or subregional salt and nutrient management plan that is applicable to the Permittee.

## 2. Special Studies and Additional Monitoring Requirements

- a. **Toxicity Reduction Evaluations (Special Provision VI.C.2.a).** The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. Attachment E of this Order requires chronic toxicity monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Permittee to maintain an up-to-date TRE Work Plan for approval by the Executive Officer, to ensure the Permittee has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring obtained as a result of an accelerated monitoring program.

## 3. Best Management Practices and Pollution Prevention

- a. **Pollutant Minimization Plan.** Provision VI.C.3.a is included in this Order as required by section 2.4.5 of the SIP. The Regional Water Board includes standard provisions in all NPDES permits requiring development of a Pollutant

Minimization Program when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

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

- a. Section 122.41(e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b of the Order, is an integral part of a well-operated and maintained facility.

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

##### **a. Wastewater Collection Systems (Special Provision VI.C.6.a)**

- i. **Statewide General WDRs for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 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.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. Inasmuch that the Permittee's collection system is part of the system that is subject to this Order, certain standard provisions are applicable as specified in Provisions VI.A.2.b and VI.C.5 of the Order. The Permittee must comply with both the General Order and this Order. The Permittee and public agencies that are discharging wastewater into the Facility were required to obtain enrollment for regulation under the General Order by December 1, 2006. The Permittee has enrolled under the General Order as required.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (40 CFR 122.41(d)), to report non-compliance (40 CFR 122.41(1)(6) and (7)), and to properly operate and maintain facilities (40 CFR 122.41(e)). This provision is consistent with these federal requirements.

- ii. **Sanitary Sewer Overflows.** This Order includes provisions (Provision VI.C.6.(a)(2), and Attachment D subsection I.C., I.D, V.E, and V.H.) 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. In addition, as an Enrollee under General Order No. 2006-0003-DWQ, the

Permittee is required to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and via telefax when the online SSO database is not available. Detailed notification and reporting requirements for SSOs and sewage spills are specified in Attachment E subsection E (Monitoring and Reporting Program). The goal of these provisions is to ensure appropriate and timely response by the Permittee to SSOs to protect public health and water quality.

- b. Source Control Program (Special Provision VI.C.6.b).** Because the design flow of the facility is less than 5.0 mgd, the Order does not require the Permittee to develop a pretreatment program that conforms to federal regulations. However, the proposed Order includes requirements for the Permittee to implement a source identification and reduction program. The Permittee's source identification and reduction program will need to address only those pollutants that continue to be detected at levels that trigger reasonable potential.

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.

- c. Sludge Disposal and Handling Requirements (Special Provision VI.C.6.c).** The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. The Permittee has indicated that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of off-site at a municipal solid waste landfill in accordance with all applicable regulations.
- d. Statewide General WDRs for Discharge of Biosolids to Land (Special Provision VI.C.6.d).** This provision requires the Permittee to comply with the State's regulations relating to the discharge of biosolids to the land. The discharge of biosolids through land application is not regulated under this Order. Instead, the Permittee is required to obtain coverage under the State Water Board Order No. 2004-0012-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities (General Order). Coverage under the General Order, as opposed to coverage under this NPDES permit or individual WDRs, implements a consistent statewide approach to regulating this waste discharge.
- e. Operator Certification (Special Provision VI.C.6.e).** This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, California Code of Regulations, section 3680.

- f. **Adequate Capacity (Special Provision VI.C.6.f).** The goal of this provision is to ensure appropriate and timely planning by the Permittee to ensure adequate capacity for the protection of public health and water quality.

## 6. Other Special Provisions

- a. **Storm Water Best Management Practices (BMPs)(Special Provision VI.C.6.a).** The Permittee has determined that the Facility does not have industrial storm water discharges to surface waters and storm water BMPs are in place to divert storm water run-on from the treatment facility grounds. The Statewide General Storm Water Permit (State Water Board Order No. 97-03-DWQ) does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of with the Facility's NPDES permitted process wastewater or if storm water is disposed of to evaporation ponds, percolation ponds, or combined sewer systems. Therefore, coverage under the General Storm Water Permit is not required. The Permittee shall annually inspect and maintain storm water BMPs, and report these activities to the Regional Water Board.

## IX. PUBLIC PARTICIPATION

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

### A. Notification of Interested Parties

The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the following posting on the Regional Water Board's Internet site at:

[http://www.waterboards.ca.gov/northcoast/public\\_notices/public\\_hearings/npdes\\_permits\\_and\\_wdrs.shtml](http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml) and through publication in the **Siskiyou Daily News** on **April 10, 2013**.

