**ORDER NO. R1-2015-XXXX**
**NPDES NO. CA0024449**
**WDID NO. 1B82151OHUM**

**WASTE DISCHARGE REQUIREMENTS**

**FOR THE**

**CITY OF EUREKA**
**ELK RIVER WASTEWATER TREATMENT PLANT**
**HUMBOLDT COUNTY**

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

**Table [ LISTNUM OutlineDefault \l 3 \s 1 ] Permittee Information**

| | |
|---|---|
| **Permittee** | City of Eureka |
| **Name of Facility** | Elk River Wastewater Treatment Plant |
| **Facility Address** | 4301 Hilfiker Lane |
| | Eureka, CA 95503 |
| | Humboldt County |
| **Type of Facility** | Publicly Owned Treatment Works (POTW) |
| **Facility Design Flow** | 5.24 million gallons per day (mgd) (average dry weather flow capacity)<br>8.6 mgd (peak dry weather treatment capacity)<br>12 mgd (peak wet weather treatment capacity) |

**Table [ LISTNUM OutlineDefault \l 3 ] Discharge Location**

| Discharge Point | Effluent Description | Discharge Point Latitude (North) | Discharge Point Longitude (West) | Receiving Water |
|---|---|---|---|---|
| 001 | Secondary treated municipal wastewater | 40° 46' 24" | 124° 12' 45" | Humboldt Bay |

**Table [ LISTNUM OutlineDefault \l 3 ] Administrative Information**

| | |
|---|---|
| This Order was adopted on: | **DATE** |
| This Order shall become effective on: | **DATE** |
| This Order shall expire on: | **DATE** |
| The Permittee shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than: | **DATE** |
| The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows: | Major |

IT IS HEREBY ORDERED, that Waste Discharge Requirements (WDR) Order No. R1-2009-0033 and Monitoring and Reporting Program (MRP) No. R1-2009-0033, are rescinded upon the effective date of this Order except for enforcement purposes, and in order to meet the provisions contained in division 7 of the California Water Code (Water Code) (commencing with section 13000) and regulations and guidelines adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Permittee shall comply with the requirements of this Order. This action in no way prevents the North Coast Regional Water Quality Control Board (Regional Water Board) from taking enforcement action for past violations of the previous permit.

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

_____
Matthias St. John, Executive Officer



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**CONTENTS**

**[ TOC \h \z \t "Headings 1,1,Headings 2,2,Headings 3,3" ]**

**TABLES**

[ TOC \h \z \t "Table Head,1" ]

**ATTACHMENTS**

[ TOC \h \z \t "Normal Attachments,1" ]



ED_006495_00001633-00003

## I. FACILITY INFORMATION

Information describing the City of Eureka (Permittee) Elk River Wastewater Treatment Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

## II. FINDINGS

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

**A. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this 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).

**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, monitoring and reporting programs, 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 and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.

**C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections III.F, III.G, IV.B, IV.C, V.B, and VI.C.5 of this Order and sections VI, VII, IX.A, and X.E of the Monitoring and Reporting Program are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

**D. Notification of Interested Parties.** The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

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



ED_006495_00001633-00004

## III. DISCHARGE PROHIBITIONS

**A.** The discharge of waste to Humboldt Bay is prohibited unless it is done in such a manner to assure that all wastewater is conveyed to the mouth of the Bay and dispersed in the Pacific Ocean during periods of ebb tide. The Permittee shall begin discharge 45 minutes before slack tide and, when discharge volumes require use of the effluent pumps, the pumping rate should be set to convey the stored volume within the limits of the discharge window.

**Commented [AS1]:** Lisa, per our call on 4/14/15, the prohibition was revised to include the recommendations from section 2.5 of the Effluent Discharge Study.

**B.** The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

**C.** Creation of pollution, contamination, or nuisance, as defined by section 13050 of the Water Code is prohibited.

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

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

**F.** Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the state or (b) land that creates pollution, contamination, or nuisance, as defined in Water Code section 13050 is prohibited.

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

**H.** 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 Board or another Regional Water Board is prohibited.

**I.** The discharge of waste to the Elk River and its tributaries, and to seasonal and tidal marshes, including discharges from the Overflow Marsh that has received wastewater, is prohibited.

**J.** The discharge of more than 8.6 mgd as a peak dry weather flow, or 12.0 mgd as a peak wet weather flow, is prohibited.

**K.** The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the state is prohibited.

**L.** The discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

**M.** The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Ocean Plan Tables 1 or 2 (2012) is prohibited.

**N.** The discharge of septage to a location other than an approved septage receiving station is prohibited.



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## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations – Discharge Point 001

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

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

**Table [ LISTNUM OutlineDefault \l 3 ] Effluent Limitations**

| Parameter | Units | Effluent Limitations[1] | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 30 | 45 | 60 | -- | -- |
| | lbs/day[2] | 2,151 | 3,227 | 4,303 | -- | -- |
| | lbs/day[3] | 3,002 | 4,503 | 6,005 | -- | -- |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | 75 |
| Total Suspended Solids (TSS) | mg/L | 30 | 45 | 60 | -- | -- |
| | lbs/day[2] | 2,151 | 3,227 | 4,303 | -- | -- |
| | lbs/day[3] | 3,002 | 4,503 | 6,005 | -- | -- |
| Settleable Solids | mg/L | 0.1 | -- | 0.2 | -- | -- |
| Turbidity | NTU | 75 | 100 | -- | -- | 225 |
| pH | standard units | -- | -- | -- | 6.0 | 8.5 |
| Total Residual Chlorine | mg/L | 0.0061 | -- | 0.012 | -- | -- |
| Ammonia Nitrogen, Total (as N) | mg/L | 4.1 | -- | 10 | -- | -- |
| Copper, Total Recoverable | µg/L | 3.4 | -- | 4.8 | -- | -- |
| Cyanide, Total (as CN) | µg/L | 0.50 | -- | 1.0 | -- | -- |
| 2,3,7,8 - TCDD Equivalents[4] | µg/L | $1.4 \times 10^{-8}$ | -- | $2.8 \times 10^{-8}$ | -- | -- |

Table Notes:
1. See Definitions in Attachment A and Compliance Determination discussions in section VII of this Order.
2. Mass-based effluent limitations are based on the peak dry weather design flow of 8.6 mgd.
3. These alternate mass-based limitations apply during periods of high infiltration/inflow when influent flow to the Facility exceed 8.6 mgd for the limitation period (daily, weekly, or monthly), and are based on the secondary treatment capacity of the Facility (12.0 mgd).
4. Equivalents, also known as the TEQ, is a calculated value which reflects the combined effect of dioxin and furan compounds (congeners).

**b.** **Percent Removal:** The average monthly percent removal of $BOD_5$ and TSS shall not be less than 85 percent. Percent removal shall be determined from the monthly average value of influent wastewater concentration in comparison to the monthly average value of effluent concentration for the same constituent over the same time period as measured at Monitoring Locations INF-001 and EFF-001, respectively.



ED_006495_00001633-00006

c. **Disinfection**. Disinfected effluent discharged from the wastewater treatment plant through Discharge Point 001 to Humboldt Bay shall not contain fecal coliform bacteria in excess of the following concentrations, as measured at Monitoring Location EFF-001:

i. The median value of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 14 per 100 milliliters (mL) in a calendar month, and

ii. No samples shall exceed an MPN of 43 per 100 mL.

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

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

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

This Order does not authorize discharges to land.

**C. Recycling Specifications – Not Applicable**

This Order does not authorize discharges of recycled water.

**D. Overflow Marsh Process Requirements**

1. There shall be no detectable levels of chlorine discharged to the Overflow Marsh, as measured at Monitoring Location INT-001, (and as described in the Monitoring and Reporting Program, Attachment E), using an analytical method with a minimum detection limit of 0.1 mg/L.

## V. RECEIVING WATER LIMITATIONS

**A. Surface Water Limitations**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and the Ocean Plan, and are a required part of this Order. In situations where water quality objectives from the Basin Plan and Ocean Plan may both be applicable, the more stringent water quality objective shall apply. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

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

1. **Basin Plan**

a. The discharge shall not cause the dissolved oxygen concentration of Humboldt Bay to violate the following objectives established by Table 3-1 of the Basin Plan:

i. 6.0 mg/L, minimum in any sample;

ii. 6.2 mg/L, 90 percent lower limit (90 percent or more of the monthly mean dissolved oxygen concentrations in a calendar year shall be greater than or equal to 6.2 mg/L); and

iii. 7.0 mg/L, 50 percent lower limit (50 percent or more of the monthly mean dissolved oxygen concentrations in a calendar year shall be greater than or equal to 7.0 mg/L).



ED_006495_00001633-00007

**b.** The discharge shall not cause the pH of receiving waters to be depressed below natural background levels nor raised above 8.5. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.2 units from that which occurs naturally.

**c.** The discharge shall not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

**d.** The discharge shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

**e.** 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.

**f.** 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.

**g.** The discharge shall not cause coloration or receiving waters that causes nuisance or adversely affects beneficial uses.

**h.** The discharge shall not contain substances in concentrations that result in deposition of material in receiving waters that causes nuisance or adversely affect beneficial uses.

**i.** The discharge shall not cause receiving waters to contain biostimulatory substances in concentrations that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

**j.** 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.

**k.** The natural receiving water temperature shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The discharge shall not cause an increase of the receiving water by more than 5° F above natural receiving water temperature.

**l.** The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. The discharge shall not cause bioaccumulation of pesticide concentrations in bottom sediments or aquatic life.

**m.** The discharge shall not cause the 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.



ED_006495_00001633-00008

n. 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.

o. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

p. 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 or in concentrations that adversely affect the agricultural supply beneficial use.

q. The discharge shall not cause receiving waters to contain radionuclides in concentrations which are deleterious to human, plant, animal or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or indigenous aquatic life.

2. **Ocean Plan**

a. **Bacterial Characteristics**

i. **Water-Contact Standards.** Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone designated for water contact recreation use by the Regional Water Board, but including all kelp beds, the following bacteriological objectives shall be maintained throughout the water column:

(a) 30-Day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each receiving water monitoring location.

(1) Total coliform density shall not exceed 1,000 per 100 mL;

(2) Fecal coliform density shall not exceed 200 per 100 mL; and

(3) Enterococcus density shall not exceed 35 per 100 mL.

(b) Single Sample Maximum:

(1) Total coliform density shall not exceed 10,000 per 100 mL;

(2) Fecal coliform density shall not exceed 400 per 100 mL;

(3) Enterococcus density shall not exceed 104 per 100 mL; and

(4) Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform to total coliform ratio exceeds 0.1.



ED_006495_00001633-00009

ii. **Shellfish Harvesting Standards.** At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the following bacterial objectives shall be maintained throughout the water column:

**(a)** The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

iii. **Physical Characteristics**

**(a)** Floating particulates and oil and grease shall not be visible.

**(b)** The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

**(c)** Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

**(d)** The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

iv. **Chemical Characteristics**

**(a)** The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

**(b)** The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

**(c)** The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

**(d)** The concentration of substances set forth in Chapter II, Table 1 of the Ocean Plan shall not be increased in marine sediments to levels which would degrade indigenous biota.

**(e)** The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

**(f)** Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

**(g)** Discharges shall not cause exceedances of water quality objectives for ocean waters of the state established in Chapter II, Table 1 of the Ocean Plan.

**(h)** Discharge of radioactive waste shall not degrade marine life.

v. **Biological Characteristics**

**(a)** Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.

**(b)** The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.



ED_006495_00001633-00010

**(c)** The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

**vi. General Standards**

**(a)** The discharge shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder.

**(b)** Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

**(c)** Waste discharged to the ocean must be essentially free of:

**(1)** Material that is floatable or will become floatable upon discharge.

**(2)** Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.

**(3)** Substances which will accumulate to toxic levels in marine waters, sediments or biota.

**(4)** Substances that significantly decrease the natural light to benthic communities and other marine life.

**(5)** Materials that result in aesthetically undesirable discoloration of the ocean surface.

**(d)** Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.

**(e)** Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

**(1)** Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.

**(2)** Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

**(3)** Maximum protection is provided to the marine environment.

**(4)** The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

**B. Groundwater Limitations**

**1.** The collection, treatment, storage, and disposal of wastewater shall not cause a statistically significant degradation of groundwater quality unless a technical evaluation is performed



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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 disposal 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, treatment, storage, and disposal of wastewater shall not cause levels of radionuclides in groundwater in excess of the limits specified in title 22, division 4, chapter 15, article 5, section 64443 of the CCR.

4. The collection, treatment, storage, and disposal of wastewater shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

5. In groundwaters used for domestic or municipal supply (MUN), the collection, treatment, storage, and disposal of treated wastewater shall not cause the median of the most probable number of coliform organisms over any 7-day period to exceed 1.1 MPN/100 mL, 1 colony/100 mL.

## VI. PROVISIONS

### A. Standard Provisions

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

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

   a. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Permittee to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Permittee to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

   b. In the event the Permittee does not comply or will be unable to comply for any reason, with any prohibition, interim or final effluent limitation, land discharge specification, reclamation specification, other specification, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment components, breach of pond containment, recycled water main break or equivalent release, irrigation runoff, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with Section V.E of Attachment D and X.E of the Monitoring and Reporting Program.



ED_006495_00001633-00012

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

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

**C. Special Provisions**

**1. Reopener Provisions**

a. **Standard Revisions**. 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 new chronic toxicity limitation, acute toxicity limitation and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective for enclosed bays is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

d. **303(d)-Listed Pollutants**. If an applicable total maximum daily load (TMDL) (see Fact Sheet, section III.D) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL modified or imposed to conform this Order to the TMDL requirements.

e. **Water Effects Ratios (WERs) and Metal Translators**. A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. 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 what WER or translator studies were performed in accordance with U.S. EPA or other approved guidance, this Order may be reopened to modify the effluent limitations for the applicable constituents.

f. **Mixing Zone Study**. Order No. R1-2009-0033 included a mixing zone for the discharge based on Resolution No. 80-10 which was based on a modeling study performed in 1979. This 1979 study demonstrated that discharge at ebb tide conveys all effluent out of the receiving water and into the Pacific Ocean. Order No. R1-2009-0033 included a requirement for the Permittee to perform a new effluent discharge study (*Effluent Discharge Study for the Elk River Wastewater Treatment Plant*, January 7, 2014), which demonstrated that not all of the effluent is conveyed to the Pacific Ocean upon discharge, as previously thought. Thus the area is shown to be hydrologically different than it was when the original study was performed, and a mixing zone is not retained in this Order. Should the Permittee wish to obtain a mixing zone for their discharge, they shall perform a mixing zone study as specified in Section 1.4.2 of the SIP and submit it to the Regional Water Board for Executive Officer approval.



ED_006495_00001633-00013

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

   a. **Toxicity Reduction Requirements (TRE)**

      i. **Whole Effluent Toxicity**. The MRP of this Order requires routine monitoring for whole effluent toxicity of Discharge Point 001 at Monitoring Location EFF-001 as described in section V of the MRP. As established by the MRP, if a reported median monthly summary result for chronic toxicity is reported as "Fail," the Permittee shall conduct accelerated monitoring as specified in section V of the MRP.

      Chronic toxicity is expressed as a null hypothesis ($H_0$) and regulatory management decision (*b* value) of 0.75 for the chronic toxicity methods in the MRP. The null hypothesis for this discharge is:

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

      Results shall be analyzed and reported using the Test of Significant Toxicity hypothesis testing approach (EPA 833-R-10-003, 2010) in 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 toxicity has not been identified by accelerated monitoring. TREs shall be conducted in accordance with the TRE Work Plan prepared by the Permittee pursuant to section VI.C.2.a.ii. of this Order and section V.A.9 of the MRP.

      ii. **TRE Work Plan.** An updated TRE workplan shall be submitted by **<DATE>**. The Permittee's TRE Work Plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

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

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

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

      **(c)** If a 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).

   b. **Outfall Inspection**. Divers shall visually inspect the outfall structure, including the diffuser ports, at least once during the life of this permit to verify operational status of the outfall. A report documenting outfall condition and maintenance, including any observed cracks, breaks, malfunctions, and appropriate repairs, shall be submitted within 90 days of completing the inspection and no later than **<DATE>**. The Permittee

**Commented [BH2]:** I added this based on other Ocean discharger's permits.



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shall submit to the Regional Water Board Executive Officer for approval an Outfall Inspection Work Plan no later than **<DATE>**.

**c. Biosolids Use or Disposal Plan. Within 180 days of the permit effective date,** the Permittee shall submit a Biosolids Use or Disposal Plan to the Regional Water Board. The plan shall describe at a minimum:

**Commented [AS3]:** Lisa, added this language from RB5 template per our discussion on 4/14/15 to address the biosolids handling issues at the Facility. I added subsection iv to make sure they spell out how they're going to comply.

**i.** Sources and amounts of biosolids generated annually.

**ii.** Location(s) of on-site storage and description of the containment area.

**iii.** Plans for ultimate disposal. For landfill disposal, include the present classification of the landfill; and the name and location of the landfill.

**iv.** Plans for ensuring compliance with the requirements contained in Special Provision VI.C.5.c of this Order.

**d. Local Limits Study.** The Permittee shall conduct a Local Limits Study to determine the pollutants of concern, collect and analyze data, calculate maximum allowable headworks loadings (MAHLs) for each pollutant of concern, and designate and implement technically-based local limits, where necessary, for industrial users discharging to the Permittee's collection system. The Local Limits Study shall be conducted in accordance with U.S. EPA's July 2004 *Local Limits Development Guidance* (EPA 833-R-04-002A) and shall be submitted to the Regional Water Board by **<DATE>**.

**e. Dilution Credit Evaluation.** By **<DATE>**, **t**he Permittee shall complete a comprehensive analysis to determine the appropriate minimum probable initial dilution (expressed as parts seawater per part wastewater) for discharges from the Facility to the Pacific Ocean.

**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)** The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reporting level (RL);

**(b)** A sample result is reported as non-detect (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.5.

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



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

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

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

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

**(e)** An annual status report that shall be submitted as part of the Annual Facility Report due March 1 to the Regional Water Board and shall include:

**(1)** All PMP monitoring results for the previous year;

**(2)** A list of potential sources of the reportable pollutant(s);

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

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

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

**a.** This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

**b.** The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following:

**i.** Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.

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

**iii.** Description of laboratory and quality assurance procedures.

**iv.** Process and equipment inspection and maintenance schedules.



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

vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

**c. Septage Handling Requirements**

i. The Permittee shall implement any necessary legal authorities to monitor and enforce septage handling requirements, including restriction of discharges of toxic materials to the collection system and wastewater treatment facility and inspection facilities connected to the system.

ii. The Permittee shall maintain a waste hauler manifest that identifies the names of the hauler, county identification number, the date and time the waste load was transferred, and the volume and source of the waste.

iii. The Permittee shall accept the discharge of septage only during business hours and when the Permittee's operations staff is on site.

iv. The Permittee shall accept septage only at an approved septage receiving station/location.

v. The Permittee shall collect representative grab samples of septage loads in accordance with the MRP (Attachment E).

**5. Special Provisions for Municipal Facilities (POTW's Only)**

**a. Wastewater Collection Systems**

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

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

**b. Pretreatment of Industrial Waste**

i. The Permittee shall be responsible for the performance of all pretreatment requirements contained in 40 C.F.R. part 403 and shall be subject to enforcement actions, penalties, fines, and other remedies by the U.S. EPA or other appropriate parties as provided in the CWA, as amended (33 USC 1351 et seq.). The Permittee shall implement and enforce its approved Facility Pretreatment Program. The Permittee's approved Facility Pretreatment Program is hereby made an enforceable condition of this Order. U.S. EPA may initiate enforcement action



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against an industrial user for noncompliance with applicable standards and requirements as provided in the CWA.

**ii.** The Permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), 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.

**iii.** The Permittee shall perform the pretreatment functions as required in 40 C.F.R. part 403 including, but not limited to:

**(a)** Implement the necessary legal authorities as provided in 40 C.F.R. section 403.8(f)(1);

**(b)** Enforce the pretreatment requirements under 40 C.F.R. sections 403.5 and 403.6;

**(c)** Implement the programmatic functions as provided in 40 C.F.R. section 403.8(f)(2);

**(d)** Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. section 403.8(f)(3).

**iv.** The Permittee shall implement, as more completely set forth in 40 C.F.R. section 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:

**(a)** Wastes which create a fire or explosion hazard in the treatment works;

**(b)** Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;

**(c)** Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

**(d)** Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;

**(e)** Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F);

**(f)** Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

**(g)** Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and



ED_006495_00001633-00018

**(h)** Any trucked or hauled pollutants, except at points predesignated by the Permittee.

**v.** The Permittee shall implement, as more completely set forth in 40 C.F.R. section 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

**(a)** Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or

**(b)** Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

**c. Sludge Disposal and Handling Requirements**

**i.** Sludge, as used in this Order, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Biosolids refers to sludge that has been treated, tested, and demonstrated to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities.

**ii.** All collected sludges and other solid waste removed from liquid wastes shall be removed from screens, sumps, ponds, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and State regulations.

**iii.** The use and disposal of biosolids shall comply with all of the land application and disposal requirements in 40 C.F.R. Part 503, which are enforceable by the U.S. EPA, not the Regional Water Board. If during the life of this Order, the state accepts primacy for implementation of 40 C.F.R. Part 503, the Regional Water Board may also initiate enforcement where appropriate.

**iv.** Sludge or biosolids that are disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 C.F.R. Part 258. In the annual self-monitoring report, the Permittee shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge or biosolids.

**v.** The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that may adversely affect human health or the environment.

**vi.** Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

**vii.** Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the



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site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.

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

**ix.** For the land application of biosolids as soil amendment, the Permittee shall submit a report of waste discharge or the Permittee may dispose of biosolids at another appropriately permitted facility.

**x.** New sludge treatment and storage facilities must comply with the requirements of the CCR title 27 for the protection of water quality.

**d. Operator Certification**

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

**e. Adequate Capacity**

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

**6. Other Special Provisions**

**a. Storm Water**

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



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

**7. Compliance Schedules – Not Applicable**

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

## VII. COMPLIANCE DETERMINATION

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

### A. General

Compliance with effluent limitations for priority pollutants, when effluent limitations have been established, shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

### B. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of "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.

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

If the average (or when applicable, the median determined by subsection C 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.



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

If the average (or when applicable, the median determined by subsection C above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Permittee will be considered out of compliance for that calendar week. The Permittee will only be considered out of compliance for days when the discharge occurs.

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

If a daily discharge (or when applicable, the median determined by subsection C, 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.

**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 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total 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 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total 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. Bacteriological Limitations (Fecal Coliform)**

1. **Median.** The median is the central tendency concentration of the pollutant. The data set shall be ranked from low to high, ranking the ND concentrations lowest, followed by quantified values. The median value is determined based on the number of data points in the



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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.

**J. Chronic Toxicity**

**Commented [BH4]:** Lisa - language from City of Willits draft you sent over on 7/9/2015.

The discharge is subject to determination of "Pass" or "Fail" and "Percent Effect" from a chronic toxicity test using the Test of Significant Toxicity (TST) approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1. The null hypothesis ($H_0$) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100.

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST approach, results in "Fail" and the "Percent Effect" is ≥0.50.

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST approach, results in "Fail".

**Commented [BH5]:** Lisa, this is from Willits draft. In the draft there are some comments about these sections because they refer to limits and we are only setting triggers.



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## ATTACHMENT A – DEFINITIONS

**Areas of Special Biological Significance (ASBS)**
Those areas designated by the State Water Resources Control Board (State Water Board) as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

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

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

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

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

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

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

**Chlordane**
Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

**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).



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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.

**DDT**
Shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

**Degrade**
Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

**Detected, but Not Quantified (DNQ)**
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

**Dichlorobenzenes**
Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

**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.

**Downstream Ocean Waters**
Waters downstream with respect to ocean currents.

**Dredged Material**
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil."

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



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**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 U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

**Enclosed Bays**
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

**Endosulfan**
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

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

**Estuaries and Coastal Lagoons** are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, Russian, San Diego, and Otay Rivers. Estuaries do not include inland surface waters or ocean waters.

