

**San Francisco Bay Regional Water Quality Control Board**

**TENTATIVE ORDER No. R2-2018-00XX**  
**NPDES No. CA0037885**

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

**Table 1. Discharger Information**

<b>Discharger</b>	Crockett Community Services District
<b>Facility Name</b>	Port Costa Wastewater Treatment Plant
<b>Facility Address</b>	End of Canyon Lake Drive Port Costa, CA 94569 Contra Costa County
<b>CIWQS Place Number</b>	248886

**Table 2. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Secondary Treated Municipal Wastewater	38.04861	-122.18222	Carquinez Strait

**Table 3. Administrative Information**

This Order was adopted on:	<DATE>
This Order shall become effective on:	February 1, 2019
This Order shall expire on:	January 31, 2024
CIWQS Regulatory Measure Number	xx
The Discharger shall file a Report of Waste Discharge for updated WDRs in accordance with California Code of Regulations, title 23, and as an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	May 1, 2023
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, San Francisco Bay Region, have classified this discharge as follows:	Minor

I, Bruce H. Wolfe, 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, San Francisco Bay Region, on the date indicated above.

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Bruce H. Wolfe, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Port Costa Wastewater Treatment Plant and its collection system (collectively, the Facility) is summarized in Table 1 and Fact Sheet (Attachment F) sections I and II.

## II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), finds:

- A. Legal Authorities.** This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260). This Order is also issued pursuant to federal Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States as listed in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information the Discharger submitted as part of its application, information obtained through 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 and constitutes findings for this Order. Attachments A through E and G are also incorporated into this Order.
- C. Notification of Interested Parties.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe these WDRs and provided an opportunity to submit written comments and recommendations. The Fact Sheet provides details regarding the notification.
- D. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. The Fact Sheet provides details regarding the public hearing.

**THEREFORE, IT IS HEREBY ORDERED** that Order No. R2-2013-0035 (previous order) is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions of Water Code division 7 (commencing with § 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous order.

## III. DISCHARGE PROHIBITIONS

- A.** Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.
- B.** Discharge is prohibited when treated wastewater does not receive an initial dilution of at least 72:1, as modeled. Compliance shall be achieved by proper operation and maintenance of the discharge outfall to ensure that it (or its replacement, in whole or part) is in good working order and is consistent with, or can achieve better mixing than, that described in Fact Sheet section IV.C.4.a. The Discharger shall address measures taken to ensure this in its application for permit reissuance.

- C. Bypass of untreated or partially-treated wastewater to waters of the United States is prohibited, except as provided for in Attachment D section I.G.
- D. Average dry weather effluent flow in excess of 0.033 MGD is prohibited. Average dry weather effluent flow shall be determined from three consecutive dry weather months each year, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (MRP) (Attachment E).
- E. Any sanitary sewer overflow that results in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**A. Effluent Limitations.** The Discharger shall comply with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

**Table 4. Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand, 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	30	45	---	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	---	---
Oil and Grease	mg/L	10	---	20	---	---
pH <sup>(1)</sup>	standard units	---	---	---	6.0	9.0
Chlorine, Total Residual	mg/L	---	---	---	---	0.0
Ammonia, Total	mg/L as N	32	---	58	---	---
Copper, Total	µg/L	55	---	120	---	---
Cyanide, Total	µg/L	21	---	42	---	---

Abbreviations:

mg/L = milligrams per liter  
 mg/L as N = milligrams per liter as nitrogen  
 µg/L = micrograms per liter

Footnotes:

<sup>(1)</sup> If the Discharger monitors pH continuously, pursuant to 40 C.F.R. section 401.17 the Discharger shall be in compliance with this pH limitation provided that both of the following conditions are satisfied: (i) the total time during which the pH is outside the required range shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the required pH range shall exceed 60 minutes.

**B. Percent Removal.** The average monthly percent removal of BOD<sub>5</sub> and TSS at Discharge Point No. 001 shall not be less than 85 percent (i.e., in each calendar month, the arithmetic mean of BOD<sub>5</sub> and TSS, by concentration, of effluent samples collected at Monitoring Location EFF-001, as described in the MRP, shall not exceed 15 percent of the arithmetic mean of BOD<sub>5</sub> and TSS, by concentration, of influent samples collected at Monitoring Location INF-001, as described in the MRP, at approximately the same times during the same periods).