### B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **May 10, 2013**.

**C. Public Hearing**

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

Date: **June 13, 2013**  
Time: **8:30 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 are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

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

**D. Waste Discharge Requirements Petitions**

Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and title 23, section 2050 of the CCR. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Water Board, any person affected by this Order may request the Regional Water Board to reconsider the Order. To be timely, such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional water Board is sought, filing a petition with the State Water Board within the 30-day period is necessary to preserve the petitioner's legal rights. If the Permittee chooses to request reconsideration of this Order or file a petition with the State Water Board, the Permittee must comply with the Order while the request for reconsideration and/or petition is being considered. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

**E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information 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.

**F. Register of Interested Persons**

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

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Kason Grady at [Kason.Grady@waterboards.ca.gov](mailto:Kason.Grady@waterboards.ca.gov) or (707) 576-2682.

DRAFT

**Table F-13. Summary of RPA for Discharge Point 001**

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant effluent detected maximum concentration (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant B detected maximum concentration (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
Antimony	6.0	Y	N		0.17	0.17	Y	N		0.1		No	MEC<C & B<C
Arsenic	10	Y	N		9	9	Y	N		15.4		Yes	B>C
Beryllium	4.0	Y	Y	0.1		0.1	Y	Y	0.1		N	No	Ud;MEC<C & B is ND
Cadmium	2.2	Y	N		0.74	0.74	Y	Y	0.06		N	No	Ud;MEC<C & B is ND
Chromium (III)	183	Y	Y	5		5	Y	Y	5		N	No	Ud;MEC<C & B is ND
Chromium (VI) or Total Chromium	11	Y	N		2	2	Y	N		2.8		No	MEC<C & B<C
Copper	8.2	Y	N		13	13	Y	N		5.1		Yes	MEC>C
Lead	2.6	Y	N		0.8	0.8	Y	N		1		No	MEC<C & B<C
Mercury	0.050	Y	N		0.00856	0.00856	Y	N		0.0197		No	MEC<C & B<C
Nickel	46	Y	N		10	10	Y	N		6.2		No	MEC<C & B<C
Selenium	5.0	Y	N		1	1	Y	Y	0.26		N	No	Ud;MEC<C & B is ND
Silver	3.1	Y	N		0.58	0.58	Y	Y	0.1		N	No	Ud;MEC<C & B is ND
Thallium	1.7	Y	Y	0.2		0.2	Y	Y	0.1		N	No	Ud;MEC<C & B is ND
Zinc	105	Y	N		22.4	22.4	Y	N		13.1		No	MEC<C & B<C
Cyanide	5.2	Y	N		7	7	Y	Y	2.4		N	Yes	MEC>C
Asbestos	7.0	Y	Y	9.9			Y	Y	9.9		Y	No	UD; effluent data and B are ND
2,3,7,8 TCDD	1.3E-08	Y	Y	9.5E-07			Y	Y	0.000001		Y	No	UD; effluent data and B are ND
Acrolein	320	Y	Y	7.9		7.9	Y	Y	7.9		N	No	Ud;MEC<C & B is ND
Acrylonitrile	0.06	Y	Y	1.2			Y	Y	1.2		Y	No	UD; effluent data and B are ND
Benzene	1.0	Y	Y	0.083		0.083	Y	Y	0.083		N	No	Ud;MEC<C & B is ND
Bromoform	4.3	Y	Y	0.27		0.27	Y	Y	0.27		N	No	Ud;MEC<C & B is ND
Carbon Tetrachloride	0.25	Y	Y	0.18		0.18	Y	Y	0.18		N	No	Ud;MEC<C & B is ND
Chlorobenzene	70	Y	Y	0.093		0.093	Y	Y	0.093		N	No	Ud;MEC<C & B is ND
Chlorodibromomethane	0.40	Y	Y	0.13		0.13	Y	Y	0.13		N	No	Ud;MEC<C & B is ND