**Halomethanes** shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

**HCH** shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

**Inhibition Concentration**
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.

**Initial Dilution**
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.



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For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

**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).

**Kelp Beds**
For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

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

**Mariculture**
The culture of plants and animals in marine waters independent of any pollution source.

**Material**
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

**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.



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

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

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

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

**Natural Light**
Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

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

**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. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

**PAHs (polynuclear aromatic hydrocarbons)**
The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.



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**PCBs (polychlorinated biphenyls)**
The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

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

**Pollutant Minimization Program (PMP)**
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 pollutants 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 government agency as defined by section 502(4) of the CWA. [Section 502(4) of the CWA defines a municipality as a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes). This definition includes any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

**Recycled Water**
Water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource (Water Code section 13050). The terms "recycled water" and "reclaimed water" have the same meaning (Water Code section 26).

**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



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selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

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

**Shellfish**
Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

**Significant Difference**
Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

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

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

**State Water Quality Protection Areas (SWQPAs)**
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean 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.



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**TCDD Equivalents**
The sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

| Isomer Group | Toxicity Equivalence Factor |
|---|---|
| 2,3,7,8-tetra CDD | 1.0 |
| 2,3,7,8-penta CDD | 0.5 |
| 2,3,7,8-hexa CDDs | 0.1 |
| 2,3,7,8-hepta CDD | 0.01 |
| octa CDD | 0.001 |
| 2,3,7,8 tetra CDF | 0.1 |
| 1,2,3,7,8 penta CDF | 0.05 |
| 2,3,4,7,8 penta CDF | 0.5 |
| 2,3,7,8 hexa CDFs | 0.1 |
| 2,3,7,8 hepta CDFs | 0.01 |
| octa CDF | 0.001 |

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

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

**Waste**
As used in the Ocean Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

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



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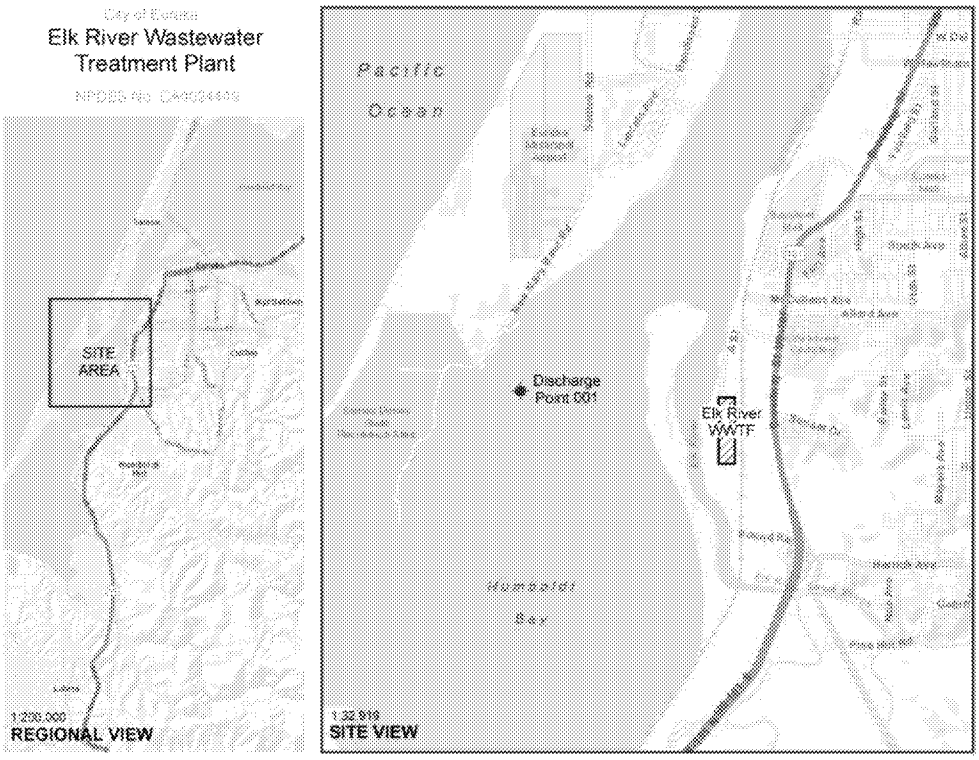
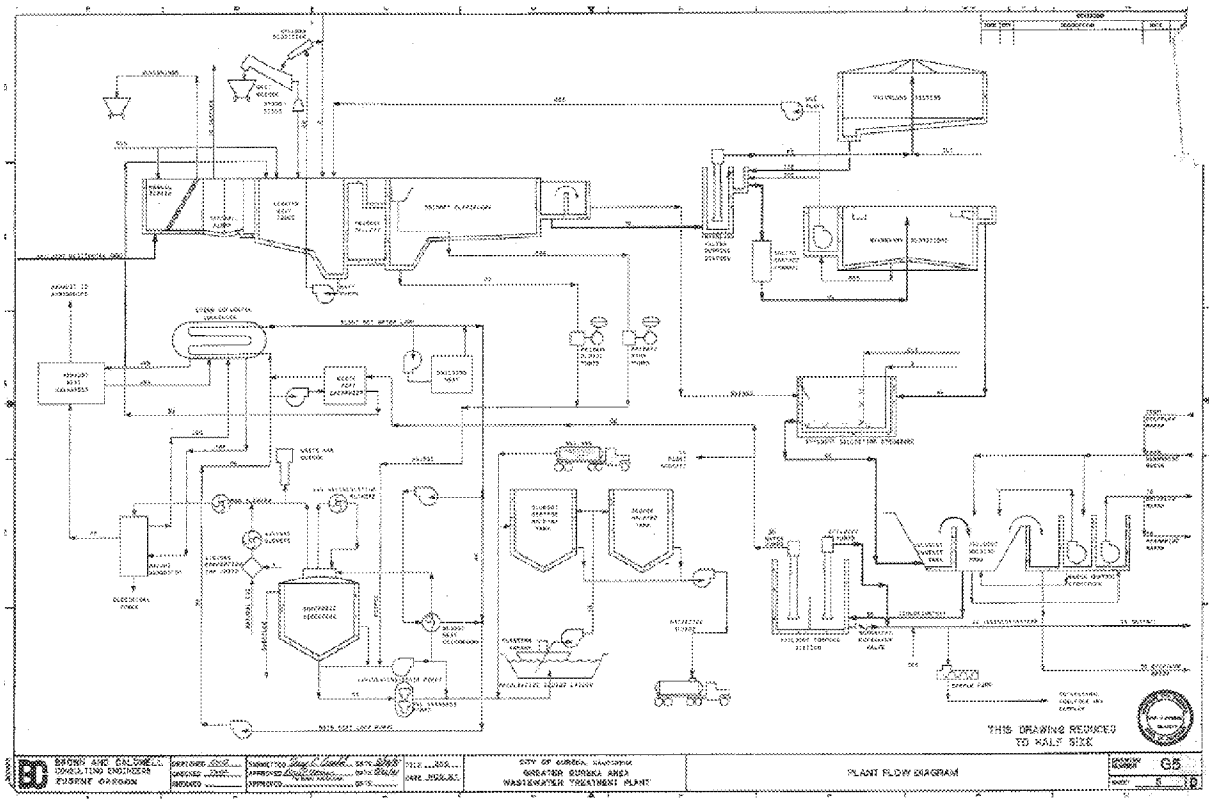
**ATTACHMENT B – MAP**



**ATTACHMENT C – FLOW SCHEMATIC**



## ATTACHMENT D – STANDARD PROVISIONS

### I. STANDARD PROVISIONS – PERMIT COMPLIANCE

**A. Duty to Comply**

1. The Permittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 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 C.F.R. § 122.41(a)(1).)

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

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

**C. Duty to Mitigate**

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

**D. Proper Operation and Maintenance**

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

**E. Property Rights**

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

**F. Inspection and Entry**

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



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upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(1)(i).)
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)



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4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

**H. Upset**

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)



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## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

### B. Duty to Reapply

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

### C. Transfers

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

## III. STANDARD PROVISIONS – MONITORING

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

**B.** Monitoring results must be conducted according to test procedures under 40 C.F.R. part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R. part 136 unless otherwise specified in 40 C.F.R. part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 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 40 C.F.R. part 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

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

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and



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6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

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

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

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

### B. Signatory and Certification Requirements

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



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V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

**C. Monitoring Reports**

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

**D. Compliance Schedules**

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

**E. Twenty-Four Hour Reporting**

1. The Permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)



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

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

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

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

**F. Planned Changes**

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

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

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

**G. Anticipated Noncompliance**

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

**H. Other Noncompliance**

The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

**I. Other Information**

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Permittee shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)



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## VI. STANDARD PROVISIONS – ENFORCEMENT

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

## VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

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

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

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

3. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order (40 C.F.R. § 122.42(b)(2)).

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



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# ATTACHMENT E – MONITORING AND REPORTING PROGRAM

## CONTENTS

[ TOC \h \z \t "Headings 1-E,1,Headings 2-E,2" ]

## TABLES

[ TOC \h \z \t "Table E,1"]



ED_006495_00001633-00042

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

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

### I. GENERAL MONITORING PROVISIONS

**A. Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed 1 hour.

**B. Supplemental Monitoring Provision.** If the Permittee monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R. part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharge monitoring reports.

**C. Data Quality Assurance Provision.** Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) in accordance with the provisions of Water Code section 13176, and must include quality assurance / quality control data with their analytical reports.

**D. Instrumental and Calibration Provision.** All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated no less than the manufacturer's recommended intervals or one year intervals, (whichever comes first) to ensure continued accuracy of the devices.

**E. Minimum Levels (ML) and Reporting Levels (RL).** Compliance and reasonable potential monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than the applicable effluent limitations and/or water quality criteria. If no Minimum Level (ML) value is below these levels, 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 or specific monitoring requirements. Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP) and Appendix II of the Ocean Plan lists the test methods the Permittee may use for reasonable potential monitoring to analyze priority pollutants.

**Table E-[ LISTNUM OutlineDefault \l 3 \s 1 ] Test Methods and Minimum Levels for Priority Pollutants**

| CTR # | Constituent | Types of Analytical Methods MLs (µg/L) | | |
|---|---|---|---|---|
| | | Inductively Coupled Plasma/ Mass Spectrometry | Stabilized Platform Graphite Furnace Atomic Absorption | Colorimetric |
| 6 | Copper, Total Recoverable | 0.5 | 2 | -- |
| 14 | Cyanide | -- | -- | 5 |
| -- | TCDD Equivalents | The Permittee shall use U.S. EPA Method 1613. | | |



ED_006495_00001633-00043

## 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 Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| -- | INF-001 | Influent wastewater prior to treatment and following all significant input of wastewater to the treatment system and consisting of wastewater from both the collection system and septage receiving station. |
| -- | INT-001 | Treated wastewater prior to discharge to Overflow Marsh. |
| 001 | EFF-001 | Location where representative samples of treated wastewater, to be discharged to Humboldt Bay at Discharge Point 001, can be collected at a point after treatment and before contact with the receiving water. |
| -- | RSW-001 | [1] |
| -- | RSW-002 | [1] |
| -- | SEP-001 | Septage receiving station after complete mixing of septage wastes and prior to the Facility headworks. |

Table Notes:
1. The Permittee shall propose receiving water monitoring locations to the Regional Water Board for approval by the Executive Officer within 90 days of the adoption of this permit. The proposed receiving water locations shall be positioned to accurately characterize the receiving water. Should the Permittee choose to do so, they may propose and participate in group monitoring for the receiving water after receiving approval from the Executive Officer.

## 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[1] | mgd | Meter | Continuous | -- |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 24-hr Composite | Weekly[2] | Standard Methods[3] |
| Total Suspended Solids (TSS) | mg/L | 24-hr Composite | Weekly[2] | Standard Methods |

Table Notes:
1. The Permittee shall report maximum daily and average daily flows.
2. Monitoring of $BOD_5$ and TSS in influent shall coincide with monitoring of these parameters in effluent.
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 C.F.R. part 136.



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## IV. EFFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location EFF-001

1. The Permittee shall monitor treated effluent at Monitoring Location EFF-001 during periods of discharge as follows.

**Table E-4. Effluent Monitoring**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and (Minimum Level, units), respectively |
|---|---|---|---|---|
| Effluent Flow[1] | mgd | Meter | Continuous | -- |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 24-hr Composite | Weekly | Standard Methods[2] |
| Oil and Grease | mg/L | Grab | Monthly | Standard Methods |
| Total Suspended Solids (TSS) | mg/L | 24-hr Composite | Weekly | Standard Methods |
| Settleable Solids | mL/L | Grab | Daily | Standard Methods |
| Turbidity | NTU | Grab | Daily | Standard Methods |
| Total Residual Chlorine[3] | mg/L | Meter | Continuous | Standard Methods |
| pH | standard units | Grab | Daily[4] | Standard Methods |
| Temperature | °C | Grab | Monthly[4] | Standard Methods |
| Copper, Total Recoverable | µg/L | 24-hr Composite | Monthly | ICPMS (ML 0.5 µg/L), SPGFAA (2 µg/L)[5] |
| Cyanide, Total (as CN) | µg/L | 24-hr Composite | Monthly | Color[5] |
| TCDD Equivalents[6] | µg/L | Grab | Quarterly | EPA Method 1613 |
| Fecal Coliform Bacteria | MPN/100 mL | Grab | Twice Weekly | Standard Methods |
| Ammonia Nitrogen, Total (as N) | mg/L | Grab | Monthly | Standard Methods |
| Ocean Plan Table 1 Pollutants[7,8] | µg/L | Composite[9] | Annually | Standard Methods |
| CTR Priority Pollutants[8,10] | µg/L | Grab | Annually | Standard Methods[11] |
| Acute Toxicity | % Survival, Pass or Fail, and % Effect | Grab | Quarterly | See Section V below |
| Chronic Toxicity[12] | Pass or Fail, % Effect | Grab | Quarterly | See Section V below |



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| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and (Minimum Level, units), respectively |
|---|---|---|---|---|

Table Notes:

1. The Permittee shall report the maximum daily and average daily effluent flow rates.
2. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
3. Samples shall be collected at points immediately prior to dechlorination and immediately following dechlorination. All chlorine measurements shall be reported as total residual chlorine. The Permittee shall monitor total residual chlorine in the effluent continuously using a method with a reporting limit as low as technically feasible. Benchtop measurements of effluent chlorine residual shall also be performed at least weekly using the spectrophotometric DPD method 4500-CL G, or equivalent, as a routine check of daily monitoring results.
4. pH and temperature monitoring must coincide with monthly monitoring for ammonia.
5. ICPMS = Inductively Coupled Plasma / Mass Spectrometry
   SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption
   Color = Colorimetric
6. TCDD equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors.
7. Those pollutants listed in Table 1 of the Ocean Plan (2012), excluding Table 1 pollutants with specific monitoring requirements established by this table (Table E-4).
8. Duplicate analyses are not required for pollutants that are identified both as Ocean Plan Table 1 pollutants and CTR priority pollutants.
9. Grab samples shall be used for volatile chemicals listed in Table II-1 of the Ocean Plan (2012). Composite samples shall be used for all other Ocean Plan Table 1 parameters.
10. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38. The Permittee is not required to sample and analyze for asbestos.
11. Analytical methods shall achieve the minimum levels (ML) specified in Appendix 4 of the SIP and, in accordance with section 2.4 of the SIP, the Permittee shall report the ML and MDL for each sample result.
12. The median monthly summary result shall be reported as "Pass" or "Fail". The maximum daily single result shall be reported as "Pass" or "Fail" with a "% Effect". Exactly three independent toxicity results are required when one toxicity test results in "Fail". Refer to section V.B.8 for accelerated monitoring.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity Testing

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

1. **Test Frequency**. The Permittee shall conduct acute WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-4, above.

2. **Discharge In-stream Waste Concentration (IWC) for Acute Toxicity.** The IWC for this discharge is 100 percent effluent.

3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

4. **Acute Marine Test Species and Test Methods.** The Permittee shall conduct the following acute toxicity tests in accordance with species and test methods in *Methods for Measuring*

**Commented [BH6]:** Lisa,
The TST Policy for Toxicity Assessment and Control notes this method manual for acute toxicity testing, but I chose these species to have an invertebrate and a fish. There are others listed in the method if you would prefer those.



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*the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

**a.** A 96-hour static renewal or 96-hour static non-renewal toxicity test with an invertebrate, the mysid shrimp, *Mysidopsis bahia*, (Survival Test Method 2007.0).

**b.** A 96-hour static renewal or 96-hour static non-renewal toxicity test with a vertebrate, the sheepshead minnow, *Cyprinodon variegatus*, (Survival Test Method 2004.0).

5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct two toxicity tests using the invertebrate and the fish species identified in section V.A.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.

6. **Quality Assurance and Additional Requirements.** Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

**a.** The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" from an acute toxicity test using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis ($H_o$) for the TST approach is: Mean discharge IWC response 0.80 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: ((Mean control response Mean discharge IWC response) ÷ Mean control response)) × 100.

**b.** If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Permittee must re-sample and re-test within 7 days.

**c.** Dilution water and control water shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

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



ED_006495_00001633-00047

e. **Ammonia Toxicity.** The acute toxicity test shall be conducted without modifications to eliminate ammonia toxicity.

7. **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding the trigger with a result of "Fail" during routine monitoring or a single test result of "Fail" during accelerated monitoring.

8. **Accelerated Monitoring Requirements.** If the result of any acute toxicity test fails to meet the single test minimum trigger (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 trigger (90 percent survival), the Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section V.B.9 of the MRP. 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.

9. **Reporting.** The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of section 12 (Report Preparation) of *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (U.S. EPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), including:

   a. The toxicity test results in percent (%) survival for the 100 percent effluent sample.

   b. The toxicity test results for the TST approach, reported as "Pass" or "Fail" and "Percent (%) Effect" at the acute toxicity IWC for the discharge.

   c. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

   d. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

   e. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

**B. Chronic Toxicity Testing**

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

1. **Test Frequency.** The Permittee shall conduct chronic WET testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in MRP section IV.A and Table E-4, above.

2. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC for this discharge is 100 percent effluent.

3. **Sample Volume and Holding Time.** The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the



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required toxicity test. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

4. **Chronic Marine Test Species and Test Methods.** If effluent samples are collected from outfalls discharging to receiving waters with salinity >1 ppt, the Permittee shall conduct the following chronic toxicity tests in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts shall be used to increase sample salinity. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

   a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.011).

   b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

   c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

5. **Species Sensitivity Screening.** Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the algae species identified in section V.B.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.

6. **Quality Assurance and Additional Requirements.** Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

   a. The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" from a chronic toxicity test using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis ($H_o$) for the TST approach is: Mean discharge IWC response 0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as: ((Mean control response Mean discharge IWC response) ÷ Mean control response)) × 100.

   b. If the effluent toxicity test does not meet all TAC specified in the referenced test method, then the Permittee must re-sample and re-test within 14 days.

   c. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and



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control water is different from test organism culture water, then a second control using culture water shall also be used.

**d.** Monthly reference toxicant testing shall be performed. All reference toxicant test results should be reviewed and reported.

**e.** The Permittee shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the MRP and the rationale is explained in the Fact Sheet (Attachment F).

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

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

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

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

**iv.** Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

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

**7.** **Notification.** The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of test results exceeding a median monthly summary result of "Fail" during routine monitoring or a single test result of "Fail" during accelerated monitoring.

**8.** **Accelerated Monitoring Requirements.** Within 24 hours of the time the Permittee becomes aware of a median monthly summary result "Fail", the Permittee shall implement an accelerated monitoring schedule consisting of four toxicity tests—consisting of 5-effluent concentrations (including the discharge IWC) and a control—conducted at approximately 2 week intervals, over an 8 week period. If each of the accelerated toxicity tests results is "Pass," the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail", the Permittee shall immediately implement the Toxicity Reduction Evaluation (TRE) Process conditions set forth below.



ED_006495_00001633-00050

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

   a. **Preparation and Implementation of a Detailed TRE Work Plan.** The Permittee shall immediately initiate a TRE using, according to type of treatment facility, EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and within 30 days submit to the Regional Water Board Executive Officer a detailed TRE Work Plan, which shall follow the generic initial investigation TRE Work Plan revised as appropriate for the toxicity event described in section V.B.8 of Attachment E of this Order. It shall include the following information, and comply with additional conditions set by the Regional Water Board Executive Officer:

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

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

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

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

   c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

   d. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.

   e. The Regional Water Board recognizes that toxicity may be episodic and identification of the causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

10. **Reporting.** The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, including:



ED_006495_00001633-00051

a. The toxicity test results for the TST approach, reported as "Pass" or "Fail" and "Percent (%) Effect" at the chronic toxicity IWC for the discharge.

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

c. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

d. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges of waste to land.

## VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

This Order does not authorize discharges of recycled water.

## VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

### A. Monitoring Locations RSW-001 and RSW-002

1. The Permittee shall monitor Humboldt Bay at Monitoring Locations RSW-001 and RSW-002 when discharging to surface water as follows:

**Table E-5. Receiving Water Monitoring – Monitoring Locations RSW-001 and RSW-002**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| pH | s.u. | Grab | Monthly | Standard Methods[1] |
| Electrical Conductivity @ 25°C | µmhos/cm | Grab | Monthly | Standard Methods |
| Temperature | °C | Grab | Monthly | Standard Methods |
| Total Dissolved Solids (TDS) | 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 C.F.R. part 136.

**Commented [BH7]:** Didn't include hardness because we are using saltwater metals criteria which are not hardness dependent.

### B. Groundwater Monitoring – Not Required

This Order does not require groundwater monitoring at this time.

## IX. OTHER MONITORING REQUIREMENTS

### A. Disinfection System Monitoring

The Permittee shall monitor treated wastewater to be discharged to the Overflow Marsh at Monitoring Location INT-001 as follows:



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**Table E-6. Disinfection System Monitoring – Monitoring Location INT-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Total Chlorine Residual | mg/L | Grab | Daily | Standard Methods[1] |

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

**B. Outfall Inspection**

Commented [BH8]: I took this from other ocean discharger's permits.

Divers shall visually inspect the outfall structure, including the diffuser ports, at least once during the life of this permit to verify operational status of the outfall. A report documenting outfall condition and maintenance, including any observed cracks, breaks, malfunctions, and appropriate repairs, shall be submitted within 90 days of completing the inspection and no later than <DATE>. The Permittee shall submit to the Regional Water Board Executive Officer for approval an Outfall Inspection Work Plan no later than <DATE>.

**C. Septage Station Monitoring**

**1. Monitoring Location SEP-001**

**a.** For each septage load delivered to the Facility, the Permittee shall require the hauler to collect and report a pH value representative of the load.

**b.** The Permittee shall estimate, prior to the beginning of a quarterly and semiannual monitoring period, the number of anticipated septage deliveries for the given monitoring frequency, and generate a random load number from this total. When the delivery corresponding to the pre-chosen random number is received, the Permittee will collect a representative septage sample and have the samples analyzed in accordance with Table E-12 and with standard sample collection and handling procedures. Each sample shall be analyzed in accordance with the following table.

**Table E-7. Septage Monitoring – Monitoring Location SEP-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| pH | s.u. | Grab | Weekly | Standard Methods[1] |
| Chemical Oxygen Demand | mg/L | Grab | Quarterly | Standard Methods |
| Oil and Grease | mg/L | Grab | Quarterly | Standard Methods |
| Metals and Trace Elements | µg/L | Grab | Quarterly | Standard Methods |
| Purgeable Organic Compounds[2] | µg/L | Grab | Semiannually | Standard Methods |
| Semivolatile Organic Compounds | µg/L | Grab | Semiannually | Standard Methods |



ED_006495_00001633-00053

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Table Notes:<br>1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.<br>2. Purgeable organic compounds shall include the parameters listed in U.S. EPA Method 624.<br>3. Semivolatile organic compounds shall include the parameters listed in U.S. EPA Method 625. | | | | |

**2. Septage Hauler Tracking**

For any month when septage waste is received by the Facility, the source(s) of the waste shall be documented. A summary table of all septage discharged to the Facility shall be submitted quarterly and shall include:

**a.** Date and time of discharge;

**b.** Name, County identification number, and District identification number of the hauler;

**c.** Volume discharged;

**d.** Source(s) of the waste; and

**e.** pH of the septage load.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

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

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

**1.** The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.

**2.** The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Permittee shall submit quarterly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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



ED_006495_00001633-00054

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

**Table E-8. Monitoring Periods and Reporting Schedule**

| Sampling Frequency | Monitoring Period Begins On... | Monitoring Period | SMR Due Date |
|---|---|---|---|
| Continuous | Permit effective date | All | First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1) |
| Daily | Permit effective date | (Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling. | First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1) |
| Weekly | Sunday following permit effective date or on permit effective date if on a Sunday | Sunday through Saturday | First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1) |
| 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 the end of each quarter (February 1, May 1, August 1, November 1) |
| Monthly | First day of calendar month following permit effective date or on permit effective date if that date is first day of the month | First day of calendar month through last day of calendar month | First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1) |
| Quarterly | First day of calendar quarter following permit effective date or on permit effective date if that date is first day of the month | January 1 through March 31<br>April 1 through June 30<br>July 1 through September 30<br>October 1 through December 31 | First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1) |
| Annually | January 1 following (or on) permit effective date | January 1 through December 31 | March 1, each year. |

Table Notes:

1. Quarterly monitoring periods are as follows: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

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

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



ED_006495_00001633-00055

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

**b.** Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

**d.** The Permittee is to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Permittee to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

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

**a.** The Permittee shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The reported data shall include calculation of all effluent limitations that require averaging, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular format as an attachment.