**C. Enterococcus.** The monthly geometric mean enterococcus bacteria concentration at Discharge Point No. 001 shall not exceed 35 MPN/100 mL, with compliance measured at Monitoring Location EFF-001, as described in the MRP.

**D. Whole Effluent Acute Toxicity.** The discharge at Discharge Point No. 001 shall meet the following acute toxicity effluent limitations, with compliance measured at Monitoring Location EFF-001 as described in the MRP:

1. Three-sample median of not less than 90 percent survival; and
2. Single-sample maximum value of not less than 70 percent survival.

These acute toxicity limitations are defined as follows:

- **Three-sample median.** A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if one or more of the past two bioassay tests show less than 90 percent survival.
- **Single-sample maximum.** A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit.

If the Discharger can demonstrate that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge complies with the ammonia effluent limits in Table 4 of this Order, then such toxicity shall not constitute a violation of this effluent limitation.

## V. RECEIVING WATER LIMITATIONS

- A. The discharge shall not cause the following conditions to exist in receiving waters at any place:
1. Floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;
  2. Alteration of suspended sediment in such a manner as to cause nuisance or adversely affect beneficial uses, or detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life;
  3. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses;
  4. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  5. Alteration of temperature beyond present natural background levels unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses;
  6. Changes in turbidity that cause nuisance or adversely affect beneficial uses, or increases from normal background light penetration or turbidity greater than 10 percent in areas where natural turbidity is greater than 50 nephelometric turbidity units;
  7. Coloration that causes nuisance or adversely affects beneficial uses;
  8. Visible, floating, suspended, or deposited oil or other products of petroleum origin; or

9. Toxic or other deleterious substances in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
- B.** The discharge shall not cause the following limits to be exceeded in receiving waters at any place within one foot of the water surface:
1. Dissolved Oxygen            7.0 mg/L, minimum  
The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
  2. Dissolved Sulfide            Natural background levels
  3. pH                                The pH shall not be depressed below 6.5 or raised above 8.5. The discharge shall not cause changes greater than 0.5 pH units in normal ambient pH levels.
  4. Nutrients                        Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
- C.** The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or State Water Resources Control Board (State Water Board) as required by the CWA and regulations adopted thereunder. If more stringent water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board may revise or modify this Order in accordance with the more stringent standards.

## **VI. PROVISIONS**

### **A. Standard Provisions**

1. The Discharger shall comply with all “Standard Provisions” in Attachment D.
2. The Discharger shall comply with all applicable provisions of the “Regional Standard Provisions, and Monitoring and Reporting Requirements for NPDES Wastewater Discharge Permits” (Attachment G).

### **B. Monitoring and Reporting**

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto, and applicable sampling and reporting requirements in Attachments D and G.

## C. Special Provisions

### 1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

- a. If present or future investigations demonstrate that the discharges governed by this Order have or will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.
- b. If new or revised water quality objectives or total maximum daily loads (TMDLs) come into effect for San Francisco Bay or contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect the updated water quality objectives and wasteload allocations in the TMDLs. Adoption of the effluent limitations in this Order is not intended to restrict in any way future modifications based on legally-adopted water quality objectives or TMDLs or as otherwise permitted under federal regulations governing NPDES permit modifications.
- c. If translator, dilution, or other water quality studies provide a basis for determining that a permit condition should be modified.
- d. If State Water Board precedential decisions, new policies, new laws, or new regulations are adopted.
- e. If an administrative or judicial decision on a separate NPDES permit or WDRs addresses requirements similar to this discharge.
- f. If the Discharger requests adjustments in effluent limits due to the implementation of stormwater diversion pursuant to the Municipal Regional Stormwater Permit (Permit No. CAS612008) for redirecting dry weather and first flush discharges from the storm drain system to the sanitary sewer system as a storm water pollutant control strategy.
- g. Or as otherwise authorized by law.

The Discharger may request a permit modification based on any of the circumstances above. With any such request, the Discharger shall include antidegradation and anti-backsliding analyses as applicable.