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L)  Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detected (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detected (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
Chloroethane	No Criteria	Y	Y	0.14		No Criteria	Y	Y	0.14		N	Uo	No Criteria
2-Chloroethylvinyl ether	No Criteria	Y	Y	2.4		No Criteria	Y	Y	2.4		N	Uo	No Criteria
Chloroform	No Criteria	Y	N		16.3	No Criteria	Y	Y	0.12		N	Uo	No Criteria
Dichlorobromomethane	0.56	Y	N		3.4	3.4	Y	N		0.2		Yes	MEC>C
1,1-Dichloroethane	5.0	Y	Y	0.11		0.11	Y	Y	0.11		N	No	Ud;MEC<C & B is ND
1,2-Dichloroethane	0.38	Y	Y	0.17		0.17	Y	Y	0.17		N	No	Ud;MEC<C & B is ND
1,1-Dichloroethylene	0.057	Y	Y	0.18			Y	Y	0.17		Y	No	UD; effluent data and B are ND
1,2-Dichloropropane	0.52	Y	Y	0.13		0.13	Y	Y	0.13		N	No	Ud;MEC<C & B is ND
1,3-Dichloropropylene	0.50	Y	Y	0.21		0.21	Y	Y	0.21		N	No	Ud;MEC<C & B is ND
Ethylbenzene	300	Y	Y	0.098		0.098	Y	Y	0.098		N	No	Ud;MEC<C & B is ND
Methyl Bromide	48	Y	Y	0		0	N					No	Ud;MEC<C & B is ND
Methyl Chloride	No Criteria	Y	Y	0		No Criteria	N					Uo	No Criteria
Methylene Chloride	4.7	Y	Y	0.48		0.48	Y	Y	0.48		N	No	Ud;MEC<C & B is ND
1,1,2,2-Tetrachloroethane	0.17	Y	Y	0.17			Y	Y	0.17		N	No	UD; effluent data and B are ND
Tetrachloroethylene	0.80	Y	Y	0.13		0.13	Y	Y	0.13		N	No	Ud;MEC<C & B is ND
Toluene	150	Y	N		27.1	27.1	Y	N		28		No	MEC<C & B<C
1,2-Trans-Dichloroethylene	10	Y	Y	0.15		0.15	Y	Y	0.15		N	No	Ud;MEC<C & B is ND
1,1,1-Trichloroethane	200	Y	Y	0.11		0.11	Y	Y	0.11		N	No	Ud;MEC<C & B is ND
1,1,2-Trichloroethane	0.60	Y	Y	0.16		0.16	Y	Y	0.16		N	No	Ud;MEC<C & B is ND
Trichloroethylene	2.7	Y	Y	0.085		0.085	Y	Y	0.085		N	No	Ud;MEC<C & B is ND
Vinyl Chloride	0.50	Y	Y	0.12		0.12	Y	Y	0.12		N	No	Ud;MEC<C & B is ND
2-Chlorophenol	120	Y	Y	0		0	Y	Y	3.7		N	No	Ud;MEC<C & B is ND
2,4-Dichlorophenol	93	Y	Y	0.43		0.43	Y	Y	4.3		N	No	Ud;MEC<C & B is ND
2,4-Dimethylphenol	540	Y	Y	0.2		0.2	Y	Y	2		N	No	Ud;MEC<C & B is ND
2-Methyl- 4,6-Dinitrophenol	13	Y	Y	0.34		0.34	Y	Y	3.4		N	No	Ud;MEC<C & B is ND
2,4-Dinitrophenol	70	Y	Y	0.2		0.2	Y	Y	2		N	No	Ud;MEC<C & B is ND
2-Nitrophenol	No Criteria	Y	Y	0.28		No Criteria	Y	Y	2.8		N	Uo	No Criteria
4-Nitrophenol	No Criteria	Y	Y	0.73		No Criteria	Y	Y	7.3		N	Uo	No Criteria
3-Methyl 4-Chlorophenol	No Criteria	Y	Y	0.4		No Criteria	Y	Y	4		N	Uo	No Criteria