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

**i.** Facility name and address;

**ii.** WDID number;

**iii.** Applicable period of monitoring and reporting;

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

**v.** Corrective actions taken or planned; and

**vi.** The proposed time schedule for corrective actions.

**c.** SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the CIWQS Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). In the event that an alternate method for submittal of SMRs is required, the Permittee shall submit the SMR



ED_006495_00001633-00056

electronically via e-mail to [ HYPERLINK "mailto:NorthCoast@waterboards.ca.gov" ] or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at [ HYPERLINK "http://waterboards.ca.gov/northcoast" ].

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

1. The Permittee shall electronically certify and submit Discharge Monitoring Reports (DMRs) together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic submittal of DMRs will be in addition to electronic submittal of SMRs. Information about electronic submittal of DMRs is provided by the Discharge Monitoring Report web site as follows: ([ HYPERLINK "http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/" ]).

**D. Other Reports**

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

**Table E-9. Reporting Requirements for Special Provisions Reports**

| Special Provision | Reporting Requirements |
|---|---|
| TRE Work Plan Revisions (Special Provision VI.C.2.a.ii) | **Within 90 days** of notification of review |
| Outfall Inspection Work Plan (Special Provision VI.C.2.b) | **<DATE>** |
| Outfall Inspection, Final Report (Special Provision VI.C.2.b) | **<DATE>** |
| Biosolids Use or Disposal Plan (Special Provision VI.C.2.c) | **Within 180 days** of the permit effective date |
| Local Limits Study (Special Provision VI.C.2.d) | **<DATE>** |
| Dilution Credit Evaluation (Special Provision VI.C.2.e) | **<DATE>** |
| Pollutant Minimization Program (Special Provision VI.C.3.a.i) | As required by the Executive Officer |
| Pollutant Minimization Program, Annual Facility Report (Special Provision VI.C.3.a.ii(e)). | **March 1**, annually, following development of Pollutant Minimization Program |



ED_006495_00001633-00057

| Special Provision | Reporting Requirements |
|---|---|
| Adequate Capacity, Technical Report (Special Provision VI.C.5.e) | **Within 120 days** of notification that the Facility will reach capacity within 4 years |

2. 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.

3. **Annual Report**. The Permittee shall submit an annual report to the Regional Water Board for each calendar year through the CIWQS Program Web site. In the event that an alternate method of submitting the annual report is required, the Permittee shall submit the report to the e-mail address in section X.B.6.c., above. 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 C.F.R. part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.

   b. A comprehensive discussion of the Facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.

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

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

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

   f. **Sludge Handling and Disposal Activity Reporting.** The Permittee shall submit, as part of its annual report to the Regional Water Board, a description of the Permittee's solids handling, disposal and reuse activities over the previous 12 months. At a minimum, the report shall contain:

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

      ii. Sludge monitoring results;

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

      iv. Methods of final disposal of sludge:

         (a) For any portion of sludge discharged to a sanitary landfill, the Permittee shall provide the volume of sludge transported to the 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.



ED_006495_00001633-00058

**(b)** For any portion of sludge discharged through land application, the Permittee shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

**(c)** For any portion of sludge further treated through composting, the Permittee shall provide a summary of the composting process, the volume of sludge composted, and a demonstration and signed certification statement that the composting process and final product met all requirements for Class A biosolids.

**v.** Results of internal or external third-party audits of the Biosolids Management System, including reported program deficiencies and recommendations, required corrective actions, and a schedule to complete corrective actions.

**g. Storm Water Reporting.** The Permittee shall report, as part of its annual report to the Regional Water Board, an evaluation of the effectiveness of the Permittee's BMPs to control the run-on of storm water to the treatment facility site, as well as activities to maintain and upgrade these BMPs.

**h. Septage Monitoring and Reporting.** The results of septage monitoring shall be provided as follows:

**i.** A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the septage monitoring program. The narrative shall be sufficiently detailed to verify compliance with waste discharge requirements and this MRP.

**ii.** A summary table of all discharges of septage to the Facility. At a minimum, the table shall include: the name, County identification number, and District identification number of each hauler discharging to the Facility over the past calendar year.

**iii.** A summary table of analytical results for all samples of septage collected in compliance with waste discharge requirements and this MRP. When directed by the Regional Water Board, the Permittee shall also append analytical reports, chains of custody, and other documentation necessary to confirm the validity of the monitoring samples.

**4. Annual Pretreatment Reporting Requirements.** The Permittee shall submit annually a report to the Regional Water Board, with copies to U.S. EPA Region 9 and the State Water Board, describing the Permittee's pretreatment activities over the previous 12 months. In the event that the Permittee is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Permittee shall also include the reasons for noncompliance and state how and when the Permittee shall comply with such conditions and requirements.



ED_006495_00001633-00059

An annual report shall be submitted by March 1st of the following year, and include at least the following items:

**a.** A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the POTW's influent and effluent for those pollutants U.S. EPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by industrial users. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The Permittee shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. part 136 and amendments thereto.

**b.** A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Permittee knows or suspects were caused by industrial users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements.

**c.** The cumulative number of industrial users that the Permittee has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

**d.** An updated list of the Permittee's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Permittee shall also list the noncategorical industrial users that are subject only to local discharge limitations. The Permittee shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:

**i.** complied with baseline monitoring report requirements (where applicable);

**ii.** consistently achieved compliance;

**iii.** inconsistently achieved compliance;

**iv.** significantly violated applicable pretreatment requirements as defined by 40 C.F.R. section 403.8(f)(2)(vii);

**v.** complied with schedule to achieve compliance (include the date final compliance is required);

**vi.** did not achieve compliance and not on a compliance schedule; and



ED_006495_00001633-00060

**vii.** compliance status unknown.

**e.** A summary of the inspection and sampling activities conducted by the Permittee during the past year to gather information and data regarding the industrial users. The summary shall include:

**i.** The names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and

**ii.** The conclusions or results from the inspection or sampling of each industrial user.

**iii.** A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:

**iv.** Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.

**v.** Administrative orders regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.

**vi.** Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.

**vii.** Criminal actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.

**viii.** Assessment of monetary penalties. For each industrial user identify the amount of the penalties.

**ix.** Restriction of flow to the POTW.

**x.** Disconnection from discharge to the POTW.

**xi.** A description of any significant changes in operating the pretreatment program which differ from the information in the Permittee's approved Pretreatment Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.

**xii.** A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.



ED_006495_00001633-00061

Duplicate signed copies of these Pretreatment Program reports shall be submitted to the North Coast Regional Water Board and the:

| STANDARD MAIL | FEDEX/UPS/OTHER PRIVATE CARRIERS |
|---|---|
| State Water Resources Control Board<br>Division of Water Quality<br>c/o Discharge Monitoring Report<br>Processing Center<br>Post Office Box 100<br>Sacramento, CA 95812-1000 | State Water Resources Control Board<br>Division of Water Quality<br>c/o DMR Processing Center<br>1001 I Street, 15th Floor<br>Sacramento, CA 95814 |

**E. Spill Notification**

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

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

   **a.** Name and contact information of caller;

   **b.** Date, time, and location of spill occurrence;

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

   **d.** Surface water bodies impacted, if any;

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

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

   **g.** Responding agencies.

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

[1] 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 24 hour spill reporting requirement for the Regional Water Board. The contact number for spill reporting for the CalEMA is (800) 852-7550.



ED_006495_00001633-00062

**ATTACHMENT F – FACT SHEET**

**CONTENTS**

[ TOC \h \z \t "Headings 1-F,1,Headings 2-F,2,Headings 3-F,3" ]

**TABLES**

**[ TOC \H \Z \T "TABLE F,1"]**



ED_006495_00001633-00063

## ATTACHMENT F – FACT SHEET

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

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

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

**Table F-[ LISTNUM OutlineDefault \l 3 \s 1 ] Facility Information**

| | |
|---|---|
| **WDID** | 1B82151OHUM |
| **Permittee** | City of Eureka |
| **Name of Facility** | Elk River Wastewater Treatment Plant |
| **Facility Address** | 4301 Hilfiker Lane<br>Eureka, CA 95503<br>Humboldt County |
| **Facility Contact, Title and Phone** | George B. Gehrke, Utilities Operations Manager, (707) 441-4360 |
| **Authorized Person to Sign and Submit Reports** | George B. Gehrke, Utilities Operations Manager, (707) 441-4360 |
| **Mailing Address** | 531 K Street, Eureka, CA 95501 |
| **Billing Address** | Same as Mailing Address |
| **Type of Facility** | Publicly Owned Treatment Works (POTW) |
| **Major or Minor Facility** | Major |
| **Threat to Water Quality** | 1 |
| **Complexity** | A |
| **Pretreatment Program** | Yes |
| **Recycling Requirements** | N/A |
| **Facility Permitted Flow** | 8.6 million gallons per day (mgd) (peak dry weather treatment capacity)<br>32 mgd (peak hydraulic capacity) |
| **Facility Design Flow** | 5.24 mgd (average dry weather flow capacity)<br>8.6 mgd (peak dry weather treatment capacity)<br>12 mgd (peak wet weather treatment capacity)<br>32 mgd (peak hydraulic capacity) |
| **Watershed** | Eureka Plain Hydrologic Unit |
| **Receiving Water** | Humboldt Bay |
| **Receiving Water Type** | Enclosed Bay |



ED_006495_00001633-00064

**A.** The City of Eureka (hereinafter Permittee) is the owner and operator of the Elk River Wastewater Treatment Plant (hereinafter Facility), a POTW.

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

**B.** The Facility discharges secondary treated effluent to Humboldt Bay, a water of the United States. The Permittee was previously regulated by Order No. R1-2009-0033 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0024449 adopted on June 4, 2009 and expired on July 24, 2014. The terms and conditions of the current Order and Monitoring and Reporting Program (MRP) have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and NPDES permit are adopted pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

**C.** The Permittee filed a report of waste discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on December 31, 2013. The application was deemed complete on **<DATE>**.

## II. FACILITY DESCRIPTION

The Permittee owns and operates the Facility, a wastewater collection, treatment, and disposal facility that serves a population of approximately 44,000 from the City of Eureka and unincorporated areas within the Humboldt Community Services District. The Facility treats domestic, commercial, industrial, and treated groundwater remediation project wastewater. The Facility is located at 4301 Hilfiker Lane in Eureka, Humboldt County, California.

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

The Facility has an average dry weather treatment capacity of 5.24 mgd, a peak dry weather treatment capacity of 8.6 mgd, a peak wet weather treatment capacity of 12 mgd, and a hydraulic capacity of 32 mgd.

Wastewater treatment includes primary treatment with mechanical bar screens, grit removal, and primary clarification. Secondary treatment is accomplished using two trickling filters, followed by secondary clarification, and chlorine disinfection. The effluent is stored in an effluent holding pond until ebb tide occurs, then the effluent is dechlorinated and discharged at Discharge Point 001 to Humboldt Bay. The Permittee discharges during ebb tide to maximize flushing of the wastewater to the Pacific Ocean. The Facility receives septage from local area haulers.

Currently, flows up to 12 mgd receive full secondary treatment, and flows greater than 12 mgd receive primary treatment and are blended with secondary treated wastewater prior to discharge to Humboldt Bay. This Order prohibits the discharge of wastewater that does not receive secondary treatment, as described above.

During periods when high influent flow exceeds the hydraulic capacity of the Facility, excess flow from the effluent holding pond can be directed to a 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. The Overflow Marsh is a component of the Facility, as described in the "*Final Environmental Impact Report – Wastewater Management Plan for the Greater Eureka Area*" (July 10, 1980), and as established in Waste



ED_006495_00001633-00065

Discharge Requirements Order No. 81-1 adopted for the Facility by the Regional Water Board on January 22, 1981.

Solids are treated by anaerobic digestion and are stored in two facultative sludge lagoons. In the summer, the Facility dredges sludge from the lagoons and land-applies it on a 98-acre parcel of land they own.

**B. Discharge Points and Receiving Waters**

Effluent is discharged during ebb tides at Discharge Point 001 into Humboldt Bay at 40° 46' 24" N latitude and 124° 12' 45" W longitude. Humboldt Bay, an enclosed bay, is a water of the United States. The outfall structure is a 48-inch diameter pipe, 4,100 feet in length, and equipped with a diffuser with multiple discharge ports.

The Regional Water Board concluded in Resolution No. 80-10 that discharging at ebb tide was expected to convey 100% of the effluent to the Pacific Ocean. Therefore, the Regional Water Board classified the discharge as an ocean discharge. The Resolution was approved by the State Water Board in Resolution No. 80-87 as consistent with the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California* (Bays and Estuaries Policy). Mathematical modeling to support the findings was completed by consultants for the Permittee and published in the Greater Eureka Area Draft Facilities Plan and Environmental Impact Report. Staff from the Regional Water Board verified the results of the modeling with tidal monitoring and a dye study completed in 1979.

Order No. R1-2009-0033 required the Permittee to perform an effluent discharge study to verify that the ebb-tide discharge from the Facility conveys waste out of Humboldt Bay, including an assessment of the transport and fate of pollutants discharged from the Facility and the critical beneficial uses potentially impacted by the ebb tide discharge. The Permittee submitted the *Effluent Discharge Study for the Elk River Wastewater Treatment Plant* to the Regional Water Board on January 7, 2014. The study utilized two coupled models to simulate effluent transport, advanced circulation (ADCIRC) as the primary model to predict currents within the bay that are the dominant mechanism of conveying effluent out to the ocean, and particle tracking model (PTM) as a secondary model to track particles of effluent released by the Facility (utilizing currents predicted by ADCIRC). For baseline simulations, discharges began at slack tide and continued through the designated discharge window. Simulations were then conducted to determine the fate of effluent discharged under various tidal and Facility flow conditions. Based on the modeling analysis, the existing effluent discharge is not completely conveyed to the ocean. The study shows that for the maximum volume of effluent to be carried out into the ocean, the Permittee must begin discharging 45 minutes prior to slack tides. This Order requires the Permittee to discharge according to this finding in order to provide the most effective escapement of effluent.

The study demonstrates that the area around the discharge is hydrologically different than it was when the original study was conducted. Thus the implications of the original study are invalidated by the January 7, 2014 study.

Based on the findings of the Permittee's Effluent Discharge Study, the Regional Water Board has determined that the discharge is to the Humboldt Bay and thence to the Pacific Ocean. Consequently, the Facility is subject to the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or



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SIP) and the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan). Furthermore, the discharge is not consistent with the requirements of the Bays and Estuaries Policy.

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

Effluent limitations contained in the existing Order No. R1-2009-0033 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the Order No. R1-2009-0033 are as follows:

**Table F-[ LISTNUM OutlineDefault \l 3 ] Historic Effluent Limitations and Monitoring Data**

| Parameter | Units | Effluent Limitation | | | Monitoring Data (August 2009 – October 2014) | | |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 30 | 45 | 60 | 23.4 | 32 | 32 |
| | lbs/day[1] | 2,151 | 3,227 | 4,303 | 1,131 | 2,175 | 2,175 |
| | lbs/day[2] | 3,002 | 4,503 | 6,005 | | | |
| | % Removal | 85 | -- | -- | 80[3] | -- | -- |
| Total Suspended Solids (TSS) | mg/L | 30 | 45 | 60 | 19 | 28 | 28 |
| | lbs/day[1] | 2,151 | 3,227 | 4,303 | 413 | 4,028 | 4,028 |
| | lbs/day[2] | 3,002 | 4,503 | 6,005 | | | |
| | % Removal | 85 | -- | -- | 16[3] | -- | -- |
| Oil and Grease | mg/L | 25 | 40 | 75 | < 5 | < 5 | < 5 |
| Settleable Solids | ml/L | 0.1 | -- | 0.2 | 0.1 | -- | 1.5 |
| pH | s.u. | -- | -- | 6.0 – 9.0 | -- | -- | 6.1 – 7.5 |
| Total Residual Chlorine | µg/L | -- | 62[4] | 248/ 1,860[5] | -- | -- | 1,570 |
| | lbs/day[1] | -- | 4.45[4] | 17.8/ 133.4[5] | -- | -- | 19 |
| | lbs/day[2] | -- | 6.20[4] | 24.8/ 186[5] | -- | -- | |
| Turbidity | NTU | 75 | 100 | 225 | 19 | 29 | 46 |
| Copper, Total Recoverable | µg/L | -- | 33[4] | 312/ 870[5] | -- | -- | 55 |
| | lbs/day[1] | -- | 2.37[4] | 22.4/ 62.4[5] | -- | -- | 34.3 |
| | lbs/day[2] | -- | 3.30[4] | 31.1 87.1[5] | -- | -- | |

**Commented [BH9]:** Blending event 8/20/2009. Without this the lowest is 91%.

| Parameter | Units | Effluent Limitation | | | Monitoring Data (August 2009 – October 2014) | | |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
| Cyanide, Total (as CN) | µg/L | -- | 31[4] | 124/ 310[5] | -- | -- | 21 |
| | lbs/day[1] | -- | 2.22[4] | 8.89/ 22.2[5] | -- | -- | 1.46 |
| | lbs/day[2] | -- | 3.10[4] | 12.4/ 31.0[5] | -- | -- | |
| Ammonia, Total (as N) | mg/L | -- | 18.6[4] | 74.4/ 186[5] | -- | -- | 13 |
| | lbs/day[1] | -- | 1,334[4] | 5,336/ 13,341[5] | -- | -- | 472 |
| | lbs/day[2] | -- | 1,861[4] | 7,446/ 18,615[5] | -- | -- | |
| Fecal Coliform Bacteria | MPN/100 mL | 14[6] | -- | 43[5] | -- | -- | >1,600 |

Table Notes:
1. Mass-based limitations based on the peak dry weather design flow of 8.6 mgd.
2. Alternate mass-based limitations apply during period of high infiltration/inflow when influent flow to the Facility exceeds 8.6 mgd for the limitation period (daily, weekly, or monthly), and are based on the secondary treatment capacity of the Facility (12.0 mgd).
3. Represents the minimum observed percent removal.
4. Applied as a 6-month median effluent limitation.
5. Applied as an instantaneous maximum effluent limitation.
6. The median value of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 14 per 100 milliliters (mL), in a calendar month.
7. In not more than 10 percent of samples collected in a calendar month shall fecal coliform bacteria exceed 43 MPN/100 mL.

### D. Compliance Summary

1. On October 6, 2009, the Executive Officer issued Administrative Civil Liability (ACL) Complaint No. R1-2009-0113 for violations of Order No. R1-2004-0013 and R1-2009-0033 for violations of effluent limitations for total chlorine residual and fecal coliform from May 14, 2008 through September 30, 2008 and sewer system overflows (SSOs) that occurred between June 16, 2009 and July 5, 2009. The ACL Complaint assessed a penalty of $10,000 for these violations.

2. On May 24, 2013, the Executive Officer issued ACL Complaint No. R1-2013-0037 for violations of Order No. R1-2009-0033 for the discharge of approximately 90,000 gallons of untreated wastewater to Martin Slough on March 29, 2012. The ACL Complaint assessed a penalty of $89,122 for these violations. On April 22, 2014, the Executive Officer issued a Settlement Agreement and Stipulation for Entry of ACL Order No. R1-2013-0037 requiring the Permittee to pay $46,361 in administrative civil liability. The remaining $42,761 was



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suspended pending the completion of a Supplemental Environmental Project with the goal of supporting and enhancing watershed education programs at Sequoia Park Zoo.

3. On September 4, 2014, the Executive Officer issued an Acceptance of Conditional Resolution and Waiver of Right to Hearing (Waiver) for violations of effluent limitations for total coliform, copper, and settleable solids during the period of October 1, 2011 through February 28, 2014. By accepting the Waiver the Permittee agreed to pay the Expedited Payment Amount of $9,000 for these violations.

### E. Planned Changes

The Permittee is committed to implementing a long-term, sustainable approach to limiting infiltration and inflow through projects like collection system improvements, trickling filter pump station rehabilitation, and primary diversion overflow weir improvements. The Permittee is no longer allowed to blend and will begin Facility improvements toward this end.

## III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

### A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (U.S. EPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this 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).

### B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

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

1. **Water Quality Control Plan.** The Regional Water Board adopted a *Water Quality Control Plan for the North Coast Region* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

   The Basin Plan designates a beneficial use of municipal and domestic supply (MUN) to Humboldt Bay. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for MUN. Salinity in Humboldt Bay in the vicinity of the discharge was reported as high as 50,000 µS/cm, which exceeds the salinity threshold in Resolution No. 88-63 of 5,000 µS/cm. The MUN designation is therefore not applicable to Humboldt Bay in the vicinity of Discharge Point 001. Beneficial uses applicable to Humboldt Bay are summarized in Table F-3, below:



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**Table F-[ LISTNUM OutlineDefault \l 3 ] Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Humboldt Bay | Existing:<br>Agricultural Supply (AGR);<br>Industrial Service Supply (IND);<br>Freshwater Replenishment (FRSH);<br>Navigation (NAV);<br>Water Contact Recreation (REC-1);<br>Non-Contact Water Recreation (REC-2);<br>Commercial and Sport Fishing (COMM);<br>Aquaculture (AQUA);<br>Cold Freshwater Habitat (COLD);<br>Marine Habitat (MAR);<br>Wildlife Habitat (WILD);<br>Preservation of Rare, Threatened, or Endangered Species (RARE);<br>Migration of Aquatic Organisms (MIGR);<br>Spawning, Reproduction, and/or Early Development (SPWN);<br>Shellfish Harvesting (SHELL);<br>Estuarine Habitat (EST); and<br>Native American Culture (CUL).<br><br>Potential:<br>Hydropower Generation (POW); and<br>Industrial Process Supply (PRO). |

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal waters. The Permittee does not discharge thermal waste; therefore, the Order does not include effluent limitations for temperature in response to the requirements of the Thermal Plan.

3. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on August 19, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the Pacific Ocean. In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program for implementation. The Ocean Plan identifies the beneficial uses of ocean waters of the state to be protected as summarized below:



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**Table F-[ LISTNUM OutlineDefault \l 3 ] Ocean Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Pacific Ocean | Existing:<br>Industrial water supply;<br>Water contact and non-contact recreation, including aesthetic enjoyment;<br>Navigation;<br>Commercial and sport fishing;<br>Mariculture;<br>Preservation and enhancement of designated Areas of Special Biological Significance (ASBS);<br>Rare and endangered species;<br>Marine habitat;<br>Fish migration;<br>Fish spawning; and<br>Shellfish harvesting. |

Requirements of this Order implement the Ocean Plan.

4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

6. **Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This Policy became effective on August 27, 2008.

   This Order does not include any compliance schedules or interim effluent limitations.