### 2. Effluent Characterization Study and Report

- a. **Study Elements.** The Discharger shall characterize and evaluate the discharge from Discharge Point No. 001, as required by the MRP, to verify that the reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall evaluate on an annual basis if concentrations of any of the priority pollutants listed in Attachment G, Table B, significantly increase over past performance. The Discharger shall investigate the cause of any such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall

establish remedial measures addressing any increase resulting in reasonable potential to cause or contribute to an exceedance of applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a “pollutant of concern” in the Discharger’s Pollutant Minimization Program, described in Provision VI.C.3.

**b. Reporting Requirements**

- i. Routine Reporting.** The Discharger shall report the identity of pollutants detected at or above applicable water quality objectives (see Fact Sheet Table F-7 for the objectives) in the transmittal letter for the self-monitoring report associated with the month in which samples were collected.
- ii. Annual Reporting.** The Discharger shall summarize the annual data evaluation and source investigation in the annual self-monitoring report.

**3. Pollutant Minimization Program**

- a.** The Discharger shall continue to improve its existing Pollutant Minimization Program to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.
- b.** The Discharger shall submit an annual report no later than February 28 of each calendar year. Each annual report shall include at least the following information:
  - i. Brief description of treatment plant.** The description shall include the service area and treatment plant processes.
  - ii. Discussion of current pollutants of concern.** Periodically, the Discharger shall analyze its circumstances to determine which pollutants are currently a problem and which pollutants may be potential future problems. This discussion shall include the reasons for choosing the pollutants.
  - iii. Identification of sources for pollutants of concern.** This discussion shall include how the Discharger intends to estimate and identify pollutant sources. The Discharger shall include sources or potential sources not directly within the ability or authority of the Discharger to control, such as pollutants in the potable water supply and air deposition.
  - iv. Identification of tasks to reduce the sources of pollutants of concern.** This discussion shall identify and prioritize tasks to address the Discharger’s pollutants of concern. The Discharger may implement the tasks by itself or participate in group, regional, or national tasks that address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that address its pollutants of concern whenever it is efficient and appropriate to do so. An implementation timeline shall be included for each task.
  - v. Outreach to employees.** The Discharger shall inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the



discharge of these pollutants of concern into the Facility. The Discharger may provide a forum for employees to provide input.

- vi. Continuation of Public Outreach Program.** The Discharger shall prepare a pollution prevention public outreach program for its service area. Outreach may include participation in existing community events, such as county fairs; initiating new community events, such as displays and contests during Pollution Prevention Week; conducting school outreach programs; conducting plant tours; and providing public information in newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, or websites. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.
- vii. Discussion of criteria used to measure Pollutant Minimization Program and task effectiveness.** The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant Minimization Program. This discussion shall identify the specific criteria used to measure the effectiveness of each task in Provisions VI.C.3.b.iii, iv, v, and vi.
- viii. Documentation of efforts and progress.** This discussion shall detail all of the Discharger's Pollutant Minimization Program activities during the reporting year.
- ix. Evaluation of Pollutant Minimization Program and task effectiveness.** The Discharger shall use the criteria established in Provision VI.C.3.b.vii to evaluate the program and task effectiveness.
- x. Identification of specific tasks and timelines for future efforts.** Based on the evaluation, the Discharger shall explain how it intends to continue or change its tasks to more effectively reduce the amount of pollutants flowing to the treatment plant, and subsequently in its effluent.
- c.** The Discharger shall develop and conduct a Pollutant Minimization Program as further described below when there is evidence that a priority pollutant is present in the effluent above an effluent limitation (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, or results of benthic or aquatic organism tissue sampling) and either:

  - i.** A sample result is reported as DNQ and the effluent limitation is less than the Reporting Level (RL); or
  - ii.** A sample result is reported as not detected (ND) and the effluent limitation is less than the MDL, using definitions in Attachment A and reporting protocols described in the MRP.
- d.** If triggered by the reasons set forth in Provision VI.C.3.c, above, the Discharger's Pollutant Minimization Program shall include, but not be limited to, the following actions and submittals:

  - i.** Annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake

sampling, or alternative measures when source monitoring is unlikely to produce useful analytical data;

- ii. Quarterly monitoring for the reportable priority pollutants in the influent to the Facility. The Executive Officer may approve alternative measures when influent monitoring is unlikely to produce useful analytical data;
- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and
- v. Inclusion of the following specific items within the annual report required by Provision VI.C.3.b above:
  - (a) All Pollutant Minimization Program monitoring results for the previous year;
  - (b) List of potential sources of the reportable priority pollutants;
  - (c) Summary of all actions undertaken pursuant to the control strategy; and
  - (d) Description of actions to be taken in the following year.