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L)  Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
Pentachlorophenol	0.28	Y	Y	0		0	Y	Y	0.12		N	No	Ud;MEC<C & B is ND
Phenol	21,000	Y	N		0.4	0.4	Y	Y	2		N	No	Ud;MEC<C & B is ND
2,4,6-Trichlorophenol	2.1	Y	Y	0.6		0.6	Y	Y	6		Y	No	Ud;MEC<C & B is ND
Acenaphthene	1,200	Y	Y	0.03		0.03	Y	Y	0.03		N	No	Ud;MEC<C & B is ND
Acenaphthylene	No Criteria	Y	Y	0.03		No Criteria	Y	Y	0.03		N	Uo	No Criteria
Anthracene	9,600	Y	Y	0.03		0.03	Y	Y	0.03		N	No	Ud;MEC<C & B is ND
Benzdine	0.00012	Y	Y	7.1			Y	Y	71		Y	No	UD; effluent data and B are ND
Benzo(a)Anthracene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Benzo(a)Pyrene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Benzo(b)Fluoranthene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Benzo(ghi)Perylene	No Criteria	Y	Y	0.03		No Criteria	Y	Y	0.03		N	Uo	No Criteria
Benzo(k)Fluoranthene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Bis(2-Chloroethoxy)Methane	No Criteria	Y	Y	0.27		No Criteria	Y	Y	2.7		N	Uo	No Criteria
Bis(2-Chloroethyl)Ether	0.031	Y	Y	0.68			Y	Y	6.8		Y	No	UD; effluent data and B are ND
Bis(2-Chloroisopropyl)Ether	1,400	Y	Y	0.3		0.3	Y	Y	3		N	No	Ud;MEC<C & B is ND
Bis(2-Ethylhexyl)Phthalate	1.8	Y	N		18	18	Y	Y	30		Y	Yes	MEC>C
4-Bromophenyl Phenyl Ether	No Criteria	Y	Y	0.23		No Criteria	Y	Y	2.3		N	Uo	No Criteria
Butylbenzyl Phthalate	3,000	Y	N		0.1	0.1	Y	N		0.1		No	MEC<C & B<C
2-Chloronaphthalene	1,700	Y	Y	0.34		0.34	Y	Y	3.4		N	No	Ud;MEC<C & B is ND
4-Chlorophenyl Phenyl Ether	No Criteria	Y	Y	0.23		No Criteria	Y	Y	2.3		N	Uo	No Criteria
Chrysene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Dibenzo(a,h)Anthracene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
1,2-Dichlorobenzene	600	Y	Y	0.15		0.15	Y	Y	3.7		N	No	Ud;MEC<C & B is ND

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L)  Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
1,3-Dichlorobenzene	400	Y	Y	0.35		0.35	Y	Y	0.15		N	No	Ud;MEC<C & B is ND
1,4-Dichlorobenzene	5.0	Y	Y	0.062		0.062	Y	Y	0.062		N	No	Ud;MEC<C & B is ND
3,3 Dichlorobenzidine	0.040	Y	Y	8.2			Y	Y	82		Y	No	UD; effluent data and B are ND
Diethyl Phthalate	23,000	Y	Y	0.33		0.33	Y	Y	3.3		N	No	Ud;MEC<C & B is ND
Dimethyl Phthalate	313,000	Y	Y	0.39		0.39	Y	Y	3.9		N	No	Ud;MEC<C & B is ND
Di-n-Butyl Phthalate	2,700	Y	N		0.1	0.1	Y	N		0.1		No	MEC<C & B<C
2,4-Dinitrotoluene	0.110	Y	Y	0.26			Y	Y	2.6		Y	No	UD; effluent data and B are ND
2,6-Dinitrotoluene	No Criteria	Y	Y	0.41		No Criteria	Y	Y	4.1		N	Uo	No Criteria
Di-n-Octyl Phthalate	No Criteria	Y	Y	0.46		No Criteria	Y	N		0.3		Uo	No Criteria
1,2-Diphenylhydrazine	0.040	Y	Y	0.34			Y	Y	3.4		Y	No	UD; effluent data and B are ND
Fluoranthene	300	Y	Y	0.03		0.03	Y	Y	0.03		N	No	Ud;MEC<C & B is ND
Fluorene	1,300	Y	Y	0.03		0.03	Y	Y	0.03		N	No	Ud;MEC<C & B is ND
Hexachlorobenzene	0.00075	Y	Y	0.0093			Y	Y	0.0093		Y	No	UD; effluent data and B are ND
Hexachlorobutadiene	0.44	Y	Y	0.24		0.24	Y	Y	2.4		Y	No	Ud;MEC<C & B is ND
Hexachlorocyclopentadiene	50	Y	Y	0.3		0.3	Y	Y	3		N	No	Ud;MEC<C & B is ND
Hexachloroethane	1.9	Y	Y	0.32		0.32	Y	Y	3.2		Y	No	Ud;MEC<C & B is ND
Indeno(1,2,3-cd)Pyrene	0.0044	Y	Y	0.03			Y	Y	0.03		Y	No	UD; effluent data and B are ND
Isophorone	8.4	Y	Y	0.31		0.31	Y	Y	3.1		N	No	Ud;MEC<C & B is ND
Naphthalene	No Criteria	Y	Y	0.03		No Criteria	Y	N		0.06		Uo	No Criteria
Nitrobenzene	17	Y	Y	0.26		0.26	Y	Y	2.6		N	No	Ud;MEC<C & B is ND
N-Nitrosodimethylamine	0.00069	Y	Y	0.61			Y	Y	6.1		Y	No	UD; effluent data and B are ND
N-Nitrosodi-n-Propylamine	0.0050	Y	Y	1.3			Y	Y	13		Y	No	UD; effluent data and B are ND
N-Nitrosodiphenylamine	5.0	Y	Y	0.44		0.44	Y	Y	4.4		N	No	Ud;MEC<C & B is ND
Phenanthrene	No Criteria	Y	Y	0.03		No Criteria	Y	Y	0.03		N	Uo	No Criteria