7. **Antidegradation Policy.** 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State



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Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. As discussed in detail in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

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

**D. Impaired Water Bodies on 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 U.S. EPA 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. The CWA requires development of a total maximum daily load (TMDL) for each 303(d) listed pollutant and water body contaminant. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine wasteload allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On October 11, 2011, the U.S. EPA provided final approval of the 2008-2010 303(d) list of impaired water bodies prepared by the state. The list identifies Humboldt Bay (Eureka Plain Hydrologic Unit) as impaired by dioxin equivalents and polychlorinated biphenyls (PCBs). Pursuant to CWA section 303(d), when the Regional Water Board adopts TMDLs to address impairing pollutants in 303(d) listed waters, NPDES permits will implement those TMDLs. 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



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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. The Regional Water Board expects to adopt TMDLs for dioxin toxic equivalents and PCBs by 2019. Discharges from the Facility have shown reasonable potential for discharge of dioxin toxic equivalents. This Order establishes new effluent limitations for dioxin toxic equivalents at levels protective of beneficial uses.

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

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

2. Storm water falling within the Facility is routed to the Facility headworks. State Water Board Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit) does not require facilities to obtain coverage if storm water is captured and treated and/or disposed of within the facility's NPDES permitted process wastewater or if storm water is disposed of in evaporation ponds, percolation ponds, or combined sewer systems. Therefore, coverage under the Industrial Storm Water General Permit is not required for this Facility.

3. On May 16, 1974, the State Water Board adopted State Water Board Resolution 74-43, *Water Quality Control Policy for Enclosed Bays and Estuaries*. Under State Water Board Resolution 74-43, the discharge of municipal wastewater to enclosed bays should be phased out as early as possible, and exceptions to this only allowed when the discharge enhances the quality of the receiving water above that which would occur in the absence of the discharge. Regional Water Board Resolution No. 80-10 and State Water Board Resolution No. 80-87 concluded that the discharge to Humboldt Bay at ebb tide at a point near the mouth of Humboldt Bay is consistent with the intent of State Water Board Resolution 74-43. However, as described in section II.B of this Fact Sheet, based on the Permittee's Effluent Discharge Study, modeling indicates that the discharge is not completely conveyed to the ocean and thus the discharges to Humboldt Bay is not consistent with the Bays and Estuaries Policy. This Order prohibits discharges to Humboldt Bay unless it is done in such a manner to assure that all wastewater is conveyed to the mouth of the Bay and dispersed in the Pacific Ocean during periods of ebb tide.

1. The discharge of waste other than hazardous waste to land for treatment, storage and disposal in waste management units is regulated pursuant to CCR title 27 except when expressly exempted. With respect to domestic sewage, section 20090 of title 27 specifies the available exemption as follows:



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> Exemptions. (C15: section 2511): The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed: (a) Sewage – Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

The applicable provisions of division 2 (Solid Waste) include prescriptive waste containment unit siting criteria, waste unit construction standards, and liner requirements. The waste containment units for digested sludge at the Facility have been permitted for use since the commencement of the operation of the Facility in 1984, but are, nevertheless not compliant with the provisions of title 27. The Regional Water Board is in the process of taking enforcement action to require the Permittee to take corrective action to bring its solids handling and storage program into compliance with applicable state regulations.

**Commented [AS10]:** Lisa, is this accurate? From existing permit.

**Commented [BH11]:** From existing permit.

## IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exist.

### A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of waste to Humboldt Bay is prohibited unless it is done in such a manner to assure that all wastewater is conveyed to the mouth of the Bay and dispersed in the Pacific Ocean during periods of ebb tide. The Permittee shall begin discharge 45 minutes before slack tide and, when discharge volumes require use of the effluent pumps, the pumping rate should be set to convey the stored volume within the limits of the discharge window.

   This prohibition is retained from Order. No. R1-2009-0033 and has been revised to require that discharges begin 45 minutes before slack tide and the pumping rate set to convey the stored volume within the limits of the discharge window. This prohibition is intended to maintain consistency with the Bays and Estuaries Policy; however, as described in section II.B of this Fact Sheet, based on the Permittee's Effluent Discharge Study, the discharge is not completely conveyed to the Pacific Ocean and thus is not currently in compliance with the policy or this prohibition. The revision requiring the Permittee to begin discharge 45 minutes before slack tide has been added because the Permittee's Effluent Discharge Study determined that this was the optimal time to discharge effluent to maximize the volume of effluent that is conveyed to the Pacific Ocean.



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

   This prohibition has been retained from Order No. R1-2009-0033 and is based on the Basin Plan and State Water Board Order No. WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, 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.

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

   This prohibition has been retained from Order No. R1-2009-0033 and is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code. It is a standard condition/prohibition included in NPDES permits and waste discharge requirements adopted by the Regional Water Board.

4. **Discharge Prohibition III.D.** The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c of the Order. (Solids Disposal and Handling requirements).

   This prohibition is retained from Order No. R1-2009-0033 and is based on restrictions on the disposal of sewage sludge found in federal regulations [40 C.F.R. Part 503 (Biosolids), Part 527, and Part 258] and title 27 of the California Code of Regulations (CCR).

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



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This prohibition has been retained from Order No. R1-2009-0033 and is based on the Basin Plan to protect the beneficial uses of the receiving water from unpermitted discharges, and the intent of the Water Code sections 13260 through 13264 relating to the discharge of waste to waters of the state without filing for and being issued an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

The Regional Water Board adopted Resolution No. 80-10 which concluded that the Permittee's ebb-tide discharge to Humboldt Bay implements the Basin Plan because all effluent was conveyed to the Pacific Ocean. This Resolution was based on modeling and tidal monitoring with a dye study completed in 1979. Thus, since 1987, the Regional Water Board has viewed the practice of blending at the Facility as a permissible exception to the bypass prohibition. The Permittee has bypassed secondary treatment when influent flows exceed the trickling filter capacity (approximately 12 mgd). When this occurs, the water surface elevation in the primary effluent channel rises allowing primary effluent to spill over a long weir into the bypass channel. This effluent is diverted around secondary treatment and then is recombined with secondary effluent, disinfected, and stored prior to discharge.

40 C.F.R. section 122.41(m) defines a bypass as "*...the intentional diversion of waste streams from any portion of a treatment facility*." Further, 40 C.F.R. section 122.41(m)(2) states that bypass may only be allowed "*...which does not cause effluent limitations to be exceeded, but only if it is also for essential maintenance to assure efficient operation*." The current operations at the Facility include the intentional diversions around the secondary treatment portion of the treatment facility (including the trickling filters, solids contact, and secondary clarification units). Further, these intentional diversions are not for the essential maintenance of the treatment facility, but instead are used to manage peak hydraulic flows to the Facility. The Permittee's January 7, 2014 *Feasibility Analysis for Treating Peak Wet Weather Discharges* (Feasibility Analysis) acknowledges the significant increase in the Facility's peak wet weather flows as a result of rainfall-derived infiltration and inflow.

In accordance with the NPDES regulations at 40 C.F.R. section 122.41(m), this Order discontinues the exception granting bypass of peak wet weather flows above 12 mgd when recombined with secondary treatment flows and discharge. It is recognized that the Permittee will be in immediate noncompliance with this prohibition, and as a result discharges from the Facility during times of peak flow when blending occurs will be regulated by Cease and Desist Order (CDO) **<Number>**.

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

   This prohibition has been retained from Order No. R1-2009-0033 and 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



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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 and land for a more complete protection of human health. This prohibition is necessary because of the prevalence of high groundwater in the North Coast Region, and this Region's reliance on groundwater as a drinking water source.

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

   This prohibition is newly established in this Order and is a standard Regional Water Board prohibition that is included in WDRs when there are discharges to land. 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.

8. **Discharge Prohibition III.H.** 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 Board or another Regional Water Board is prohibited.

   This prohibition is newly established in this Order and is a standard Regional Water Board 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.

9. **Discharge Prohibition III.I**. The discharge of waste to Elk River and its tributaries, and to seasonal and tidal marshes, including discharges from the Overflow Marsh that has received wastewater, is prohibited.

   This prohibition is retained from Order No. R1-2009-0033. It is based on the Bays and Estuaries Policy, which prohibits discharges to enclosed bays, with certain exceptions. As the Elk River is directly tributary to Humboldt Bay, discharges to the Elk River are prohibited. This prohibition also expressly prohibits any discharge of waste to the seasonal or tidal marshes located adjacent to the Facility.

10. **Discharge Prohibition III.J**. The discharge of more than 8.6 mgd as a peak dry weather flow, or 12.0 mgd as a peak wet weather flow, is prohibited.

    This prohibition is retained from Order No. R1-2009-0033 and is based on the engineering design and historic reliable treatment capacity of the Facility. This prohibition limits the



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peak dry weather flow to the peak dry weather design flow stated in the ROWD and peak wet weather flow to the hydraulic capacity stated in the ROWD. Flows exceeding the design capacities may result in a lower achievement of compliance with water quality objectives established in this Order.

11. **Discharge Prohibition K**. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the state is prohibited.

    This prohibition is retained from Order No. R1-2009-0033 and is based on the discharge prohibitions contained in section III.I. of the Ocean Plan and section 13375 of the Water Code.

12. **Discharge Prohibition L**. The discharge of sludge directly into the ocean or into a waste stream that discharges to the ocean is prohibited.

    This prohibition retained from Order No. R1-2009-0033 and is based on the Ocean Plan.

13. **Discharge Prohibition M**. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Ocean Plan Tables 1 or 2 (2012) is prohibited.

    This prohibition is newly established by this Order and is based on the discharge prohibitions contained in section III.I. of the Ocean Plan.

14. **Discharge Prohibition N**. The discharge of septage to a location other than an approved septage receiving station is prohibited.

    This prohibition is newly established by this Order and is necessary to ensure that the Permittee is aware of all discharges of septage into the treatment system so that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

## B. Technology-Based Effluent Limitations

### 1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 C.F.R. part 133 and Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

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

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

Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all



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municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$, TSS, and pH, as follows:

a. **$BOD_5$ and TSS**

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

ii. The 7-day average shall not exceed 45 mg/L.

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

b. **pH**

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

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

In addition, 40 C.F.R. section 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in Orders, except for 1) pH, temperature, radiation, or other pollutants which cannot be appropriately expressed by mass, and 2) when applicable standards and limitations are expressed in terms of other units of measure.

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

a. **Secondary Treatment Standards ($BOD_5$, TSS, and pH).** As described above, the secondary treatment standards at 40 C.F.R. part 133 establish the minimum level of effluent quality attainable by secondary treatment in terms of $BOD_5$, TSS, and pH. Numeric effluent limitations for $BOD_5$, TSS, and pH, including the percent removal requirements for $BOD_5$ and TSS, are retained from Order No. R1-2009-0033 and reflect the secondary treatment standards at 40 C.F.R. part 133.

a. **Ocean Plan Table 2 Effluent Limitations (Oil and Grease, TSS, Settleable Solids, Turbidity, and pH)**. The State Water Board, in Table 2 of the Ocean Plan, has established technology-based requirements for oil and grease, TSS, settleable solids, turbidity, and pH. Table 2 effluent limitations apply to POTWs, and also to industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the federal CWA. Compliance with Table 2 effluent limitations shall be the minimum level of treatment acceptable under the Ocean Plan, and shall define reasonable treatment and waste control technology. The Facility is a POTW; therefore, technology-based limitations contained in Table 2 of the Ocean Plan are applicable to the Permittee.

Consistent with Order No. R1-2009-0033, this Order includes effluent limitations for oil and grease, turbidity, and pH based on Table 2 of the Ocean Plan. Table 2 of the Ocean Plan includes effluent limitations for oil and grease and turbidity of 75 mg/L and 225 NTU, respectively, not to be exceeded at any time. Order No. R1-2009-0033 included maximum daily effluent limitations (MDELs) based on these requirements. To be consistent with the averaging period specified in Table 2 of the Ocean Plan, this Order revises these effluent limitations to instantaneous maximum effluent limitations. The percent removal requirements for TSS in the secondary treatment requirements (i.e., 85 percent) are more stringent than the percent removal requirements in Table 2 of the Ocean Plan (i.e., 75 percent); therefore, consistent with Order No. R1-2009-0033,



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this Order includes percent removal requirements for TSS based on the secondary treatment standards at 40 C.F.R. part 133. As described below, this Order includes effluent limitations for settleable solids which are more stringent than the effluent limitations in Table 2 of the Ocean Plan.

**b. Mass-Based Effluent Limitations.** Federal regulations at 40 C.F.R. section 122.45(f) require that, except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. Among the conditions exempting the application of mass-based limitations is section 40 C.F.R. section 122.45(f)(1)(i), which states "*for pH, temperature, and radiation, or other pollutants which cannot appropriately be expressed by mass*" and 40 C.F.R. section 122.45(f)(1)(ii), which states "*when applicable standards and limitations are expressed in terms of other units of measure.*" Consistent with Order No. R1-2009-0033, this Order includes mass-based effluent limitations for $BOD_5$ and TSS. Because settleable solids, turbidity, and pH cannot appropriately be expressed by mass, this Order does not include mass-based effluent limitations for pH per the exception in 40 C.F.R. section 122.45(f)(1)(i). Because the applicable standards for oil and grease in Table 2 of the Ocean Plan are expressed in terms of concentration, this Order does not include mass-based effluent limitations for oil and grease per the exception in 40 C.F.R. section 122.45(f)(1)(ii).

**Table F-[ LISTNUM OutlineDefault \l 3 ] Summary of Technology-Based Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 30 | 45 | 60 | -- | -- |
| | lbs/day[1] | 2,151 | 3,227 | 4,303 | -- | -- |
| | lbs/day[2] | 3,002 | 4,503 | 6,005 | -- | -- |
| | % Removal | 85 | -- | -- | -- | -- |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | 75 |
| Total Suspended Solids (TSS) | mg/L | 30 | 45 | 60 | -- | -- |
| | lbs/day[1] | 2,151 | 3,227 | 4,303 | -- | -- |
| | lbs/day[2] | 3,002 | 4,503 | 6,005 | -- | -- |
| | % Removal | 85 | -- | -- | -- | -- |
| Settleable Solids | mL/L | 0.1 | -- | 0.2 | -- | -- |
| Turbidity | NTU | 75 | 100 | -- | -- | 225 |
| pH | standard units | -- | -- | -- | 6.0 | 9.0 |

Table Notes:
1. Mass-based effluent limitations are based on the peak dry weather design capacity flow of 8.6 mgd.
2. These alternate mass-based effluent limitations apply during periods of high infiltration/inflow when influent flow to the Facility exceed 8.6 mgd for the limitations period (weekly or monthly), and are based on the peak secondary treatment capacity of 12.0 mgd.



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

#### 1. Scope and Authority

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

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean 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 Ocean Plan, 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 sections III.C.1 and III.C.3 of this Fact Sheet.

b. **Basin Plan Water Quality Objectives**. In addition to the specific water quality objectives indicated above, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bays, and estuaries, including Humboldt Bay. 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 the Department of Public Health 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 California Toxics Rule (CTR), established by the U.S. EPA at 40 C.F.R. 131.38, and the National Toxics Rule (NTR), established by the U.S. EPA at 40 C.F.R. 131.36. Criteria for most of the 126 priority pollutants are contained within the CTR and NTR.

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



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At title 22, division 4, chapter 15 of the CCR, DDW has established MCLs for certain pollutants for the protection of drinking water. Chapter 3 of the Basin Plan establishes these MCLs as water quality objectives applicable to receiving waters with the beneficial use designation of municipal and domestic supply. As described in section III.C.1 of this Fact Sheet, the municipal and domestic supply use is not applicable to the receiving water in the vicinity of the discharge.

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. The CTR at 40 C.F.R. section 131.38(c)(3)(ii) states that the saltwater criteria are applicable for waters in which the salinity is equal to or greater than 10 parts per thousand (ppt) 95% or more of the time. Based on two samples collected from the receiving water in the vicinity of the discharge on December 2, 2013, the receiving water salinity was 31 ppt and 32 ppt. Therefore, the saltwater 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. As stated in section III.C.1 of this Fact Sheet, the municipal and domestic supply use is not applicable to the receiving water in the vicinity of the discharge; therefore, the "water and organisms" criteria therefore do not apply and the "organisms only" criteria were used for the RPA.

Attachment F-1 includes a summary of RPA results for all priority pollutants with water quality criteria/objectives that are applicable to the Humboldt Bay.

**d. Ocean Plan Water Quality Objectives.** Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes general provisions and water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. These water quality objectives from the Ocean Plan are incorporated as receiving water limitations into the Order. Table 1 of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 C.F.R. section 122.44(d)(1), and in accordance with procedures established by the Ocean Plan, the Regional Water Board has performed an Ocean Plan RPA to determine the need for effluent limitations for the Table 1 toxic pollutants.

Attachment F-1 includes a summary of RPA results for all priority toxic pollutants with water quality criteria/objectives that are applicable to the Pacific Ocean.

**3. Determining the Need for WQBELs**

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable



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potential to cause, or contribute to an excursion above any state water quality standard. RPAs for this Facility were conducted using the procedures in the Ocean Plan and the SIP, as follows.

**a. Ocean Plan**

**i. Ocean Plan Reasonable Potential Analysis (RPA).** Procedures for performing an RPA for ocean dischargers are described in Section III.C. and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set, and compares the 95th percentile concentration at 95 percent confidence of each Table 1 pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

Endpoint 1 – There is "reasonable potential," and a WQBEL and monitoring are required.

Endpoint 2 – There is "no reasonable potential." WQBELs are not required, and monitoring is required at the discretion of the Regional Water Board.

Endpoint 3 – The Ocean Plan RPA is inconclusive. Existing WQBELs are retained, and monitoring is required.

The State Water Resources Control Board has developed a reasonable potential calculator, which is available at http://www.waterboards.ca.gov/plnspols/docs/oplans/rpcalc.zip. The calculator (RPcalc 2.2) was used in conducting the RPA and considers several pathways in the determination of reasonable potential.

**(a)** First Path

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303(d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

**(b)** Second Path

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

**(c)** Third Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), and all values in the data set are at



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or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant, and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed log normally. If the 95th percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

**(d)** Fourth Path

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps.

**(1)** If the number of censored values (those expressed as a "less than" value) account for less than 80 percent of the total number of effluent values, calculate the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.

**(2)** If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution.)

**(e)** Fifth Path

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie, when the dilution adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limitations in the expiring permit are retained.

**ii. Ocean Plan Reasonable Potential Determination**

The RPA for the effluent was conducted using effluent monitoring data generated from five monitoring events in December 2009, December 2010, November 2011, December 2012, and December 2013 for all Ocean Plan Table 1 parameters and from routine monitoring events for chlorine residual, ammonia, copper, cyanide,



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and chronic toxicity as required by the Monitoring and Reporting Program for Order No. R1-2009-0033. Results from the RPA have been used to determine the need for effluent limitations for Table 1 parameters given in the Ocean Plan.

For the RPA conducted for this permit renewal, pollutant concentrations were adjusted to account for the calculated initial dilution of 30 parts seawater per part wastewater. The adjustment for dilution is consistent with previous orders for this Facility. It should be noted however that the *Effluent Discharge Study for the Elk River Wastewater Treatment Plant* submitted by the Permittee on January 7, 2014 demonstrated that ebb tide does not convey all of the effluent to the ocean. Therefore it is uncertain whether the 30:1 dilution should continue to be applicable to the eventual discharge into the Pacific Ocean. Therefore this Order also requires the Permittee to perform a study to determine the appropriate dilution that should be used for the eventual discharge into the Pacific Ocean during the next permit renewal for the Facility.

The table below identifies the RPA endpoint for each Table 1 parameter detected in the effluent and shows the analysis reaches an Endpoint 2 or 3 for most of the parameters analyzed. An Endpoint 2 RPA means there is no reasonable potential and monitoring is at the discretion of the Regional Water Board. An Endpoint 3 RPA is inconclusive and results when a majority of the effluent data is reported as ND (not detected). In these circumstances, the Regional Water Board views the "inconclusive" result as an indication of no concern for a particular pollutant; however, additional monitoring will be required for those parameters during the term of the permit.

The RPA conducted for the Facility demonstrated reasonable potential (Endpoint 1) for discharges from the Facility to cause or contribute to exceedances of applicable water quality criteria for ammonia, chlorine, and copper.

The following table summarizes the RPA for each priority pollutant that was reported in detectable concentrations in the effluent. The MECs, most stringent water quality objectives (WQO), and background concentrations (B) used in the RPA are presented, along with the RPA results for each toxic pollutant analyzed. No other pollutants with applicable numeric water quality criteria from the Ocean Plan were measured above detectable concentrations or analyzed for during the monitoring events conducted by the Permittee.

The results of the RPA indicate reasonable potential for ammonia, chlorine, and copper for the effluent discharged through Discharge Point 001. Attachment F-1 to this Order summarizes the RPA for all constituents.



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**Table F-[ LISTNUM OutlineDefault \l 3 ] Summary of Ocean Plan RPA Results**

| Table B Pollutant | Most Stringent WQO (µg/L) | No. of Samples | No. of Non-Detects | Max Effluent Conc. (µg/L)[1] | RPA Results, Comment |
|---|---|---|---|---|---|
| **Objectives for Protection of Marine Aquatic Life** | | | | | |
| Ammonia | 600 | 89 | 1 | 2,709 | Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required. |
| Copper | 3.0 | 73 | 0 | 3.7 | Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required. |
| Nickel | 5.0 | 5 | 3 | 0.20 | Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND. |
| Zinc | 20 | 5 | 0 | 10 | Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate. |
| Cyanide | 1.0 | 71 | 67 | 0.68 | Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate. |
| Total Chlorine Residual | 2 | 1,918 | 1,347 | 50.6 | Endpoint 1 – An effluent limitation must be developed for this pollutant. Monitoring is required. |
| **Objectives for Protection of Human Health – Carcinogens** | | | | | |
| Chlorodibromomethane | 8.6 | 6 | 1 | 0.06 | Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate. |
| Chloroform | 130 | 5 | 3 | 0.19 | Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate. |
| Chromium III | 190,000 | 5 | 3 | 0.22 | Endpoint 3 - RPA is inconclusive. Less than 3 detects or greater than 80% ND. |
| Dichlorobromomethane | 6.2 | 5 | 0 | 0.16 | Endpoint 2- An effluent limitation is not required for this pollutant. Monitoring may be required as appropriate. |

Table Notes:
1. Represents the expected concentration after complete mixing in accordance with the reasonable potential procedure in Appendix VI of the Ocean Plan.



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**b. SIP**

**i. Priority Pollutants**

The SIP establishes procedures to implement water quality criteria from the NTR and CTR 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 demonstrating reasonable potential.

SIP Section 1.3 requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct an RPA. Effluent data from August 2009 through October 2014 and receiving water monitoring data from a monitoring event on December 2, 2013 was used for the RPA.

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

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

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

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

**ii. Reasonable Potential Determination**

The RPA demonstrated reasonable potential for discharges of copper, cyanide, and TCDD equivalents to cause or contribute to exceedances of applicable water quality criteria. Reasonable potential could not be determined for all pollutants, as there are not applicable water quality criteria for all pollutants. The RPA determined that there is either no reasonable potential or there was insufficient information to conclude affirmative reasonable potential for 123 of the 126 priority pollutants.

Table F-7 summarizes the RPA for each pollutant that was reported in detectable concentrations in the effluent or the receiving water. The MECs, most stringent water quality objectives/water quality criteria (WQO/WQCs), and background



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concentrations (B) used in the RPA are presented, along with the RPA results (Yes or No) for each toxic pollutant analyzed. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the monitoring events conducted by the Permittee. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

**Table F-[ LISTNUM OutlineDefault \l 3 ] Summary of SIP RPA Results**

| CTR # | Pollutants | C or Most Stringent WQO/WQC (µg/L) | MEC or Minimum DL (µg/L)[1] | B or Minimum DL (µg/L) | RPA Result[2] |
|---|---|---|---|---|---|
| 5a | Chromium (III), Total Recoverable | No Criteria | 1.21 | 1.8 | No |
| 5b | Chromium (VI), Total Recoverable | 50 | 6.9 | <5.0 | No |
| 6 | Copper, Total Recoverable | 3.7 | 55 | 3.1 | **Yes** |
| 9 | Nickel, Total Recoverable | 8.0 | 6.2 | 2.6 | No |
| 13 | Zinc, Total Recoverable | 86 | 70 | 17 | No |
| 14 | Cyanide, Total (as CN) | 1.0 | 21 | <0.9 | **Yes** |
| 16 | TCDD Equivalents | $1.4 \times 10^{-8}$ | $8.55 \times 10^{-6}$ | -- | **Yes** |
| 20 | Bromoform | 360 | 0.63 | <0.2 | No |
| 23 | Chlorodibromomethane | 34 | 2 | <0.17 | No |
| 26 | Chloroform | No Criteria | 6 | <0.19 | No |
| 27 | Dichlorobromomethane | 46 | 5 | <0.16 | No |

Table Notes:
1. The Maximum Effluent Concentration (MEC) or maximum background concentration (B) is the actual detected concentration unless it is preceded by "<", in which case the value shown is the minimum detection level as the analytical result was reported as not detected (ND).
2. RPA Results:
   = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected.
   = No, if MEC and B or < WQO/WQC or all effluent data are undetected.
   = Undetermined (UD).