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

##### **a. Sludge and Biosolids Management**

- i. Sludge and biosolids treatment and storage shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
- ii. Sludge and biosolids treatment and storage facilities shall be adequate to divert surface runoff from adjacent areas, to protect site boundaries from erosion, and to prevent conditions that would cause drainage from stored materials. Adequate protection is defined as protection from at least a 100-year storm and the highest possible tidal state that may occur.
- iii. This Order does not authorize permanent onsite sludge or biosolids storage or disposal. A Report of Waste Discharge shall be filed and the site brought into compliance with applicable regulations prior to commencement of any such activity.

- b. Collection System Management.** The Discharger shall properly operate and maintain its collection system (see Attachments D and G, section I.D), report any noncompliance with respect to its collection system (see Attachment D, section V.E.1, and Attachment G, sections V.E.1 and V.E.2), and mitigate any discharges in violation of this Order associated with its collection system (see Attachments D and G, section I.C).

State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order No. WQ 2013-0058-EXEC, contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must separately comply with both the statewide WDRs and this Order, the

statewide WDRs more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementing the requirements for operation and maintenance and mitigation of sanitary sewer overflows set forth in the statewide WDRs (and any subsequent order updating these requirements) shall satisfy the corresponding federal NPDES requirements specified in Attachments D and G of this Order for the collection systems. Following the reporting requirements set forth in the statewide WDRs (and any subsequent order updating these requirements) shall satisfy the NPDES reporting requirements for sanitary sewer overflows specified in Attachments D and G.

**5. Other Special Provisions**

- a. Copper Action Plan.** The Discharger shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule:

**Table 5. Copper Action Plan**

Task	Compliance Date
<p><b>1. Implement Copper Control Program</b>                      Continue implementing existing program to reduce identified copper sources, including, as applicable, taking the following actions:</p> <ul style="list-style-type: none"> <li><b>a.</b> Providing education and outreach to the public (e.g., focusing on proper pool and spa maintenance and plumbers’ roles in reducing corrosion);</li> <li><b>b.</b> If corrosion is a significant copper source, working cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensuring that local plumbing contractors implement best management practices to reduce corrosion in pipes; and</li> <li><b>c.</b> Educating plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.</li> </ul>	<p>Implementation shall be ongoing</p>
<p><b>2. Implement Additional Actions</b>                      If the Regional Water Board notifies the Discharger that the three-year rolling mean dissolved copper concentration in San Pablo Bay exceeds 3.0 µg/L, then within 90 days of the notification, evaluate the effluent copper concentration trend and, if it is increasing, develop and begin implementation of additional measures to control copper discharges. Report the conclusion of the trend analysis and provide a schedule for any new actions to be taken within the next 12 months.</p>	<p>With next annual pollution minimization program report due February 28 (at least 90 days following notification)</p>
<p><b>3. Report Status</b>                      Submit an annual report documenting copper control program implementation that evaluates the effectiveness of the actions taken, including any additional actions required by Task 2 above, and provides a schedule for actions to be taken within the next 12 months.</p>	<p>With annual pollution minimization program report due February 28 each year</p>

- b. Cyanide Action Plan.** The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule:

**Table 6. Cyanide Action Plan**

Task	Compliance Date
<p><b>1. Review Potential Cyanide Sources</b>                      Submit an up-to-date inventory of potential cyanide sources. If no cyanide source is identified, tasks 2 and 3, below, are not required unless the Discharger receives a request to discharge detectable levels of cyanide to the sewer. In this case, notify the Executive Officer and implement tasks 2 and 3.</p>	<p>With annual pollution minimization program report due February 28, 2019</p>