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L)  Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detected (Y/N)?	If all data points ND Enter the minimum limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detected (Y/N)?	If all data points ND Enter the minimum limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
Pyrene	960	Y	Y	0.03		0.03	Y	Y	0.03		N	No	Ud;MEC<C & B is ND
1,2,4-Trichlorobenzene	5.0	Y	Y	0.19		0.19	Y	Y	0.19		N	No	Ud;MEC<C & B is ND
Aldrin	0.00013	Y	Y	0.0013			Y	Y	0.0013		Y	No	UD; effluent data and B are ND
alpha-BHC	0.0039	Y	Y	0.0011		0.0011	Y	Y	0.0011		N	No	Ud;MEC<C & B is ND
beta-BHC	0.014	Y	Y	0.0021		0.0021	Y	Y	0.0021		N	No	Ud;MEC<C & B is ND
gamma-BHC	0.019	Y	Y	0.00094		0.00094	Y	Y	0.00094		N	No	Ud;MEC<C & B is ND
delta-BHC	No Criteria	Y	Y	0.0014		No Criteria	Y	Y	0.0014		N	Uo	No Criteria
Chlordane	0.00057	Y	Y	0.38			Y	Y	0.38		Y	No	UD; effluent data and B are ND
4,4'-DDT	0.00059	Y	Y	0.00076			Y	Y	0.00076		Y	No	UD; effluent data and B are ND
4,4'-DDE	0.00059	Y	Y	0.0019			Y	Y	0.0019		Y	No	UD; effluent data and B are ND
4,4'-DDD	0.00083	Y	Y	0.0017			Y	Y	0.0017		Y	No	UD; effluent data and B are ND
Dieldrin	0.00014	Y	Y	0.0012			Y	Y	0.0012		Y	No	UD; effluent data and B are ND
alpha-Endosulfan	0.056	Y	Y	0.0016		0.0016	Y	Y	0.0016		N	No	Ud;MEC<C & B is ND
beta-Endosulfan	0.056	Y	Y	0.0014		0.0014	Y	Y	0.0014		N	No	Ud;MEC<C & B is ND
Endosulfan Sulfate	110	Y	Y	0.0026		0.0026	Y	Y	0.0026		N	No	Ud;MEC<C & B is ND
Endrin	0.036	Y	Y	0.00082		0.00082	Y	Y	0.00082		N	No	Ud;MEC<C & B is ND
Endrin Aldehyde	0.76	Y	Y	0.0032		0.0032	Y	Y	0.0032		N	No	Ud;MEC<C & B is ND
Heptachlor	0.00021	Y	Y	0.0012			Y	Y	0.0012		Y	No	UD; effluent data and B are ND
Heptachlor Epoxide	0.00010	Y	Y	0.00099			Y	Y	0.00099		Y	No	UD; effluent data and B are ND
PCBs sum	0.00017	Y	Y	0.1			Y	Y	0.1		Y	No	UD; effluent data and B are ND
Toxaphene	0.00020	Y	Y	0.42			Y	Y	0.42		Y	No	UD; effluent data and B are ND

		Step 2	Step 3				Step 5					Final Result	
Constituent name	C (mg/L)  Lowest (most stringe nt) Criteria (Enter "No Criteria " for no criteria )	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L)  (MEC= detected max value; if all ND & MDL<C then MEC = MDL)	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the minimum detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL> C?	RP A Result	Reason
Total Ammonia	4	Y	N		34.9	34.9	Y	N		14		Yes	MEC>C

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