**c. Other Pollutants**

**i. Ammonia.** Untreated domestic wastewater contains ammonia nitrogen. Nitrification is a biological process that converts ammonia to nitrite and nitrate. Denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving water.

Ammonia is known to cause toxicity to aquatic organisms in surface waters. The Basin Plan establishes a narrative water quality objective for toxicity stating that "[a]*ll waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" Due to concerns regarding ammonia toxicity, the Regional Water Board relies on U.S. EPA's recommended water quality criteria for ammonia



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in saltwater from the 1989 *Ambient Water Quality Criteria for Ammonia*, EPA-440/5-88-004 (April 1989) to interpret the Basin Plan's narrative objective for toxicity. The 1989 criteria document includes three tables of recommended criteria for receiving water salinities of 10 g/kg, 20 g/kg, and 30 g/kg. Based on two samples collected from the receiving water in the vicinity of the discharge on December 2, 2013, the receiving water salinity was 31 ppt and 32 ppt (ppt is equivalent to g/kg). Therefore, the table for receiving waters with salinity greater than 30 g/kg was used. The acute and chronic criteria are based on pH and temperature.

The Permittee did not conduct effluent monitoring for temperature or receiving water monitoring for pH or temperature during the term of Order No. R1-2009-0033. Based on effluent monitoring collected between August 2009 and October 2014, the maximum observed effluent pH was 7.5. Based on receiving water monitoring data collected in the vicinity of the discharge by the National Oceanic and Atmospheric Administration (NOAA) station at North Spit, CA (Station ID 9418767), the maximum daily average temperature was 17°C and the maximum monthly average temperature was 15°C. In the absence of additional receiving water pH or temperature data, the criteria were calculated using a pH of 7.5 and a temperature of 15°C. The resulting acute and chronic criteria are 40 mg/L and 5.6 mg/L, respectively.

The maximum effluent ammonia concentration was 13 mg/L based on 89 samples collected between August 2009 and October 2014. Because ammonia levels in the effluent have been measured at concentrations greater than U.S. EPA's 1989 recommended water quality criteria for saltwater, 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 narrative water quality criterion for toxicity. Therefore, this Order includes effluent limitations for ammonia for the protection of aquatic life. This Order establishes an average monthly effluent limitations (AMEL) of 4.1 mg/L and maximum daily effluent limitation (MDEL) of 10 mg/L for total ammonia, expressed as N.

**ii. 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, this Order establishes effluent limitations for chlorine. U.S. EPA has established the following criteria for chlorine-produced oxidants for protection of saltwater aquatic life in *Quality Criteria for Water 1986* (The Gold Book, 1986, EPA 440/5-86-001).

| Chronic Criterion | Acute Criterion |
|---|---|
| 0.0075 mg/L | 0.013 mg/L |

The water quality criteria for total chlorine residual recommended by U.S. EPA have been translated to an AMEL and MDEL in this Order.



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iii. **Fecal Coliform Organisms.** Order No. R1-2009-0033 specified that the disinfected effluent discharged through Discharge Point 001 shall not contain concentrations of fecal coliform bacteria exceeding the following limitations:

**(a)** The median concentration shall not exceed a Most Probable Number (MPN) of 14 per 100 mL for a calendar month.

**(b)** Not more than 10 percent of samples collected in a calendar month shall exceed an MPN of 43 per 100 mL.

Although Order No. R1-2009-0033 specified compliance with the limitation in (b) above using the results of 10 consecutive samples, this Order applies the limitation as a single sample limitation for ease of determining compliance with the limitation.

These effluent limitations for fecal coliform were first established in WDRs for the Permittee in 1987 (WDR Order No. 87-124) and reflect standards at the time for shellfish growing areas by DDW. The effluent limitations are consistent with the National Shellfish Sanitation Program's Fecal Coliform Standard for Adverse Pollution Conditions in the 2003 *Guide for the Control of Molluscan Shellfish, Model Ordinance for Shellstock Growing Areas* (U. S. Department of Health and Human Services, Public Health Service, Food and Drug Administration).

iv. **pH**. Chapter 3, Table 3-1 of the Basin Plan includes site-specific water quality objectives for pH for Humboldt Bay which specify that the pH shall not be depressed below natural background levels nor raised above 8.5. This Order includes an instantaneous minimum effluent limitation for pH of 6.0 based the secondary treatment requirements at 40 C.F.R. part 133 and an instantaneous maximum effluent limitation for pH of 8.5 based on the site-specific maximum water quality objective for Humboldt Bay established in Chapter 3, Table 3-1 of the Basin Plan. The technology-based maximum requirement prescribed in the secondary treatment standards at 40 C.F.R. part 133 is not sufficient to meet the Basin Plan water quality standard.

v. **Settleable Solids.** Effluent limitations for settleable solids are retained from Order No. R1-2009-0033 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. Consistent with Order No. R1-2009-0033, this Order applies the effluent limitations for settleable solids at Discharge Point 001.

**4. WQBEL Calculations**

WQBELs were calculated for constituents with reasonable potential following the Ocean Plan and SIP procedures, and the most stringent limitations were established as the final effluent limitations in this Order.

**a. Ocean Plan**

Based on results of the RPA, performed in accordance with methods of the Ocean Plan for discharges to the Pacific Ocean, the Regional Water Board calculated WQBELs for copper, ammonia, and chlorine at Discharge Point 001.



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As described by Section III.C of the Ocean Plan, effluent limits for Table 1 pollutants are calculated according to the following equation.

$$Ce = Co + Dm (Co - Cs)$$

Where ...

Ce = the effluent limitation (µg/L)

Co = the concentration (the water quality objective) to be met at the completion of initial dilution (µg/L).

Cs = background seawater concentration (µg/L)

Dm = minimum probable initial dilution expressed as parts seawater per part wastewater (here, Dm = 30)

Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For purposes of this permit renewal, the Dm of 30 is retained from Order No. R1-2009-0033. As described in Section IV.C.3.a of this Fact Sheet, the Permittee will be required in Section VI.C.2.e of the Order to reassess the minimum probable initial dilution prior to the next permit reissuance to ensure its accuracy in light of recent studies by the Permittee.

In accordance with Table 1 implementing procedures, Cs equals zero for all parameters, except the following:

**Table F-[ LISTNUM OutlineDefault \l 3 ] Background Seawater Concentrations – Ocean Plan**

| Pollutant | Background Seawater Concentration (µg/L) |
|---|---|
| Arsenic | 3 |
| Copper | 2 |
| Mercury | 0.0005 |
| Silver | 0.16 |
| Zinc | 8 |

Applicable water quality objectives from Table 1 of the Ocean Plan are as follows.

**Table F-[ LISTNUM OutlineDefault \l 3 ] Water Quality Objectives – Ocean Plan**

| Pollutant | Units | 6-Month Median | Daily Maximum | Instantaneous Maximum | 30-Day Average |
|---|---|---|---|---|---|
| Copper | µg/L | 3 | 12 | 30 | -- |
| Ammonia | µg/L | 600 | 2,400 | 6,000 | -- |
| Total Residual Chlorine | µg/L | 2 | 8 | 60 | -- |

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations are calculated as follows. Here, Dm is equal to 30 for the effluent limitation calculation.



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Copper

Ce = 3 + 30 (3 – 2) = 33 µg/L (6-Month Median)

Ce = 12 + 30 (12 – 2) = 312 µg/L (Daily Maximum)

Ce = 30 + 30 (30 – 2) = 870 µg/L (Instantaneous Maximum)

Ammonia

Ce = 600 + 30 (600 – 0) = 18,600 µg/L (6-Month Median)

Ce = 2,400 + 30 (2,400 – 0) = 74,400 µg/L (Daily Maximum)

Ce = 6,000 + 30 (6,000 – 0) = 186,000 µg/L (Instantaneous Maximum)

Total Residual Chlorine

Ce = 2 + 30 (2 – 0) = 62 µg/L (6-Month Median)

Ce = 8 + 30 (8 – 0) = 248 µg/L (Daily Maximum)

Ce = 60 + 30 (60 – 0) = 1,860 µg/L (Instantaneous Maximum)

**b. SIP**

Final WQBELs for ammonia, chlorine, copper, cyanide, and TCDD equivalents have been determined using the methods described in Section 1.4 of the SIP.

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

ECA = C + D (C – B),

Where:

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

D = dilution credit (here D = 0)

B = background concentration

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

Order No. R1-2009-0033 required the Permittee to perform another effluent discharge study, and the *Effluent Discharge Study for the Elk River Wastewater Treatment Plant* was submitted on January 7, 2014. This new study, as discussed in section II.B of this Fact Sheet, demonstrated that ebb tide does not convey all of the effluent to the ocean, demonstrating that the discharge and mixing characteristics in the Bay are different than at the time of the initial study. Thus the initial study and its findings are not considered representative for purposes of establishing a mixing zone.

**Step 2:** For each ECA based on an aquatic life criterion/objective (ammonia, chlorine, copper, and cyanide), the long term average discharge condition (LTA) is determined by multiplying the ECA by a factor (multiplier), which adjusts the ECA to account for



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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.

**Table F-[ LISTNUM OutlineDefault \l 3 ] Determination of Long Term Averages**

| Pollutant | ECA | | ECA Multiplier | | LTA (µg/L) | |
|---|---|---|---|---|---|---|
| | Acute | Chronic | Acute | Chronic | Acute | Chronic |
| Ammonia, Total (as N) | 40 | 5.6 | 0.20 | 0.37 | 8.2 | 2.1 |
| Copper, Total Recoverable | 5.8 | 3.7 | 0.58 | 0.75 | 3.3 | 2.8 |
| Cyanide, Total (as CN) | 1.0 | 1.0 | 0.32 | 0.53 | 0.32 | 0.53 |
| Chlorine, Total Residual | 0.013 | 0.0075 | 0.32 | 0.53 | 0.0042 | 0.0040 |

**Step 3:** WQBELs, including an AMEL and MDEL are calculated using the most limiting (lowest) LTA. The LTA is multiplied by a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV is set to 1.0 for ammonia, 0.25 for copper, 0.6 for chlorine, and 0.6 for cyanide, and the sampling frequency is set equal to 4 (n=4) for the acute and chronic criteria. The 99$^{th}$ percentile occurrence probability was used to determine the MDEL multiplier and 95$^{th}$ percentile occurrence probability was used to determine the AMEL multiplier. The MDEL and AMEL multipliers from Table 2 of the SIP are shown in Table F-11. Final WQBELs for ammonia, copper, chlorine, and cyanide are determined as follows.

**Table F-[ LISTNUM OutlineDefault \l 3 ] Determination of Final WQBELs Based on Aquatic Life Criteria**

| Pollutant | LTA (µg/L) | MDEL Multiplier | AMEL Multiplier | MDEL (µg/L) | AMEL (µg/L) |
|---|---|---|---|---|---|
| Ammonia, Total (as N) | 2.1 | 4.9 | 1.9 | 10 | 4.1 |
| Copper, Total Recoverable | 2.8 | 1.7 | 1.2 | 4.8 | 3.4 |
| Cyanide, Total (as CN) | 0.32 | 3.1 | 1.6 | 1.0 | 0.50 |
| Chlorine, Total Residual | 0.0040 | 3.1 | 1.6 | 0.012 | 0.0061 |

**Step 4:** When the most stringent water quality criterion/objective is a human health criterion/objective (as for TCDD equivalents), the AMEL is set equal to the ECA. From Table 2 in the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99$^{th}$ percentile occurrence probability equals 3.1, and the AMEL multiplier at the 95$^{th}$ percentile occurrence probability equals 1.6 (for TCDD equivalents). The MDEL for protection of human health is calculated by multiplying the ECA by the ratio of the MDEL multiplier to the AMEL multiplier. Final WQBELs for TCDD equivalents are determined as follows.



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**Table F-[ LISTNUM OutlineDefault \l 3 ] Determination of Final WQBELs Based on Human Health Criteria**

| Pollutant | ECA (µg/L) | MDEL/AMEL Multiplier | MDEL (µg/L) | AMEL (µg/L) |
|---|---|---|---|---|
| TCDD Equivalents | $1.4 \times 10^{-8}$ | 2.01 | $2.8 \times 10^{-8}$ | $1.4 \times 10^{-8}$ |

As discussed earlier in this Fact Sheet, RPAs were conducted and effluent limitations were calculated using both the SIP and Ocean Plan procedures. The Ocean Plan procedures resulted in effluent limitations that are less stringent than those calculated using the SIP procedures for ammonia, chlorine, and copper; therefore, the final WQBELs in this Order for these parameters are based on the SIP procedures. The table below contains the final summary of WQBELs applicable to this Facility.

**Table F-[ LISTNUM OutlineDefault \l 3 ] Summary of Water Quality Based Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| pH | standard units | -- | -- | -- | -- | 8.5 |
| Ammonia, Total (as N) | mg/L | 4.1 | -- | 10 | -- | -- |
| Copper, Total Recoverable | µg/L | 3.4 | -- | 4.8 | -- | -- |
| Chlorine, Total Residual | µg/L | 0.0061 | -- | 0.012 | -- | -- |
| Cyanide, Total (as CN) | µg/L | 0.50 | -- | 1.0 | -- | -- |
| TCDD Equivalents | µg/L | $1.4 \times 10^{-8}$ | -- | $2.8 \times 10^{-8}$ | -- | -- |
| Fecal Coliform Bacteria | MPN/ 100 mL | 14[1] | | 43[2] | -- | -- |

Table Notes:
1. The median value of fecal coliform bacteria shall not exceed 14 MPN/100 mL.
2. No samples shall exceed 43 MPN/100 mL.

### 5. Whole Effluent Toxicity (WET)

Monitoring for acute and chronic toxicity protects 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,



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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).

Previous Order No. R1-2009-0033 allowed the Permittee a dilution credit of 30:1 for chronic toxicity. This dilution credit was based on the assumption that all effluent was conveyed to the ocean based on a 1979 effluent discharge study. The Facility demonstrated toxicity above 1TUc but below the previous trigger of 31 TUc. As discussed in section II.B of this Fact Sheet, the new effluent discharge study performed during the term of Order No. R1-2009-0033 demonstrated that all effluent is not conveyed to the ocean and it can be concluded that the area is hydrologically different than it was at the time the previous study was performed. As a result of these new findings, it is uncertain to what extent mixing in the vicinity of the discharge effects the toxicity of the discharge. Due to this uncertainty, no WET effluent limitations are established in this Order. However, acute and chronic WET monitoring will be required as described further below.

**a. Acute Aquatic Toxicity**

Consistent with Order No. R1-2009-0033, this Order includes effluent monitoring for acute toxicity. The Order implements federal guidelines (Regions 9 and 10 Guidelines for Implementing Whole Effluent Toxicity Testing Programs) by requiring the Permittee to conduct acute toxicity tests on a fish species and on an invertebrate species to determine the most sensitive species. According to the U.S. EPA manual, *Methods for Estimating the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms* (EPA/600/4-90/-27F), the acceptable vertebrate species for the acute toxicity test is the sheepshead minnow, *Cyprinodon variegatus.* The acceptable invertebrate species for the acute toxicity test is the mysid shrimp, *Mysidopsis bahia.* This Order requires the Permittee to conduct a screening test using a vertebrate and invertebrate species. After the screening test is completed, monitoring can be reduced to the most sensitive species. Attachment E of this Order requires quarterly acute WET monitoring.

**b. Chronic Aquatic Toxicity**

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Permittee demonstrate the presence or absence of chronic toxicity using tests on the topsmelt, *Atherinops affinis*, the purple sea urchin, *Strongylocentrotus purpuratus*, the sand dollar, *Dendraster excentricus*, the red abalone, *Haliotis rufescens*, and the giant kelp, *Macrocystis pyrifera*. Attachment E of this Order requires quarterly chronic WET testing to determine compliance with the narrative toxicity objective.

The Permittee conducted quarterly chronic toxicity testing using *M. pyrifera*, *H. rufescens*, and *A. affinis*. The following table summarizes the chronic toxicity testing results from August 2009 through April 2014.



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**Table F-14. Summary of Chronic Toxicity Results**

| Date | *Macrocystis pyrifera* | | *H rufescens* | *Atherinops affinis* | |
|---|---|---|---|---|---|
| | Survival (TUc) | Growth (TUc) | Reproduction (TUc) | Survival (TUc) | Growth (TUc) |
| 8/31/2009 | 8 | 10 | 8 | 8 | 8 |
| 11/30/2009 | 8 | 8 | 8 | 8 | 8 |
| 2/8/2010 | 8 | 8 | -- | -- | -- |
| 5/24/2010 | 8 | 8 | -- | -- | -- |
| 8/17/2010 | 8 | 8 | -- | -- | -- |
| 12/7/2010 | 8 | 8 | -- | -- | -- |
| 1/18/2011 | 40 | 8 | -- | -- | -- |
| 5/16/2011 | 8 | 8 | -- | -- | -- |
| 8/29/2011 | 8 | 8 | -- | -- | -- |
| 11/21/2011 | 8 | 8 | -- | -- | -- |
| 3/13/2012 | 8 | 8 | -- | -- | -- |
| 5/21/2012 | 8 | 8 | -- | -- | -- |
| 8/13/2012 | 8 | 8 | -- | -- | -- |
| 12/10/2012 | 10 | 8 | -- | -- | -- |
| 3/7/2013 | 8 | 8 | -- | -- | -- |
| 4/26/2013 | 8 | 8 | -- | -- | -- |
| 7/29/2013 | 8 | 8 | -- | -- | -- |
| 10/16/2013 | 8 | 8 | -- | -- | -- |
| 2/10/2014 | 8 | 8 | -- | -- | -- |
| 4/21/2014 | 8 | 8 | -- | -- | -- |

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



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modification to incorporate new statewide toxicity criteria established by the upcoming SIP revision.

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

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 toxicity exceeding the numeric toxicity monitoring trigger, the Permittee is required to initiate a TRE in accordance with an approved TRE work plan. 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.

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

Order No. R1-2009-0033 established a numeric chronic toxicity trigger of 31 TUc, using a five-concentration hypothesis test. In 2010, U.S. EPA endorsed the peer-reviewed *Test of Significant Toxicity (TST) two-concentration hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA's toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) mean response of regulatory management concern—than the NOEC hypothesis-testing approach. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the acute (0.20 or more) mean responses of regulatory management concern—than the current approach used to establish effluent limitations for acute toxicity.

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

In 2011, to demonstrate the advantages of the TST approach, the State Water Board conducted a "test drive" comparing results obtained using TST with results obtained using the NOEC statistical approach currently being used in California's WET program. Using data from a number of sources, the analysis identified the number of tests passing or failing, the range of effects associated with passing or failing, and the within-test variability associated with these tests using the TST and the NOEC approach. A sample was declared toxic if there is greater than or equal to a 25 percent effect in a chronic test at the permitted Instream Waste Concentration (IWC). The sample is declared non-toxic if there is less than or equal to 10 percent effect at the IWC.

The results of the test drive indicate that, overall, use of the TST approach results in a smaller percentage of tests being declared toxic in comparison to the NOEC analysis.



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The test drive demonstrated that the TST approach declared 2.9 percent of all tests as toxic at the IWC with a percent effect less than 25 percent, while the NOEC analysis declared a greater number of those tests toxic, 5.3 percent. The TST analysis also declared 0.1 percent of all tests as toxic with an effect less than or equal to 10 percent (i.e., truly non-toxic) compared to 2.6 percent declared toxic by the NOEC analysis. For chronic toxicity tests using marine species, the ability for the TST approach to more consistently identify truly toxic samples as toxic and truly non-toxic samples as non-toxic is even more pronounced.

The State Water Board is developing a toxicity amendment to the Water Quality Control Plan for Enclosed Bays and Estuaries of California that will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA's TST approach is an essential component of this draft toxicity amendment as it forms the basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations.

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

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

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test, and simplifying the analysis as compared to traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical analyses. Toxicity tests shall be run using a multi-concentration test design in accordance with Code of Federal Regulations, title 40, section 126.3, and the TST shall be utilized with the biological responses from the permitted IWC and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the Permittee, lab, and permit manager. This Order requires application of TST for statistical analysis of whole effluent toxicity data.



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**Test of Significant Toxicity Design**

The TST's null hypothesis for chronic toxicity is:

$H_0$: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ 0.75 mean response (control)

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

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

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

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

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

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

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

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

## D. Final Effluent Limitation Considerations

### 1. Anti-Backsliding Requirements

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



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with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R1-2009-0033.

Order No. R1-2009-0033 established final mass-based effluent limitations for copper, ammonia, cyanide, and chlorine residual. 40 CFR 122.45(f)(1)(ii) states that mass limitations are not required when applicable standards and limitations are expressed in terms of other units of measurement. The numerical effluent limitations for these pollutants established in this Order are based on the effluent limitations required by the CTR, which are expressed in terms of concentration. Pursuant to 40 CFR 122.45(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with federal regulations.

**2. Antidegradation Policies**

This Order is consistent with applicable federal and State antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater beyond that which was permitted to discharge in accordance with Order No. R1-2009-0033.

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

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on $BOD_5$, oil and grease, pH, settleable solids, TSS, and turbidity. Restrictions on these pollutants are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement section III.B, Table 2, of the Ocean Plan and the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations for ammonia, chlorine residual, copper, cyanide, fecal coliform bacteria, pH, and TCDD equivalents that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards. These requirements are discussed in section IV.C.3 of the Fact Sheet.

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

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.

Table F-16 summarizes all final effluent limitations included in the Order and the basis for their inclusion.



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**Table F-15. Summary of Final Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | | | Basis[1] |
|---|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Biochemical Oxygen Demand 5-day @ 20°C ($BOD_5$) | mg/L | 30 | 45 | 60 | -- | -- | CFR |
| | lbs/day[2] | 2,151 | 3227 | 4,303 | -- | -- | |
| | lbs/day[3] | 3,002 | 4,503 | 6,005 | -- | -- | |
| | % Removal | 85 | -- | -- | -- | -- | |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | 75 | OP |
| Total Suspended Solids (TSS) | mg/L | 30 | 45 | 60 | -- | -- | CFR |
| | lbs/day[2] | 2,151 | 3227 | 4,303 | -- | -- | |
| | lbs/day[3] | 3,002 | 4,503 | 6,005 | -- | -- | |
| | % Removal | 85 | -- | -- | -- | -- | |
| Settleable Solids | mL/L | 0.1 | -- | 0.2 | -- | -- | PO |
| Turbidity | NTU | 75 | 100 | -- | -- | 225 | OP |
| pH | s.u. | -- | -- | -- | 6.0 | 8.5 | CFR, BP |
| Chlorine, Total Residual | µg/L | 0.0061 | -- | 0.012 | -- | -- | NAWQC |
| Ammonia, Total (as N) | mg/L | 4.1 | -- | 10 | -- | -- | NAWQC |
| Copper, Total Recoverable | µg/L | 3.4 | -- | 4.8 | -- | -- | CTR |
| Cyanide, Total (as CN) | µg/L | 0.50 | -- | 1.0 | -- | -- | CTR |
| TCDD Equivalents | µg/L | $1.4 \times 10^{-8}$ | -- | $2.8 \times 10^{-8}$ | -- | -- | CTR |
| Fecal Coliform Bacteria | MPN/ 100 mL | 14[4] | -- | -- | -- | 43[5] | Title 22 |

Table Notes:

1. Definitions of acronyms in Table F-16:
   CFR 40 C.F.R. part 133
   BP Basin Plan
   OP Ocean Plan
   PO Previous Order No. R1-2009-0033
   CTR California Toxics Rule
   NAWQC U.S. EPA National Ambient Water Quality Criteria
   Title 22 California Code of Regulations, title 22, division 4, chapter 3, section 60301.225
2. Mass-based effluent limitations are based on the peak dry weather design flow of 8.6 mgd.
3. These alternate mass-based limitations apply during periods of high infiltration/inflow when influent flow to the Facility exceed 8.6 mgd for the limitation period (daily, weekly, or monthly), and are based on the secondary treatment capacity of the Facility (12.0 mgd).
4. The median value of fecal coliform bacteria shall not exceed a Most Probable Number (MPN) of 14 per 100 milliliters (mL), in a calendar month.
5. In not more than 10 percent of samples collected in a calendar month shall fecal coliform bacteria exceed an MPN of 43 per 100 milliliters.