Task	Compliance Date
<p><b>2. Implement Cyanide Control Program</b>                      Implement a control program to minimize cyanide discharges consisting, at a minimum, of the following elements:</p> <ul style="list-style-type: none"> <li>a. Inspect each potential source to assess the need to include that source in the control program.</li> <li>b. Inspect sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as <i>Industrial User Inspection and Sampling Manual for POTWs</i> (EPA 831-B-94-01).</li> <li>c. Develop and distribute educational materials regarding the need to prevent cyanide discharges to sources included in the control program.</li> <li>d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs.</li> </ul> <p>If the plant influent cyanide concentration exceeds 9.0 µg/L, the Discharger shall collect a follow-up sample within 5 days of becoming aware of the laboratory results. If the results of the follow-up sample also exceed 9.0 µg/L, then a “significant cyanide discharge” is occurring.</p>	<p>Implementation shall be ongoing</p>
<p><b>3. Implement Additional Measures</b>                      If the Regional Water Board notifies the Discharger that ambient monitoring shows cyanide concentrations are 1.0 µg/L or higher in the main body of San Francisco Bay, then within 90 days of the notification, commence actions to identify and abate cyanide sources responsible for the elevated ambient concentrations, report on the progress and effectiveness of the actions taken, and provide a schedule for actions to be taken within the next 12 months.</p>	<p>With next annual pollution minimization program report due February 28 (at least 90 days following notification)</p>
<p><b>4. Report Status of Cyanide Control Program</b>                      Submit an annual report documenting cyanide control program implementation and addressing the effectiveness of actions taken, including any additional cyanide controls required by Task 3, above, and provide a schedule for actions to be taken within the next 12 months.</p>	<p>Annually, with annual pollution minimization program report due February 28 each year</p>

## ATTACHMENT A – DEFINITIONS

### **Arithmetic Mean ( $\mu$ )**

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

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

### **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**

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**

Known to cause cancer in living organisms.

### **Coefficient of Variation**

Measure of data variability calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

### **Daily Discharge**

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

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

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

### **Detected, but Not Quantified (DNQ)**

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

### **Dilution Credit**

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 by conducting a mixing zone study or modeling the discharge and receiving water.

### **Effluent Concentration Allowance (ECA)**

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

### **Enclosed Bay**

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

### **Estimated Chemical Concentration**

Concentration that results from the confirmed detection of the substance below the ML value by the analytical method.

### **Estuaries**

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

### **Inland Surface Waters**

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

### **Instantaneous Maximum Effluent Limitation**

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**

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

**Maximum Daily Effluent Limitation (MDEL)**

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

**Median**

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 n/2 and n/2+1).

**Method Detection Limit (MDL)**

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

**Minimum Level (ML)**

Concentration at which the entire analytical system gives 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**

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

**Not Detected (ND)**

Sample results less than the laboratory's MDL.

**Persistent Pollutants**

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

**Pollutant Minimization Program**

Program of 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 Pollutant Minimization Program is to reduce all potential sources of a priority pollutant 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. Cost effectiveness may be considered when establishing the requirements of a Pollutant Minimization Program. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), is considered to fulfill Pollutant Minimization Program 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 Water Board or Regional Water Board.

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

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

### **Source of Drinking Water**

Any water designated as having a municipal or domestic supply (MUN) beneficial use.

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

Measure of variability calculated as follows:

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

where:

x is the observed value;

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

n is the number of samples.

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

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 chemicals responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.