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

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

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

This Order does not authorize discharges to land.

**G. Recycling Specifications – Not Applicable**

This Order does not authorize water recycling discharges.

**H. Other Requirements**

1. This Order contains discharge specifications for total chlorine residual that apply to treated wastewater discharged from the effluent storage pond to the Overflow Marsh. In accordance with this provision, discharges of treated wastewater to the Overflow Marsh must have no detectable chlorine residual. Compliance with this discharge specification shall be determined using a total chlorine detection method with a minimum detection level of 0.1 mg/L. This provision is consistent with the effluent daily maximum effluent limit of 0.1 mg/L for total chlorine residual contained in all previous Orders for discharges to the Wildlife Management Area. The purpose of the limitation was to ensure that the treated wastewater discharged to the Wildlife Management Area for the purpose of enhancing wetland and riparian habitat and for temporary storage of treated effluent would not contain concentrations of residual chlorine that could impair the function of the Wildlife Management Area.

**Commented [BH12]:** From existing permit.

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

**A. Surface Water**

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

This Order also contains receiving water limitations for discharges to the Pacific Ocean based on the Ocean Plan numerical and narrative water quality objectives for bacteria, dissolved oxygen, floating particulates, oil and grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials in sediments, Table 1 parameters, nutrient materials, radioactive wastes, and biological characteristics.



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**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 CCR, title 22, division 4, chapter 15, article 4.1, section 64435, and article 5.5, section 64444, and listed in Table 3-2 of the Basin Plan.

## VI. RATIONALE FOR PROVISIONS

### A. Standard Provisions

#### 1. Federal Standard Provisions

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

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

#### 2. Regional Water Board Standard Provisions

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

a. Order Provision VI.A.2.a identifies the state's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).

b. Order Provision VI.A.2.b requires the Permittee to notify Regional Water Board staff, orally and in writing, in the event that the Permittee does not comply or will be unable



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

**B. Special Provisions**

**1. Reopener Provisions**

a. **Standard Revisions (Special Provision VI.C.1.a).** Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, which include the following:

i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.

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

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

c. **Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Permittee to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a new chronic toxicity limitation, acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

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

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

f. **Mixing Zone Study (Special Provision VI.C.1.f).** This provision allows the Regional Water Board to reopen this Order if a future mixing zone study undertaken by the Permittee provides new information and justification for granting a mixing zone to the Facility.

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

a. **Toxicity Reduction Requirements (Special Provision VI.C.2.a)**. In addition to routine toxicity monitoring, this Order requires the Permittee to maintain and update



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their TRE Workplan, in accordance with appropriate U.S. EPA guidance, as necessary in order to remain current and applicable to the discharge and discharge facilities. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

b. **Outfall Inspection (Special Provision VI.C.2.b).** This Order requires the Permittee to visually inspect the outfall structure, including the diffuser ports, to verify operational status of the outfall at least once during the 5-year term of this Order.

c. **Biosolids Use or Disposal Plan (Special Provision VI.C.2.c).** During an inspection of the Facility in September 2013, Regional Water Board staff noted that the sludge lagoons appeared to be filled beyond their design capacity. In order to ensure compliance with the sludge disposal and handling requirements in Special Provision VI.C.5.c of this Order, this Order requires the Permittee to submit a Biosolids Use or Disposal Plan within 180 days of the permit effective date.

d. **Local Limits Study (Special Provision VI.C.2.d).** As discussed further in section VI.B.5.b of this Fact Sheet, this Order requires the Permittee to develop a pretreatment program that conforms to federal regulations. Thus, in order to prevent interference with the POTW or pass through of pollutants to the receiving water, this Order requires the Permittee to conduct a local limits study and review and update, if necessary, their sewer use ordinances.

e. **Dilution Credit Evaluation (Special Provision VI.C.2.e).** The Ocean Plan RPA and WQBEL calculations in Order No. R1-2009-0033 were based on a calculated initial dilution of 30:1. As described in the *Effluent Discharge Study for the Elk River Wastewater Treatment Plant* submitted by the Permittee on January 7, 2014, the ebb tide does not convey all of the effluent to the ocean. Therefore it is uncertain whether the initial dilution credit of 30:1 remains appropriate for use in performing an RPA in accordance with the Ocean Plan. Therefore this Order requires the Permittee to re-evaluate, using a detailed analysis, whether the 30:1 initial dilution remains appropriate for ocean discharges from the Facility.

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

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

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

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



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b. **Septage Handling Requirements (Special Provision VI.C.4.c).** The Permittee currently accepts and treats septage at the Facility. Domestic septage is defined as the liquid or solid material removed from a septic tank, cesspool, portable toilet, type III marine sanitation device, recreational vehicle's sanitation tank, or similar storage or treatment works that receives only domestic septage. Septage is characterized by high organic strength, high solids content, high odor potential, high vector attraction potential, and high potential to pollute groundwater. Septage may be 6 to 80 times more concentrated than typical municipal wastewater and may also contain heavy metals and illicitly dumped hazardous materials. Septage has the potential to upset treatment plant operations or process performance or both if the plant is not designed to handle septage. Some of the impacts of septage addition to WWTFs include: potential toxic shock to biological processes; increased odor emissions; increased volume of grit, scum, screenings, and sludge; increased organic loading to biological processes; and increased housekeeping requirements. This Order requires the Permittee to manage septage accepted at the Facility in a manner that ensures that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

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 General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order). The General Order requires public agencies that own or operate sanitary sewer systems with greater than 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. The Permittee has enrolled under the General Order as required.

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

b. **Pretreatment of Industrial Waste (Provisions VI.C.5.b).** Section 402(b)(8) of the CWA requires that POTWs receiving pollutants from significant industrial sources subject to section 307(b) standards establish an industrial pretreatment program to



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ensure compliance with these standards. The implementing regulations at 403.8(a) state, "*any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW or are otherwise subject to pretreatment standards will be required to establish a POTW pretreatment program unless the NPDES State exercises its option to assume local responsibilities as provided in 403.10(e).*" The Facility receives industrial wastewater from two non-categorical significant industrial users and has a design treatment capacity greater than 5 mgd (peak dry weather treatment capacity of 8.6 mgd); therefore, the Facility is subject to pretreatment standards as described in section 307(b) of the CWA and section 403.8(a).

c. **Sludge Disposal and Handling Requirements (Provision VI.C.5.c)**. The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 C.F.R. parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. Solids are treated by anaerobic digestion and are stored in two facultative sludge lagoons. In the summer, the Facility dredges sludge from the lagoons and land-applies it on a 98-acre parcel of land they own.

   This provision also 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 currently regulated under this Order. The Permittee is required to either submit a ROWD or dispose of biosolids at another permitted facility.

d. **Operator Certification (Provisions VI.C.5.d)**. This provision requires the Facility to be operated by supervisors and operators who are certified as required by title 23, section 3680 of the CCR.

e. **Adequate Capacity (Provisions VI.C.5.e)**. 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. **Stormwater (Special Provision VI.C.6.a)**. This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001). Currently, the Facility is exempted from these requirements because all storm water is captured and treated and/or disposed of within the Facility's NPDES permitted process wastewater.

7. **Compliance Schedules – Not Applicable**

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

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 C.F.R. requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code section 13383 authorizes the Regional Water Board to



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require technical and monitoring reports. The MRP, Attachment E, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

**A. Influent Monitoring**

Influent monitoring requirements for flow, $BOD_5$, and TSS are retained from Order No. R1-2009-0033 and are necessary to determine compliance with the Order's 85 percent removal requirement for these parameters.

**B. Effluent Monitoring**

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

   a. Effluent monitoring frequencies and sample types for flow, $BOD_5$, TSS, settleable solids, fecal coliform bacteria, chlorine residual, pH, turbidity, oil and grease, cyanide, copper, and ammonia have been retained from Order No. R1-2009-0033.

   b. Consistent with Order No. R1-2009-0033, effluent monitoring requirements for the Ocean Plan Table 1 pollutants is required annually to generate adequate data to perform an RPA.

   c. In accordance with Section 1.3 of the SIP, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established is required. Therefore, this Order establishes monitoring requirements for priority pollutants annually to generate adequate data to perform an RPA.

   d. Monitoring data collected over the term of Order No. R1-2009-0033 demonstrated that the discharge exhibits reasonable potential to cause or contribute to an exceedance of water quality criteria for TCDD-equivalents and this Order establishes new effluent limitations for TCDD-equivalents to determine compliance with the applicable effluent limitations.

   e. Effluent monitoring requirements for temperature have been established, concurrent with monthly monitoring for ammonia, to properly adjust the pH- and temperature-dependent criteria for ammonia.

   f. Monitoring requirements for blending events have not been retained from Order No. R1-2009-0033 because this Order prohibits blending.

**C. Whole Effluent Toxicity Testing Requirements**

Whole effluent toxicity (WET) monitoring requirements are retained from Order No. R1-2009-0033 for acute and chronic toxicity and are included in this 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.



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**D. Receiving Water Monitoring**

1. Receiving water monitoring requirements have been established in this Order to better characterize the receiving water. The Permittee will propose locations for two (2) receiving water monitoring locations within 90 days of the adoption of this permit that will accurately characterize the impact of the discharge on the receiving water for approval by the Executive Officer. Should the Permittee choose to do so, and after they receive approval from the Executive Officer, they may propose and participate in group monitoring of the receiving water with other Permittee's discharging to Humboldt Bay.

**E. Other Monitoring Requirements**

1. **Outfall Inspection**

   This Order requires the Permittee to inspect the outfall location to determine the structural integrity and operational status of the outfall structure at least once during the term of the permit. This requirement is required to demonstrate proper operation and maintenance of the POTW as required by 40 C.F.R. section 122.4, and to ensure that the calculated minimum probable initial dilution is not compromised as a result of unanticipated structural or operational changes in the outfall structure.

2. **Disinfection System Monitoring (Monitoring Location INT-001)**

   During periods when high influent flow exceeds the hydraulic capacity of the Facility, excess flow from the effluent holding pond can be directed to a 13-acre freshwater holding marsh (Overflow Marsh) and pumped back to the effluent storage pond once flows subside. Although the Overflow Marsh is a component of the Facility, monitoring of treated wastewater from the effluent storage pond to the Overflow Marsh is required to ensure that the discharge does not contain concentrations of residual chlorine that could impair the biological function of the marsh, which provides beneficial wildlife habitat. The requirement that the discharge to this area contains no detectable level of chlorine, using a minimum detection limit of 0.1 mg/L, is retained from Order No. R1-2009-0033.

3. **Septage Station Monitoring.** The Permittee currently accepts and treats septage at the Facility. This Order establishes monitoring requirements to characterize discharges of septage into the treatment system and to ensure that pollutants associated with domestic septage do not pass through or interfere with the operation or performance of the Facility.

**F. Reporting Requirements**

The reporting frequency has been changed from monthly to quarterly for routine influent and effluent monitoring. The Permittee is still required to perform monitoring at the frequencies as specified in the MRP, but will submit monitoring reports quarterly. The reduced reporting frequency is intended to improve reporting efficiency. Although Regional Water Board staff will receive monitoring reports less frequently, the Order retains the requirement for the Permittee to notify Regional Water Board staff within 24-hours of any non-compliance issues that may result in a significant threat to human health or the environment.

## VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) has considered the issuance of waste discharge requirements (WDRs) that will serve as a National



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Pollutant Discharge Elimination System (NPDES) permit for the City of Eureka, Elk River Wastewater Treatment Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

**A. Notification of Interested Parties**

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

**B. Written Comments**

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

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

**C. Public Hearing**

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

| | |
|---|---|
| Date: | DATE |
| Time: | 8:30 a.m. or as announced in the Regional Water Board's agenda |
| Location: | Regional Water Board Hearing Room<br>5550 Skylane Boulevard, Suite A<br>Santa Rosa, CA 95403 |

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

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

**D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:



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

For instruction on how to file a petition for review see
[ HYPERLINK
"http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml" ].

**E. Information and Copying**

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

**F. Register of Interested Persons**

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

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Lisa Bernard at [ HYPERLINK "mailto:Lisa.Bernard@waterboards.ca.gov" ] or (707) 576-2677.



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**Attachment F-1 – City of Eureka Wastewater Treatment Plant SIP RPA Summary**

| Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | µg/L | < | 1.0 | -- | 0.24 | 4,300 | -- | -- | -- | -- | -- | No |
| Arsenic | µg/L | < | 1.0 | -- | 5.1 | 36 | 69 | 36 | -- | -- | -- | No |
| Beryllium | µg/L | < | 0.20 | < | 0.10 | No Criteria | -- | -- | -- | -- | -- | No |
| Cadmium | µg/L | < | 1.0 | < | 0.10 | 9.4 | 42.25 | 9.36 | -- | -- | -- | No |
| Chromium (III) | µg/L | -- | 1.2 | -- | 1.8 | No Criteria | -- | -- | -- | -- | -- | No |
| Chromium (VI) | µg/L | -- | 6.9 | < | 5.0 | 50 | 1,107 | 50.4 | -- | -- | -- | No |
| Copper | µg/L | -- | 55 | -- | 3.1 | 3.7 | 5.78 | 3.73 | -- | -- | -- | Yes |
| Lead | µg/L | < | 1.0 | -- | 0.28 | 8.5 | 221 | 8.52 | -- | -- | -- | No |
| Mercury | µg/L | < | 0.02 | -- | 0.0011 | 0.051 | -- | -- | -- | 0.051 | -- | No |
| Nickel | µg/L | -- | 6.2 | -- | 2.6 | 8 | 75 | 8.3 | -- | 4,600 | -- | No |
| Selenium | µg/L | < | 1.0 | -- | 3.1 | 71.1 | 291 | 71 | -- | -- | -- | No |
| Silver | µg/L | < | 1.0 | < | 0.04 | 2.2 | 2.24 | -- | -- | -- | -- | No |
| Thallium | µg/L | < | 1.0 | < | 0.10 | 6.3 | -- | -- | -- | 6.3 | -- | No |
| Zinc | µg/L | -- | 70 | -- | 17 | 86 | 95 | 85.6 | -- | -- | -- | No |
| Cyanide | µg/L | -- | 21 | < | 0.90 | 1.0 | 1.0 | 1.0 | -- | 220,000 | -- | Yes |
| Asbestos | MFL | -- | -- | -- | -- | No Criteria | -- | -- | -- | -- | -- | No |
| 2,3,7,8 TCDD | µg/L | < | 0.000001 | -- | -- | $1.4x10^{-8}$ | -- | -- | -- | $1.4x10^{-8}$ | -- | No |
| Acrolein | µg/L | < | 0.40 | < | 1.7 | 780 | -- | -- | -- | 780 | -- | No |
| Acrylonitrile | µg/L | < | 1.0 | < | 1.0 | 0.66 | -- | -- | -- | 0.66 | -- | No |
| Benzene | µg/L | < | 0.10 | < | 0.18 | 71 | -- | -- | -- | 71 | -- | No |
| Bromoform | µg/L | -- | 0.63 | < | 0.2 | 360 | -- | -- | -- | 360 | -- | No |
| Carbon Tetrachloride | µg/L | < | 0.10 | < | 0.16 | 4.4 | -- | -- | -- | 4.4 | -- | No |
| Chlorobenzene | µg/L | < | 0.10 | < | 0.18 | 21,000 | -- | -- | -- | 21,000 | -- | No |
| Chlorodibromomethane | µg/L | -- | 2.0 | < | 0.17 | 34 | -- | -- | -- | 34 | -- | No |
| Chloroethane | µg/L | < | 0.50 | < | 0.38 | No Criteria | -- | -- | -- | ---- | -- | No |
| 2-Chloroethylvinyl ether | µg/L | -- | -- | < | 0.28 | No Criteria | -- | -- | -- | ---- | -- | No |
| Chloroform | µg/L | -- | 6.0 | < | 0.19 | No Criteria | -- | -- | -- | ---- | -- | No |
| Dichlorobromomethane | µg/L | -- | 5.0 | < | 0.16 | 46 | -- | -- | -- | 46 | -- | No |
| 1,1-Dichloroethane | µg/L | < | 0.50 | < | 0.19 | No Criteria | -- | -- | -- | -- | -- | No |
| 1,2-Dichloroethane | µg/L | < | 0.10 | < | 0.18 | 99 | -- | -- | -- | 99 | -- | No |
| 1,1-Dichloroethylene | µg/L | < | 0.10 | < | 0.21 | 3.2 | -- | -- | -- | 3.2 | -- | No |



ED_006495_00001633-00112

| Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | µg/L | < | 0.50 | < | 0.18 | 39 | -- | -- | -- | 39 | -- | No |
| 1,3-Dichloropropylene | µg/L | < | 1.0 | < | 0.16 | 1,700 | -- | -- | -- | 1,700 | -- | No |
| Ethylbenzene | µg/L | < | 0.10 | < | 0.26 | 29,000 | -- | -- | -- | 29,000 | -- | No |
| Methyl Bromide | µg/L | < | 0.50 | < | 0.17 | 4,000 | -- | -- | -- | 4,000 | -- | No |
| Methyl Chloride | µg/L | < | 0.50 | < | 0.23 | No Criteria | -- | -- | -- | -- | -- | No |
| Methylene Chloride | µg/L | < | 0.10 | < | 0.30 | 16,000 | -- | -- | -- | 16,000 | -- | No |
| 1,1,2,2-Tetrachloroethane | µg/L | < | 0.10 | < | 0.20 | 11 | -- | -- | -- | 11 | -- | No |
| Tetrachloroethylene | µg/L | < | 0.10 | < | 0.19 | 8,085 | -- | -- | -- | 8,085 | -- | No |
| Toluene | µg/L | < | 0.10 | < | 0.19 | 200,000 | -- | -- | -- | 200,000 | -- | No |
| 1,2-Trans-Dichloroethylene | µg/L | -- | -- | -- | -- | 140,000 | -- | -- | -- | 140,000 | -- | No |
| 1,1,1-Trichloroethane | µg/L | < | 0.10 | < | 0.19 | No Criteria | -- | -- | -- | -- | -- | No |
| 1,1,2-Trichloroethane | µg/L | < | 0.10 | < | 0.16 | 42 | -- | -- | -- | 42 | -- | No |
| Trichloroethylene | µg/L | < | 0.10 | < | 0.20 | 81 | -- | -- | -- | 81 | -- | No |
| Vinyl Chloride | µg/L | < | 0.10 | < | 0.25 | 525 | -- | -- | -- | 525 | -- | No |
| 2-Chlorophenol | µg/L | < | 9.8 | -- | -- | 400 | -- | -- | -- | 400 | -- | No |
| 2,4-Dichlorophenol | µg/L | < | 9.8 | < | 0.99 | 790 | -- | -- | -- | 790 | -- | No |
| 2,4-Dimethylphenol | µg/L | < | 9.8 | < | 0.90 | 2,300 | -- | -- | -- | 2,300 | -- | No |
| 2-Methyl- 4,6-Dinitrophenol | µg/L | < | 10 | < | 0.91 | 765 | -- | -- | -- | 765 | -- | No |
| 2,4-Dinitrophenol | µg/L | < | 10 | < | 1.0 | 14,000 | -- | -- | -- | 14,000 | -- | No |
| 2-Nitrophenol | µg/L | < | 9.8 | < | 0.89 | No Criteria | -- | -- | -- | -- | -- | No |
| 4-Nitrophenol | µg/L | < | 10 | < | 0.83 | No Criteria | -- | -- | -- | -- | -- | No |
| 3-Methyl 4-Chlorophenol | µg/L | < | 9.8 | < | 0.91 | No Criteria | -- | -- | -- | -- | -- | No |
| Pentachlorophenol | µg/L | < | 10 | < | 1.0 | 7.9 | 13 | 7.9 | -- | 8.2 | -- | No |
| Phenol | µg/L | < | 0.10 | < | 0.69 | 4,600,000 | -- | -- | -- | 4,600,000 | -- | No |
| 2,4,6-Trichlorophenol | µg/L | < | 2.0 | < | 0.97 | 6.5 | -- | -- | -- | 6.5 | -- | No |
| Acenaphthene | µg/L | < | 9.8 | < | 0.03 | 2,700 | -- | -- | -- | 2,700 | -- | No |
| Acenaphthylene | µg/L | < | 9.8 | < | 0.03 | No Criteria | -- | -- | -- | -- | -- | No |
| Anthracene | µg/L | < | 9,8 | < | 0.03 | 110,000 | -- | -- | -- | 110,000 | -- | No |



ED_006495_00001633-00113

| Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzidine | µg/L | < | 10 | < | 5 | 0.00054 | -- | -- | -- | 0.00054 | -- | No |
| Benzo(a)Anthracene | µg/L | < | 9.8 | < | 0.03 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Benzo(a)Pyrene | µg/L | < | 9.8 | < | 0.03 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Benzo(b)Fluoranthene | µg/L | < | 9.8 | < | 0.03 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Benzo(ghi)Perylene | µg/L | < | 9.8 | < | 0.03 | No Criteria | -- | -- | -- | -- | -- | No |
| Benzo(k)Fluoranthene | µg/L | < | 9.8 | < | 0.03 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Bis(2-Chloroethoxy)Methane | µg/L | < | 2.0 | < | 0.93 | No Criteria | -- | -- | -- | -- | -- | No |
| Bis(2-Chloroethyl)Ether | µg/L | < | 5.0 | < | 0.95 | 1.4 | -- | -- | -- | 1.4 | -- | No |
| Bis(2-Chloroisopropyl)Ether | µg/L | < | 2.0 | < | 0.80 | 170,000 | -- | -- | -- | 170,000 | -- | No |
| Bis(2-Ethylhexyl)Phthalate | µg/L | < | 2.0 | < | 1.0 | 5.9 | -- | -- | -- | 5.9 | -- | No |
| 4-Bromophenyl Phenyl Ether | µg/L | < | 9.8 | < | 0.97 | No Criteria | -- | -- | -- | -- | -- | No |
| Butylbenzyl Phthalate | µg/L | < | 9.8 | < | 0.98 | 5,200 | -- | -- | -- | 5,200 | -- | No |
| 2-Chloronaphthalene | µg/L | < | 9.8 | < | 0.98 | 4,300 | -- | -- | -- | 4,300 | -- | No |
| 4-Chlorophenyl Phenyl Ether | µg/L | < | 9.8 | < | 0.99 | No Criteria | -- | -- | -- | -- | -- | No |
| Chrysene | µg/L | < | 9.8 | < | 0.030 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Dibenzo(a,h)Anthracene | µg/L | < | 9.8 | < | 0.030 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| 1,2-Dichlorobenzene | µg/L | < | 0.5 | < | 0.27 | 17,000 | -- | -- | -- | 17,000 | -- | No |
| 1,3-Dichlorobenzene | µg/L | < | 0.5 | < | 0.18 | 2,600 | -- | -- | -- | 2,600 | -- | No |
| 1,4-Dichlorobenzene | µg/L | < | 0.1 | < | 0.18 | 2,600 | -- | -- | -- | 2,600 | -- | No |
| 3,3 Dichlorobenzidine | µg/L | < | 5.0 | < | 5.0 | 0.077 | -- | -- | -- | 0.077 | -- | No |
| Diethyl Phthalate | µg/L | < | 2.0 | < | 0.86 | 120,000 | -- | -- | -- | 120,000 | -- | No |
| Dimethyl Phthalate | µg/L | < | 2.0 | < | 0.97 | 2,900,000 | -- | -- | -- | 2,900,000 | -- | No |
| Di-n-Butyl Phthalate | µg/L | < | 2.0 | < | 0.91 | 12,000 | -- | -- | -- | 12,000 | -- | No |
| 2,4-Dinitrotoluene | µg/L | < | 2.0 | < | 0.96 | 9.1 | -- | -- | -- | 9.1 | -- | No |
| 2,6-Dinitrotoluene | µg/L | < | 9.8 | < | 0.98 | No Criteria | -- | -- | -- | -- | -- | No |
| Di-n-Octyl Phthalate | µg/L | < | 9.8 | < | 0.92 | No Criteria | -- | -- | -- | -- | -- | No |
| 1,2-Diphenylhydrazine | µg/L | < | 0.40 | < | 0.9 | 0.54 | -- | -- | -- | 0.54 | -- | No |



ED_006495_00001633-00114

| Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluoranthene | µg/L | < | 2.0 | < | 0.030 | 370 | -- | -- | -- | 370 | -- | No |
| Fluorene | µg/L | < | 9.8 | < | 0.030 | 14,000 | -- | -- | -- | 14,000 | -- | No |
| Hexachlorobenzene | µg/L | < | 2.0 | < | 0.91 | 0.00077 | -- | -- | -- | 0.00077 | -- | No |
| Hexachlorobutadiene | µg/L | < | 0.10 | < | 0.92 | 50 | -- | -- | -- | 50 | -- | No |
| Hexachlorocyclopentadiene | µg/L | < | 5.0 | < | 0.90 | 17,000 | -- | -- | -- | 17,000 | -- | No |
| Hexachloroethane | µg/L | < | 0.40 | < | 0.94 | 8.9 | -- | -- | -- | 8.9 | -- | No |
| Indeno(1,2,3-cd)Pyrene | µg/L | < | 9.8 | < | 0.030 | 0.049 | -- | -- | -- | 0.049 | -- | No |
| Isophorone | µg/L | < | 2.0 | < | 0.93 | 600 | -- | -- | -- | 600 | -- | No |
| Naphthalene | µg/L | < | 1.0 | < | 0.030 | No Criteria | -- | -- | -- | -- | -- | No |
| Nitrobenzene | µg/L | < | 2.0 | < | 0.95 | 1,900 | -- | | -- | 1,900 | -- | No |
| N-Nitrosodimethylamine | µg/L | < | 2.0 | < | 0.88 | 8.1 | -- | -- | -- | 8.1 | -- | No |
| N-Nitrosodi-n-Propylamine | µg/L | < | 2.0 | < | 0.97 | 1.4 | -- | -- | -- | 1.4 | -- | No |
| N-Nitrosodiphenylamine | µg/L | < | 2.0 | < | 0.83 | 16 | -- | -- | -- | 16 | -- | No |
| Phenanthrene | µg/L | < | 9.8 | < | 0.030 | No Criteria | -- | -- | -- | -- | -- | No |
| Pyrene | µg/L | < | 9.8 | < | 0.030 | 11,000 | -- | | -- | 11,000 | -- | No |
| 1,2,4-Trichlorobenzene | µg/L | < | 0.50 | < | 0.98 | No Criteria | -- | -- | -- | -- | -- | No |
| Aldrin | µg/L | < | 0.020 | < | 0.10 | 0.00014 | 1.3 | -- | -- | 0.00014 | -- | No |
| alpha-BHC | µg/L | < | 0.10 | < | 0.10 | 0.013 | -- | -- | -- | 0.013 | -- | No |
| beta-BHC | µg/L | < | 0.10 | < | 0.10 | 0.046 | -- | -- | -- | 0.046 | -- | No |
| gamma-BHC | µg/L | < | 0.10 | < | 0.10 | 0.063 | 0.16 | -- | -- | 0.063 | -- | No |
| delta-BHC | µg/L | < | 0.10 | < | 0.10 | No Criteria | -- | -- | -- | -- | -- | No |
| Chlordane | µg/L | < | 0.20 | -- | -- | 0.00059 | 0.09 | 0.004 | -- | 0.00059 | -- | No |
| 4,4'-DDT | µg/L | < | 0.10 | < | 0.10 | 0.00059 | 0.13 | 0.001 | -- | 0.00059 | -- | No |
| 4,4'-DDE | µg/L | < | 0.10 | < | 0.10 | 0.00059 | -- | -- | -- | 0.00059 | -- | No |
| 4,4'-DDD | µg/L | < | 0.10 | < | 0.10 | 0.00084 | -- | -- | -- | 0.00084 | -- | No |
| Dieldrin | µg/L | < | 0.020 | < | 0.10 | 0.00014 | 0.71 | 0.0019 | -- | 0.00014 | -- | No |
| alpha-Endosulfan | µg/L | < | 0.10 | < | 0.10 | 0.009 | 0.034 | 0.0087 | -- | 240 | -- | No |
| beta-Endosulfan | µg/L | < | 0.10 | < | 0.10 | 0.009 | 0.034 | 0.0087 | -- | 240 | -- | No |



ED_006495_00001633-00115

| Constituent | Units | Qualifier | MEC | Qualifier | B | C | CMC | CCC | Water & Org | Org. Only | MCL | Reasonable Potential |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Endosulfan Sulfate | µg/L | < | 0.10 | < | 0.10 | 240 | -- | -- | -- | 240 | -- | No |
| Endrin | µg/L | < | 0.20 | < | 0.10 | 0.002 | 0.037 | 0.0023 | -- | 0.81 | -- | No |
| Endrin Aldehyde | µg/L | < | 0.10 | < | 0.10 | 0.81 | -- | -- | -- | 0.81 | -- | No |
| Heptachlor | µg/L | < | 0.020 | < | 0.10 | 0.00021 | 0.053 | 0.0.0036 | -- | 0.00021 | -- | No |
| Heptachlor Epoxide | µg/L | < | 0.020 | < | 0.10 | 0.00011 | 0.053 | 0.0036 | -- | 0.00011 | -- | No |
| PCBs sum | µg/L | < | 1.4 | < | 1.0 | 0.00017 | -- | 0.030 | -- | 0.00017 | -- | No |
| Toxaphene | µg/L | < | 0.20 | < | 1.0 | 0.00020 | 0.21 | 0.0002 | -- | 0.00075 | -- | No |
| TCDD-Equivalents | µg/L | -- | 0.00000855 | < | 1.0 | $1.4x10^{-8}$ | -- | -- | -- | $1.4x10^{-8}$ | -- | Yes |



ED_006495_00001633-00116

**Attachment F-2 – City of Eureka, Elk River Wastewater Treatment Plant Ocean Plan RPA Summary**

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Arsenic | ND | 5 | µg/L | 5 | <1 | 8 | 3 | 3 |
| Arsenic | ND | 5 | µg/L | | | | | |
| Arsenic | ND | 5 | µg/L | | | | | |
| Arsenic | ND | 1 | µg/L | | | | | |
| Arsenic | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Cadmium | ND | 5 | µg/L | 5 | <1 | 1 | 0 | 3 |
| Cadmium | ND | 5 | µg/L | | | | | |
| Cadmium | ND | 5 | µg/L | | | | | |
| Cadmium | ND | 1 | µg/L | | | | | |
| Cadmium | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Chromium (Total) | -- | -- | µg/L | -- | -- | 2 | 0 | 3 |
| | | | | | | | | |
| Copper | | 39 | µg/L | 0 | 55 | 3 | 2 | 1 |
| Copper | | 34 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 25 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 28 | µg/L | | | | | |
| Copper | | 23 | µg/L | | | | | |
| Copper | | 24 | µg/L | | | | | |
| Copper | | 21 | µg/L | | | | | |
| Copper | | 23 | µg/L | | | | | |
| Copper | | 34 | µg/L | | | | | |



ED_006495_00001633-00117

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Copper | | 29 | µg/L | | | | | |
| Copper | | 18 | µg/L | | | | | |
| Copper | | 25 | µg/L | | | | | |
| Copper | | 24 | µg/L | | | | | |
| Copper | | 20 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 23 | µg/L | | | | | |
| Copper | | 32 | µg/L | | | | | |
| Copper | | 24 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 19 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 14 | µg/L | | | | | |
| Copper | | 18 | µg/L | | | | | |
| Copper | | 25 | µg/L | | | | | |
| Copper | | 24 | µg/L | | | | | |
| Copper | | 24 | µg/L | | | | | |
| Copper | | 30 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 30 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 26 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 34 | µg/L | | | | | |
| Copper | | 15 | µg/L | | | | | |
| Copper | | 33 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |



ED_006495_00001633-00118

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Copper | | 17 | µg/L | | | | | |
| Copper | | 26 | µg/L | | | | | |
| Copper | | 35 | µg/L | | | | | |
| Copper | | 31 | µg/L | | | | | |
| Copper | | 35 | µg/L | | | | | |
| Copper | | 35 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 36 | µg/L | | | | | |
| Copper | | 26 | µg/L | | | | | |
| Copper | | 28 | µg/L | | | | | |
| Copper | | 48 | µg/L | | | | | |
| Copper | | 35 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 38 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 33 | µg/L | | | | | |
| Copper | | 42 | µg/L | | | | | |
| Copper | | 36 | µg/L | | | | | |
| Copper | | 38 | µg/L | | | | | |
| Copper | | 55 | µg/L | | | | | |
| Copper | | 45 | µg/L | | | | | |
| Copper | | 36 | µg/L | | | | | |
| Copper | | 33 | µg/L | | | | | |
| Copper | | 27 | µg/L | | | | | |
| Copper | | 33 | µg/L | | | | | |
| Copper | | 29 | µg/L | | | | | |
| Copper | | 48 | µg/L | | | | | |
| Copper | | 40 | µg/L | | | | | |



ED_006495_00001633-00119

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Copper | | 38 | µg/L | | | | | |
| Copper | | 34 | µg/L | | | | | |
| | | | | | | | | |
| Lead | ND | 5 | µg/L | 5 | <1 | 2 | 0 | 3 |
| Lead | ND | 5 | µg/L | | | | | |
| Lead | ND | 1 | µg/L | | | | | |
| Lead | ND | 1 | µg/L | | | | | |
| Lead | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Mercury | ND | 1 | µg/L | 5 | <0.02 | 0.04 | 0.0005 | 3 |
| Mercury | ND | 1 | µg/L | | | | | |
| Mercury | ND | 1 | µg/L | | | | | |
| Mercury | ND | 0.5 | µg/L | | | | | |
| Mercury | ND | 0.02 | µg/L0.5 | | | | | |
| | | | 0.02 | | | | | |
| Nickel | ND | 5 | µg/L | 3 | 6.2 | 5 | 0 | 3 |
| Nickel | ND | 5 | µg/L | | | | | |
| Nickel | | 6.2 | µg/L | | | | | |
| Nickel | | 2.8 | µg/L | | | | | |
| Nickel | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Selenium | ND | 10 | µg/L | 5 | <1 | 15 | 0 | 3 |
| Selenium | ND | 10 | µg/L | | | | | |
| Selenium | ND | 10 | µg/L | | | | | |
| Selenium | ND | 1 | µg/L | | | | | |
| Selenium | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Silver | ND | 5 | µg/L | 5 | <1 | 0.7 | 0.16 | 3 |
| Silver | ND | 5 | µg/L | | | | | |



ED_006495_00001633-00120

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Silver | ND | 5 | µg/L | | | | | |
| Silver | ND | 1 | µg/L | | | | | |
| Silver | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Zinc | | 52 | µg/L | 0 | 70 | 20 | 8 | 2 |
| Zinc | | 31 | µg/L | | | | | |
| Zinc | | 38 | µg/L | | | | | |
| Zinc | | 70 | µg/L | | | | | |
| Zinc | | 63 | µg/L | | | | | |
| | | | | | | | | |
| Cyanide | | 0 | µg/L | 69 | 21 | 1 | 0 | 2 |
| Cyanide | | 0 | µg/L | | | | | |
| Cyanide | | 0 | µg/L | | | | | |
| Cyanide | | 0 | µg/L | | | | | |
| Cyanide | ND | 0.005 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | | 21 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |



ED_006495_00001633-00121

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 1 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |



ED_006495_00001633-00122

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5.1 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 4 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| Cyanide | ND | 20 | µg/L | | | | | |
| Cyanide | ND | 5 | µg/L | | | | | |
| | | | | | | | | |
| Total Chlorine Residual[1] | [1] | [1] | µg/L | 1,347 | 1,570 | 2 | -- | 1 |
| | | | | | | | | |
| Ammonia (expressed as Nitrogen) | | 8.8 | µg/L | 1 | 13,000 | 600 | 0 | 1 |
| Ammonia (expressed as Nitrogen) | | 5.4 | µg/L | | | | | |



ED_006495_00001633-00123

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 2.8 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.38 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.6 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 3.9 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.46 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.63 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.73 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.3 | µg/L | | | | | |



ED_006495_00001633-00124

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 0.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.62 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.51 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.34 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.81 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.99 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.99 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.42 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.68 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 6.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1 | µg/L | | | | | |



ED_006495_00001633-00125

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 5.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.9 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.76 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 5.2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 8.4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.49 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.65 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.99 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.8 | µg/L | | | | | |



ED_006495_00001633-00126

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 2.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.27 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.65 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.36 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.78 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.55 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 9.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 7.2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.7 | µg/L | | | | | |



ED_006495_00001633-00127

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 0.57 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.5 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 5.2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 5.2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 6.9 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 3.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.9 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.3 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.6 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 2.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 1.3 | µg/L | | | | | |



ED_006495_00001633-00128

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Ammonia (expressed as Nitrogen) | | 2 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 4.7 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 0.59 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | ND | 0.02 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 3.1 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 3.4 | µg/L | | | | | |
| Ammonia (expressed as Nitrogen) | | 13 | µg/L | | | | | |
| | | | | | | | | |
| Acute Toxicity | | 100 | % Survival | 0 | -- | 0.3 | 0 | -- |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 95 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| Acute Toxicity | | 100 | % Survival | | | | | |
| | | | | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | 0 | 40 | 1 | 0 | 2 |



ED_006495_00001633-00129

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |



ED_006495_00001633-00130

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 10 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |



ED_006495_00001633-00131

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Chronic Toxicity; *M. pyrifera* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *M. pyrifera* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *H. rufescens* Reproduction | | 8 | TUc | | | | | |
| Chronic Toxicity; *H. rufescens* Reproduction | | 8 | TUc | | | | | |
| Chronic Toxicity; *A. affinis* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *A. affinis* Growth | | 8 | TUc | | | | | |
| Chronic Toxicity; *A. affinis* Survival | | 8 | TUc | | | | | |
| Chronic Toxicity; *A. affinis* Growth | | 8 | TUc | | | | | |
| | | | | | | | | |
| Phenolic Compounds (non-chlorinated) | ND | 100 | µg/L | 6 | <0.02 | 30 | 0 | 3 |
| Phenolic Compounds (non-chlorinated) | ND | 0.1 | µg/L | | | | | |
| Phenolic Compounds (non-chlorinated) | ND | 0.1 | µg/L | | | | | |
| Phenolic Compounds (non-chlorinated) | ND | 0.02 | µg/L | | | | | |
| Phenolic Compounds (non-chlorinated) | ND | 100 | µg/L | | | | | |
| Phenolic Compounds (non-chlorinated) | ND | 100 | µg/L | | | | | |
| | | | | | | | | |
| Chlorinated phenolics | ND | 10 | µg/L | 5 | <2 | 1 | 0 | 3 |
| Chlorinated phenolics | ND | 9.8 | µg/L | | | | | |



ED_006495_00001633-00132

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Chlorinated phenolics | ND | 10 | µg/L | | | | | |
| Chlorinated phenolics | ND | 10 | µg/L | | | | | |
| Chlorinated phenolics | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| **Endosulfan** | ND | 0.1 | µg/L | 15 | <0.1 | 0.009 | 0 | 3 |
| Endosulfan-alpha | ND | 0.1 | µg/L | | | | | |
| Endosulfan-alpha | ND | 0.1 | µg/L | | | | | |
| Endosulfan-alpha | ND | 0.1 | µg/L | | | | | |
| Endosulfan-alpha | ND | 0.1 | µg/L | | | | | |
| Endosulfan-alpha | ND | 0.1 | µg/L | | | | | |
| Endosulfan-beta | ND | 0.1 | µg/L | | | | | |
| Endosulfan-beta | ND | 0.1 | µg/L | | | | | |
| Endosulfan-beta | ND | 0.1 | µg/L | | | | | |
| Endosulfan-beta | ND | 0.1 | µg/L | | | | | |
| Endosulfan-beta | ND | 0.1 | µg/L | | | | | |
| Endosulfan sulfate | ND | 0.1 | µg/L | | | | | |
| Endosulfan sulfate | ND | 0.1 | µg/L | | | | | |
| Endosulfan sulfate | ND | 0.1 | µg/L | | | | | |
| Endosulfan sulfate | ND | 0.1 | µg/L | | | | | |
| Endosulfan sulfate | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Endrin | ND | 0.1 | µg/L | 5 | <0.02 | 0.002 | 0 | 3 |
| Endrin | ND | 0.1 | µg/L | | | | | |
| Endrin | ND | 0.1 | µg/L | | | | | |
| Endrin | ND | 0.1 | µg/L | | | | | |
| Endrin | ND | 0.02 | µg/L | | | | | |
| | | | | | | | | |
| **HCH** | ND | 0.1 | µg/L | 20 | <0.1 | 0.004 | 0 | 2 |
| alpha-BHC | ND | 0.1 | µg/L | | | | | |



ED_006495_00001633-00133

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| alpha-BHC | ND | 0.1 | µg/L | | | | | |
| alpha-BHC | ND | 0.1 | µg/L | | | | | |
| alpha-BHC | ND | 0.1 | µg/L | | | | | |
| alpha-BHC | ND | 0.1 | µg/L | | | | | |
| beta-BHC | ND | 0.1 | µg/L | | | | | |
| beta-BHC | ND | 0.1 | µg/L | | | | | |
| beta-BHC | ND | 0.1 | µg/L | | | | | |
| beta-BHC | ND | 0.1 | µg/L | | | | | |
| beta-BHC | ND | 0.1 | µg/L | | | | | |
| delta-BHC | ND | 0.1 | µg/L | | | | | |
| delta-BHC | ND | 0.1 | µg/L | | | | | |
| delta-BHC | ND | 0.1 | µg/L | | | | | |
| delta-BHC | ND | 0.1 | µg/L | | | | | |
| delta-BHC | ND | 0.1 | µg/L | | | | | |
| gamma-BHC | ND | 0.1 | µg/L | | | | | |
| gamma-BHC | ND | 0.1 | µg/L | | | | | |
| gamma-BHC | ND | 0.1 | µg/L | | | | | |
| gamma-BHC | ND | 0.1 | µg/L | | | | | |
| gamma-BHC | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Acrolein | ND | 5 | µg/L | 5 | <0.4 | 220 | 0 | 3 |
| Acrolein | ND | 2 | µg/L | | | | | |
| Acrolein | ND | 2 | µg/L | | | | | |
| Acrolein | ND | 2 | µg/L | | | | | |
| Acrolein | ND | 0.4 | µg/L | | | | | |
| | | | | | | | | |
| Antimony | ND | 5 | µg/L | 5 | <1 | 1200 | 0 | 3 |
| Antimony | ND | 5 | µg/L | | | | | |
| Antimony | ND | 5 | µg/L | | | | | |



ED_006495_00001633-00134

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 1 | µg/L | | | | | |
| Antimony | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Bis(2-chloroethoxy)methane | ND | 10 | µg/L | 5 | <2 | 4.4 | 0 | 3 |
| Bis(2-chloroethoxy)methane | ND | 9.8 | µg/L | | | | | |
| Bis(2-chloroethoxy)methane | ND | 10 | µg/L | | | | | |
| Bis(2-chloroethoxy)methane | ND | 10 | µg/L | | | | | |
| Bis(2-chloroethoxy)methane | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 10 | µg/L | 5 | <2 | 1200 | 0 | 3 |
| Bis(2-chloroisopropyl)ether | ND | 9.8 | µg/L | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 10 | µg/L | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 10 | µg/L | | | | | |
| Bis(2-chloroisopropyl)ether | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Chlorobenzene | ND | 0.5 | µg/L | 5 | <0.1 | 570 | 0 | 3 |
| Chlorobenzene | ND | 0.5 | µg/L | | | | | |
| Chlorobenzene | ND | 0.5 | µg/L | | | | | |
| Chlorobenzene | ND | 0.5 | µg/L | | | | | |
| Chlorobenzene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Chromium (III) | ND | 5 | µg/L | 3 | 6.9 | 190000 | 0 | 3 |
| Chromium (III) | ND | 5 | µg/L | | | | | |
| Chromium (III) | | 1.21 | µg/L | | | | | |
| Chromium (III) | | 6.9 | µg/L | | | | | |
| Chromium (III) | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Di-n-butyl phthalate | ND | 50 | µg/L | 5 | <2 | 3500 | 0 | 3 |
| Di-n-butyl phthalate | ND | 9.8 | µg/L | | | | | |



ED_006495_00001633-00135

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Di-n-butyl phthalate | ND | 10 | µg/L | | | | | |
| Di-n-butyl phthalate | ND | 10 | µg/L | | | | | |
| Di-n-butyl phthalate | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Dichlorobenzenes | | | | 13 | <0.5 | 5100 | 0 | 3 |
| 1,2-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 10 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichlorobenzene | ND | 10 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 10 | µg/L | | | | | |
| 1,3-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| | | | | | | | | |
| Diethyl Phthalate | ND | 10 | µg/L | 5 | <2 | 33,000 | 0 | 3 |
| Diethyl Phthalate | ND | 9.8 | µg/L | | | | | |
| Diethyl Phthalate | ND | 10 | µg/L | | | | | |
| Diethyl Phthalate | ND | 10 | µg/L | | | | | |
| Diethyl Phthalate | ND | 2 | µg/L | | | | | |
| | | | | | | | | |



ED_006495_00001633-00136

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Dimethyl Phthalate | ND | 10 | µg/L | 5 | <2 | 820000 | 0 | 3 |
| Dimethyl Phthalate | ND | 9.8 | µg/L | | | | | |
| Dimethyl Phthalate | ND | 10 | µg/L | | | | | |
| Dimethyl Phthalate | ND | 10 | µg/L | | | | | |
| Dimethyl Phthalate | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 100 | µg/L | 6 | <10 | 220 | | 3 |
| 4,6-Dinitro-2-methylphenol | ND | 49 | µg/L | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 50 | µg/L | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 10 | µg/L | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 50 | µg/L | | | | | |
| 4,6-Dinitro-2-methylphenol | ND | 10 | µg/L | | | | | |
| | | | | | | | | |
| 2,4-Dinitrophenol | ND | 100 | µg/L | 6 | <10 | 4 | 0 | 3 |
| 2,4-Dinitrophenol | ND | 49 | µg/L | | | | | |
| 2,4-Dinitrophenol | ND | 50 | µg/L | | | | | |
| 2,4-Dinitrophenol | ND | 50 | µg/L | | | | | |
| 2,4-Dinitrophenol | ND | 10 | µg/L | | | | | |
| 2,4-Dinitrophenol | ND | 50 | µg/L | | | | | |
| | | | | | | | | |
| Ethylbenzene | ND | 0.5 | µg/L | 5 | <0.1 | 4100 | 0 | 3 |
| Ethylbenzene | ND | 0.5 | µg/L | | | | | |
| Ethylbenzene | ND | 0.5 | µg/L | | | | | |
| Ethylbenzene | ND | 0.5 | µg/L | | | | | |
| Ethylbenzene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Fluoranthene | ND | 10 | µg/L | 5 | <2 | 15 | 0 | 3 |
| Fluoranthene | ND | 9.8 | µg/L | | | | | |
| Fluoranthene | ND | 10 | µg/L | | | | | |



ED_006495_00001633-00137

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Fluoranthene | ND | 10 | µg/L | | | | | |
| Fluoranthene | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Hexachlorocyclopentadiene | ND | 100 | µg/L | 5 | <5 | 58 | 0 | 3 |
| Hexachlorocyclopentadiene | ND | 49 | µg/L | | | | | |
| Hexachlorocyclopentadiene | ND | 25 | µg/L | | | | | |
| Hexachlorocyclopentadiene | ND | 25 | µg/L | | | | | |
| Hexachlorocyclopentadiene | ND | 5 | µg/L | | | | | |
| | | | | | | | | |
| Nitrobenzene | ND | 10 | µg/L | 8 | <2 | 4.9 | 0 | 3 |
| Nitrobenzene | ND | 10 | µg/L | | | | | |
| Nitrobenzene | ND | 10 | µg/L | | | | | |
| Nitrobenzene | ND | 25 | µg/L | | | | | |
| Nitrobenzene | ND | 10 | µg/L | | | | | |
| Nitrobenzene | ND | 2 | µg/L | | | | | |
| Nitrobenzene | ND | 10 | µg/L | | | | | |
| Nitrobenzene | ND | 25 | µg/L | | | | | |
| | | | | | | | | |
| Thallium | ND | 5 | µg/L | 5 | <1 | 2 | 0 | 3 |
| Thallium | ND | 5 | µg/L | | | | | |
| Thallium | ND | 5 | µg/L | | | | | |
| Thallium | ND | 1 | µg/L | | | | | |
| Thallium | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Toluene | ND | 0.5 | µg/L | 5 | <0.1 | 85000 | 0 | 3 |
| Toluene | ND | 0.5 | µg/L | | | | | |
| Toluene | ND | 0.5 | µg/L | | | | | |
| Toluene | ND | 0.5 | µg/L | | | | | |
| Toluene | ND | 0.1 | µg/L | | | | | |



ED_006495_00001633-00138

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Tributyltin | ND | 3 | µg/L | 6 | <0.05 | 0.0014 | 0 | 3 |
| Tributyltin | ND | 3 | µg/L | | | | | |
| Tributyltin | ND | 0.6 | µg/L | | | | | |
| Tributyltin | ND | 0.05 | µg/L | | | | | |
| Tributyltin | ND | 0.05 | µg/L | | | | | |
| Tributyltin | ND | 3 | µg/L | | | | | |
| | | | | | | | | |
| 1,1,1-Trichloroethane | ND | 0.5 | µg/L | 5 | <0.1 | 540000 | 0 | 3 |
| 1,1,1-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,1-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,1-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,1-Trichloroethane | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Acrylonitrile | ND | 5 | µg/L | 5 | <1 | 0.1 | 0 | 3 |
| Acrylonitrile | ND | 5 | µg/L | | | | | |
| Acrylonitrile | ND | 5 | µg/L | | | | | |
| Acrylonitrile | ND | 5 | µg/L | | | | | |
| Acrylonitrile | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Aldrin | ND | 0.1 | µg/L | 5 | <0.02 | 0.000022 | 0 | 3 |
| Aldrin | ND | 0.1 | µg/L | | | | | |
| Aldrin | ND | 0.1 | µg/L | | | | | |
| Aldrin | ND | 0.1 | µg/L | | | | | |
| Aldrin | ND | 0.02 | µg/L | | | | | |
| | | | | | | | | |



ED_006495_00001633-00139

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 0.5 | µg/L | 5 | <0.1 | 5.9 | 0 | 3 |
| Benzene | ND | 0.2 | µg/L | | | | | |
| Benzene | ND | 0.5 | µg/L | | | | | |
| Benzene | ND | 0.5 | µg/L | | | | | |
| Benzene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Benzidine | ND | 100 | µg/L | 5 | <10 | 0.000069 | 0 | 3 |
| Benzidine | ND | 50 | µg/L | | | | | |
| Benzidine | ND | 50 | µg/L | | | | | |
| Benzidine | ND | 50 | µg/L | | | | | |
| Benzidine | ND | 10 | µg/L | | | | | |
| | | | | | | | | |
| Beryllium | ND | 1 | µg/L | 5 | <0.2 | 0.033 | 0 | 3 |
| Beryllium | ND | 1 | µg/L | | | | | |
| Beryllium | ND | 1 | µg/L | | | | | |
| Beryllium | ND | 1 | µg/L | | | | | |
| Beryllium | ND | 0.2 | µg/L | | | | | |
| | | | | | | | | |
| Bis(2-chloroethyl)ether | ND | 10 | µg/L | 5 | <5 | 0.045 | 0 | 3 |
| Bis(2-chloroethyl)ether | ND | 9.8 | µg/L | | | | | |
| Bis(2-chloroethyl)ether | ND | 25 | µg/L | | | | | |
| Bis(2-chloroethyl)ether | ND | 25 | µg/L | | | | | |
| Bis(2-chloroethyl)ether | ND | 5 | µg/L | | | | | |
| | | | | | | | | |
| Bis(2-ethylhexyl)Phthalate | ND | 50 | µg/L | 5 | <2 | 3.5 | 0 | 3 |
| Bis(2-ethylhexyl)Phthalate | ND | 9.8 | µg/L | | | | | |
| Bis(2-ethylhexyl)Phthalate | ND | 10 | µg/L | | | | | |
| Bis(2-ethylhexyl)Phthalate | ND | 10 | µg/L | | | | | |
| Bis(2-ethylhexyl)Phthalate | ND | 2 | µg/L | | | | | |



ED_006495_00001633-00140

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Carbon Tetrachloride | ND | 0.5 | µg/L | 5 | <0.1 | 0.9 | 0 | 3 |
| Carbon Tetrachloride | ND | 0.5 | µg/L | | | | | |
| Carbon Tetrachloride | ND | 0.5 | µg/L | | | | | |
| Carbon Tetrachloride | ND | 0.5 | µg/L | | | | | |
| Carbon Tetrachloride | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Chlordane | ND | 1 | µg/L | 5 | <0.2 | 0.000023 | 0 | 3 |
| Chlordane | ND | 1 | µg/L | | | | | |
| Chlordane | ND | 1 | µg/L | | | | | |
| Chlordane | ND | 1 | µg/L | | | | | |
| Chlordane | ND | 0.2 | µg/L | | | | | |
| | | | | | | | | |
| Chlorodibromomethane | ND | 0.5 | µg/L | 2 | 2 | 8.6 | 0 | 2 |
| Chlorodibromomethane | | 1.2 | µg/L | | | | | |
| Chlorodibromomethane | | 0.73 | µg/L | | | | | |
| Chlorodibromomethane | | 2 | µg/L | | | | | |
| Chlorodibromomethane | ND | 0.5 | µg/L | | | | | |
| Chlorodibromomethane | | 0.59 | µg/L | | | | | |
| | | | | | | | | |
| Chloroform | | 1.6 | µg/L | 5 | 6 | 130 | 0 | 2 |
| Chloroform | | 1.1 | µg/L | | | | | |
| Chloroform | | 2.5 | µg/L | | | | | |
| Chloroform | | 6 | µg/L | | | | | |
| Chloroform | | 3.1 | µg/L | | | | | |
| | | | | | | | | |
| **DDT** | | | | 15 | <0.1 | 0.00017 | 0 | 3 |
| 4,4-DDT | ND | 0.1 | µg/L | | | | | |
| 4,4-DDT | ND | 0.1 | µg/L | | | | | |
| 4,4-DDT | ND | 0.1 | µg/L | | | | | |



ED_006495_00001633-00141

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| 4,4-DDT | ND | 0.1 | µg/L | | | | | |
| 4,4-DDT | ND | 0.1 | µg/L | | | | | |
| 4,4-DDE | ND | 0.1 | µg/L | | | | | |
| 4,4-DDE | ND | 0.1 | µg/L | | | | | |
| 4,4-DDE | ND | 0.1 | µg/L | | | | | |
| 4,4-DDE | ND | 0.1 | µg/L | | | | | |
| 4,4-DDE | ND | 0.1 | µg/L | | | | | |
| 4,4-DDD | ND | 0.1 | µg/L | | | | | |
| 4,4-DDD | ND | 0.1 | µg/L | | | | | |
| 4,4-DDD | ND | 0.1 | µg/L | | | | | |
| 4,4-DDD | ND | 0.1 | µg/L | | | | | |
| 4,4-DDD | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| 1,4-Dichlorobenzene | ND | 0.5 | µg/L | 7 | <0.1 | 18 | 0 | 3 |
| 1,4-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,4-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,4-Dichlorobenzene | ND | 0.5 | µg/L | | | | | |
| 1,4-Dichlorobenzene | ND | 10 | µg/L | | | | | |
| 1,4-Dichlorobenzene | ND | 0.1 | µg/L | | | | | |
| 1,4-Dichlorobenzene | ND | 10 | µg/L | | | | | |
| | | | | | | | | |
| 3,3'-Dichlorobenzidine | ND | 20 | µg/L | 5 | <5 | 0.0081 | 0 | 3 |
| 3,3'-Dichlorobenzidine | ND | 49 | µg/L | | | | | |
| 3,3'-Dichlorobenzidine | ND | 25 | µg/L | | | | | |
| 3,3'-Dichlorobenzidine | ND | 25 | µg/L | | | | | |
| 3,3'-Dichlorobenzidine | ND | 5 | µg/L | | | | | |
| | | | | | | | | |
| 1,2-Dichloroethane | ND | 0.5 | µg/L | 5 | <0.1 | 28 | 0 | 3 |
| 1,2-Dichloroethane | ND | 0.5 | µg/L | | | | | |



ED_006495_00001633-00142

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,2-Dichloroethane | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| 1,1-Dichloroethylene | ND | 0.5 | µg/L | 5 | <0.1 | 0.9 | 0 | 3 |
| 1,1-Dichloroethylene | ND | 0.5 | µg/L | | | | | |
| 1,1-Dichloroethylene | ND | 0.5 | µg/L | | | | | |
| 1,1-Dichloroethylene | ND | 0.5 | µg/L | | | | | |
| 1,1-Dichloroethylene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Dichlorobromomethane | | 1.2 | µg/L | 0 | 5 | 6.2 | 0 | 2 |
| Dichlorobromomethane | | 1.4 | µg/L | | | | | |
| Dichlorobromomethane | | 1.9 | µg/L | | | | | |
| Dichlorobromomethane | | 5 | µg/L | | | | | |
| Dichlorobromomethane | | 1.6 | µg/L | | | | | |
| | | | | | | | | |
| Dichloromethane | ND | 0.5 | µg/L | 3 | <0.5 | 450 | 0 | 3 |
| Dichloromethane | ND | 0.5 | µg/L | | | | | |
| Dichloromethane | ND | 0.5 | µg/L | | | | | |
| | | | | | | | | |
| 1,3-Dichloropropene | ND | 2 | µg/L | 12 | <0.4 | 8.9 | 0 | 3 |
| 1,3-Dichloropropene | ND | 2 | µg/L | | | | | |
| 1,3-Dichloropropene | ND | 0.4 | µg/L | | | | | |
| cis-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| cis-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| cis-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| cis-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| trans-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| trans-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |



ED_006495_00001633-00143

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| trans-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| trans-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| trans-1,3-Dichloropropene | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| Dieldrin | ND | 0.1 | µg/L | 5 | <0.02 | 0.00004 | 0 | 3 |
| Dieldrin | ND | 0.1 | µg/L | | | | | |
| Dieldrin | ND | 0.1 | µg/L | | | | | |
| Dieldrin | ND | 0.1 | µg/L | | | | | |
| Dieldrin | ND | 0.02 | µg/L | | | | | |
| | | | | | | | | |
| 2,4-Dinitrotoluene | ND | 10 | µg/L | 5 | <2 | 2.6 | 0 | 3 |
| 2,4-Dinitrotoluene | ND | 9.8 | µg/L | | | | | |
| 2,4-Dinitrotoluene | ND | 10 | µg/L | | | | | |
| 2,4-Dinitrotoluene | ND | 10 | µg/L | | | | | |
| 2,4-Dinitrotoluene | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| 1,2-Diphenylhydrazine | ND | 50 | µg/L | 4 | <0.4 | 0.16 | 0 | 3 |
| 1,2-Diphenylhydrazine | ND | 2 | µg/L | | | | | |
| 1,2-Diphenylhydrazine | ND | 2 | µg/L | | | | | |
| 1,2-Diphenylhydrazine | ND | 0.4 | µg/L | | | | | |
| | | | | | | | | |
| **Halomethanes** | | | | 14 | 0.63 | 130 | 0 | 3 |
| Bromoform | ND | 0.5 | µg/L | | | | | |
| Bromoform | ND | 0.5 | µg/L | | | | | |
| Bromoform | ND | 0.5 | µg/L | | | | | |
| Bromoform | | 0.63 | µg/L | | | | | |
| Bromoform | ND | 0.5 | µg/L | | | | | |
| Bromomethane | ND | 0.5 | µg/L | | | | | |
| Bromomethane | ND | 0.5 | µg/L | | | | | |



ED_006495_00001633-00144

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Bromomethane | ND | 0.5 | µg/L | | | | | |
| Bromomethane | ND | 0.5 | µg/L | | | | | |
| Bromomethane | ND | 0.5 | µg/L | | | | | |
| Chloromethane | ND | 0.5 | µg/L | | | | | |
| Chloromethane | ND | 0.5 | µg/L | | | | | |
| Chloromethane | ND | 0.5 | µg/L | | | | | |
| Chloromethane | ND | 0.5 | µg/L | | | | | |
| Chloromethane | ND | 0.5 | µg/L | | | | | |
| | | | | | | | | |
| Heptachlor | ND | 0.1 | µg/L | 5 | <0.02 | 0.00005 | 0 | 3 |
| Heptachlor | ND | 0.1 | µg/L | | | | | |
| Heptachlor | ND | 0.1 | µg/L | | | | | |
| Heptachlor | ND | 0.1 | µg/L | | | | | |
| Heptachlor | ND | 0.02 | µg/L | | | | | |
| | | | | | | | | |
| Heptachlor epoxide | ND | 0.1 | µg/L | 5 | <0.02 | 0.00002 | 0 | 3 |
| Heptachlor epoxide | ND | 0.1 | µg/L | | | | | |
| Heptachlor epoxide | ND | 0.1 | µg/L | | | | | |
| Heptachlor epoxide | ND | 0.1 | µg/L | | | | | |
| Heptachlor epoxide | ND | 0.02 | µg/L | | | | | |
| | | | | | | | | |
| Hexachlorobenzene | ND | 10 | µg/L | 5 | <2 | 0.00021 | 0 | 3 |
| Hexachlorobenzene | ND | 9.8 | µg/L | | | | | |
| Hexachlorobenzene | ND | 10 | µg/L | | | | | |
| Hexachlorobenzene | ND | 10 | µg/L | | | | | |
| Hexachlorobenzene | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Hexachlorobutadiene | ND | 0.5 | µg/L | 5 | <0.1 | 14 | 0 | 3 |
| Hexachlorobutadiene | ND | 0.5 | µg/L | | | | | |



ED_006495_00001633-00145

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | ND | 0.5 | µg/L | | | | | |
| Hexachlorobutadiene | ND | 0.5 | µg/L | | | | | |
| Hexachlorobutadiene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Hexachloroethane | ND | 2 | µg/L | 6 | <0.4 | 2.5 | 0 | 3 |
| Hexachloroethane | ND | 9.8 | µg/L | | | | | |
| Hexachloroethane | ND | 2 | µg/L | | | | | |
| Hexachloroethane | ND | 2 | µg/L | | | | | |
| Hexachloroethane | ND | 10 | µg/L | | | | | |
| Hexachloroethane | ND | 0.4 | µg/L | | | | | |
| | | | | | | | | |
| Isophorone | ND | 10 | µg/L | 5 | <2 | 730 | 0 | 3 |
| Isophorone | ND | 9.8 | µg/L | | | | | |
| Isophorone | ND | 10 | µg/L | | | | | |
| Isophorone | ND | 10 | µg/L | | | | | |
| Isophorone | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| N-Nitrosodimethylamine | ND | 50 | µg/L | 5 | <2 | 7.3 | 0 | 3 |
| N-Nitrosodimethylamine | ND | 9.8 | µg/L | | | | | |
| N-Nitrosodimethylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodimethylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodimethylamine | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| N-Nitrosodi-N-Propylamine | ND | 10 | µg/L | 5 | <2 | 0.38 | 0 | 3 |
| N-Nitrosodi-N-Propylamine | ND | 9.8 | µg/L | | | | | |
| N-Nitrosodi-N-Propylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodi-N-Propylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodi-N-Propylamine | ND | 2 | µg/L | | | | | |
| | | | | | | | | |



ED_006495_00001633-00146

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| N-Nitrosodiphenylamine | ND | 10 | µg/L | 5 | <2 | 2.5 | 0 | 3 |
| N-Nitrosodiphenylamine | ND | 9.8 | µg/L | | | | | |
| N-Nitrosodiphenylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodiphenylamine | ND | 10 | µg/L | | | | | |
| N-Nitrosodiphenylamine | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| PAHs | | | µg/L | 50 | <9.8 | 0.0088 | 0 | 3 |
| Acenaphthylene | ND | 10 | µg/L | | | | | |
| Acenaphthylene | ND | 9.8 | µg/L | | | | | |
| Acenaphthylene | ND | 10 | µg/L | | | | | |
| Acenaphthylene | ND | 10 | µg/L | | | | | |
| Acenaphthylene | ND | 10 | µg/L | | | | | |
| Anthracene | ND | 10 | µg/L | | | | | |
| Anthracene | ND | 9.8 | µg/L | | | | | |
| Anthracene | ND | 10 | µg/L | | | | | |
| Anthracene | ND | 10 | µg/L | | | | | |
| Anthracene | ND | 10 | µg/L | | | | | |
| Benzo(k)fluoranthene | ND | 10 | µg/L | | | | | |
| Benzo(k)fluoranthene | ND | 9.8 | µg/L | | | | | |
| Benzo(k)fluoranthene | ND | 10 | µg/L | | | | | |
| Benzo(k)fluoranthene | ND | 10 | µg/L | | | | | |
| Benzo(k)fluoranthene | ND | 10 | µg/L | | | | | |
| Benzo(a)pyrene | ND | 10 | µg/L | | | | | |
| Benzo(a)pyrene | ND | 9.8 | µg/L | | | | | |
| Benzo(a)pyrene | ND | 10 | µg/L | | | | | |
| Benzo(a)pyrene | ND | 10 | µg/L | | | | | |
| Benzo(a)pyrene | ND | 10 | µg/L | | | | | |
| Chrysene | ND | 10 | µg/L | | | | | |
| Chrysene | ND | 9.8 | µg/L | | | | | |



ED_006495_00001633-00147

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Chrysene | ND | 10 | µg/L | | | | | |
| Chrysene | ND | 10 | µg/L | | | | | |
| Chrysene | ND | 10 | µg/L | | | | | |
| Dibenzo(a,h)anthracene | ND | 10 | µg/L | | | | | |
| Dibenzo(a,h)anthracene | ND | 9.8 | µg/L | | | | | |
| Dibenzo(a,h)anthracene | ND | 10 | µg/L | | | | | |
| Dibenzo(a,h)anthracene | ND | 10 | µg/L | | | | | |
| Dibenzo(a,h)anthracene | ND | 10 | µg/L | | | | | |
| Fluorene | ND | 10 | µg/L | | | | | |
| Fluorene | ND | 9.8 | µg/L | | | | | |
| Fluorene | ND | 10 | µg/L | | | | | |
| Fluorene | ND | 10 | µg/L | | | | | |
| Fluorene | ND | 10 | µg/L | | | | | |
| Indeno(1,2,3-Cd)pyrene | ND | 10 | µg/L | | | | | |
| Indeno(1,2,3-Cd)pyrene | ND | 9.8 | µg/L | | | | | |
| Indeno(1,2,3-Cd)pyrene | ND | 10 | µg/L | | | | | |
| Indeno(1,2,3-Cd)pyrene | ND | 10 | µg/L | | | | | |
| Indeno(1,2,3-Cd)pyrene | ND | 10 | µg/L | | | | | |
| Phenanthrene | ND | 10 | µg/L | | | | | |
| Phenanthrene | ND | 9.8 | µg/L | | | | | |
| Phenanthrene | ND | 10 | µg/L | | | | | |
| Phenanthrene | ND | 10 | µg/L | | | | | |
| Phenanthrene | ND | 10 | µg/L | | | | | |
| Pyrene | ND | 10 | µg/L | | | | | |
| Pyrene | ND | 9.8 | µg/L | | | | | |
| Pyrene | ND | 10 | µg/L | | | | | |
| Pyrene | ND | 10 | µg/L | | | | | |
| Pyrene | ND | 10 | µg/L | | | | | |
| | | | | | | | | |



ED_006495_00001633-00148

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| PCBs | | | µg/L | 33 | <1 | 0.000019 | 0 | 3 |
| PCB Aroclor 1016 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1016 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1016 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1016 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1221 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1221 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1221 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1221 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1221 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1232 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1232 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1232 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1232 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1232 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1242 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1242 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1242 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1242 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1248 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1248 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1248 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1248 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1248 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1254 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1254 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1254 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1254 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1254 | ND | 1 | µg/L | | | | | |



ED_006495_00001633-00149

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| PCB Aroclor 1260 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1260 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1260 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1260 | ND | 1 | µg/L | | | | | |
| PCB Aroclor 1260 | ND | 1 | µg/L | | | | | |
| | | | | | | | | |
| TCDD Equivalents | ND | 6.2E-07 | µg/L | 4 | 0.00001 | 0.0000000039 | 0 | 3 |
| TCDD Equivalents | ND | 8.4E-07 | µg/L | | | | | |
| TCDD Equivalents | ND | 0.00001 | µg/L | | | | | |
| TCDD Equivalents | ND | 0.0000019 | µg/L | | | | | |
| | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | µg/L | 5 | <0.1 | 2.3 | 0 | 3 |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2,2-Tetrachloroethane | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Tetrachloroethylene | ND | 0.5 | µg/L | 5 | <0.1 | 2.0 | 0 | 3 |
| Tetrachloroethylene | ND | 0.5 | µg/L | | | | | |
| Tetrachloroethylene | ND | 0.5 | µg/L | | | | | |
| Tetrachloroethylene | ND | 0.5 | µg/L | | | | | |
| Tetrachloroethylene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| Toxaphene | ND | 1 | µg/L | 5 | <0.2 | 0.00021 | 0 | 3 |
| Toxaphene | ND | 1 | µg/L | | | | | |
| Toxaphene | ND | 1 | µg/L | | | | | |
| Toxaphene | ND | 1 | µg/L | | | | | |
| Toxaphene | ND | 0.2 | µg/L | | | | | |
| | | | | | | | | |



ED_006495_00001633-00150

| Pollutant | Qualifier | Value | Unit | No. ND | MEC | Co | B | Endpoint |
|---|---|---|---|---|---|---|---|---|
| Trichloroethylene | ND | 0.5 | µg/L | 5 | <0.1 | 27 | 0 | 3 |
| Trichloroethylene | ND | 0.5 | µg/L | | | | | |
| Trichloroethylene | ND | 0.5 | µg/L | | | | | |
| Trichloroethylene | ND | 0.5 | µg/L | | | | | |
| Trichloroethylene | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| 1,1,2-Trichloroethane | ND | 0.5 | µg/L | 5 | <0.1 | 9.4 | 0 | 3 |
| 1,1,2-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2-Trichloroethane | ND | 0.5 | µg/L | | | | | |
| 1,1,2-Trichloroethane | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |
| 2,4,6-Trichlorophenol | ND | 10 | µg/L | 5 | <2 | 0.29 | 0 | 3 |
| 2,4,6-Trichlorophenol | ND | 9.8 | µg/L | | | | | |
| 2,4,6-Trichlorophenol | ND | 10 | µg/L | | | | | |
| 2,4,6-Trichlorophenol | ND | 10 | µg/L | | | | | |
| 2,4,6-Trichlorophenol | ND | 2 | µg/L | | | | | |
| | | | | | | | | |
| Vinyl Chloride | ND | 0.5 | µg/L | 5 | <0.1 | 36 | 0 | 3 |
| Vinyl Chloride | ND | 0.5 | µg/L | | | | | |
| Vinyl Chloride | ND | 0.5 | µg/L | | | | | |
| Vinyl Chloride | ND | 0.5 | µg/L | | | | | |
| Vinyl Chloride | ND | 0.1 | µg/L | | | | | |
| | | | | | | | | |

[1] Total residual chlorine was detected but not quantified in 1,347 out of 1,918 results collected between August 2009 and October 2014. 513 results were recorded as "0." 230 results were detected with values ranging from 10-1,570 µg/L.



ED_006495_00001633-00151