## ATTACHMENT B – FACILITY MAPS

### Terrain Map of Port Costa Wastewater Treatment Plant

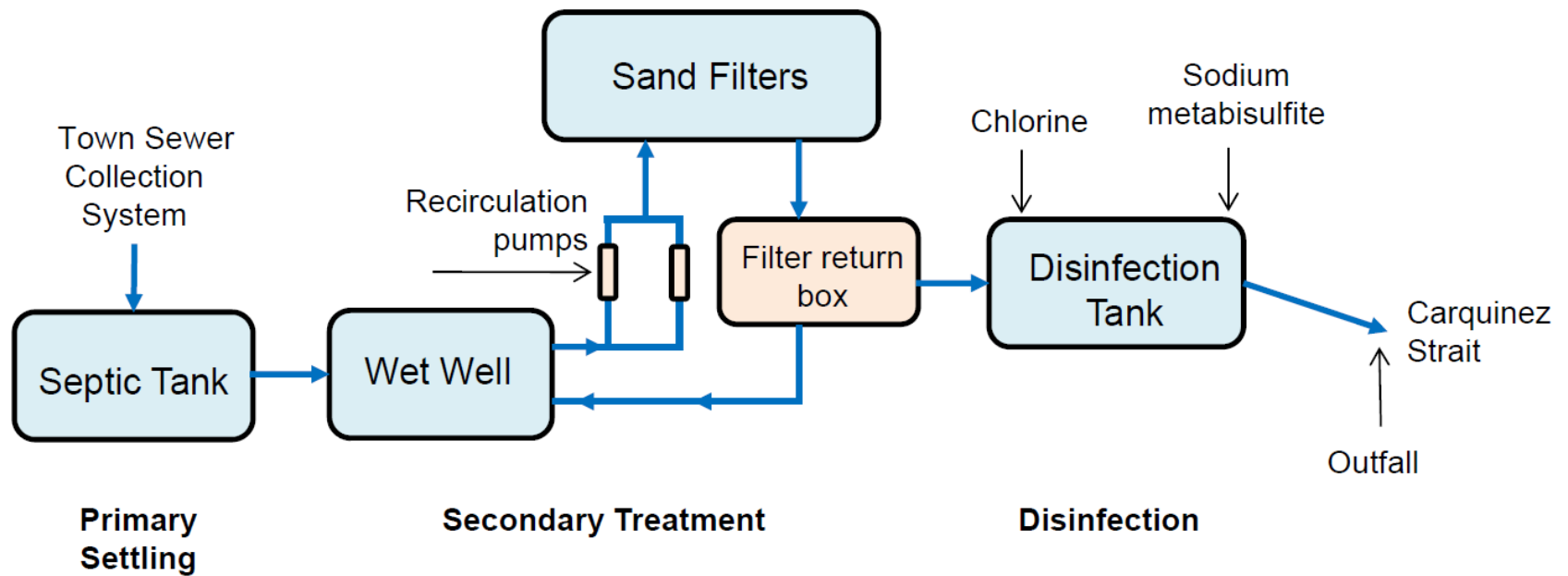


### Detail of Port Costa Wastewater Treatment Plant and Discharge Point 001



**ATTACHMENT C – PROCESS FLOW DIAGRAMS**

**Wastewater Treatment Process Diagram**



## **ATTACHMENT D – STANDARD PROVISIONS**

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

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

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

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

It shall not be a defense for a Discharger 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 Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

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

The Discharger 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 Discharger 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 Discharger 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 Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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

## G. Bypass

### 1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
  - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. **Bypass not exceeding limitations.** The Discharger 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 Discharger 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 Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. **Approval.** 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 Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
- b. **Unanticipated bypass.** The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, a notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(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 Discharger. 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 discharger 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 Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));



the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N, for the measured pollutant or pollutant parameter.

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

#### **IV. STANDARD PROVISIONS—RECORDS**

- A. The Discharger 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 the following:
  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) the analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
  4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
  5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
  6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):
  1. The name and address of any permit applicant or Discharger (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 Discharger 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 Discharger shall also



furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

## **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, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)
2. For a corporation, all permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

For a partnership or sole proprietorship, all permit applications shall be signed by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)

For a municipality, State, federal, or other public agency, all permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. § 122.22(a)(3).)

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions—Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions—Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions—Reporting V.B.2 or V.B.3 above shall make the following certification:

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

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR reporting form specified by the Regional Water Board or State 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 Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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

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

2. The following shall be included as information that must be reported within 24 hours:
  - 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 Discharger 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 40 C.F.R. 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. (Alternatively, for an existing manufacturing, commercial, mining, or silvicultural discharge as referenced in 40 C.F.R. section 122.42(a), this notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 C.F.R. section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1.) (40 C.F.R. § 122.41(l)(1)(ii).)

### **G. Anticipated Noncompliance**

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

### **I. Other Information**

When the Discharger 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 Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

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

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

## **VI. STANDARD PROVISIONS—ENFORCEMENT**

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

## VII. ADDITIONAL PROVISIONS—NOTIFICATION LEVELS

### A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(1)):
  - a. 100 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(1)(i));
  - b. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” (40 C.F.R. § 122.42(a)(2)):
  - a. 500 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(2)(i));
  - b. 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
  - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

### B. 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 CWA sections 301 or 306 if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

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

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

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

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

### I. GENERAL MONITORING PROVISIONS

- A. The Discharger shall comply with this MRP. The Executive Officer may amend this MRP pursuant to 40 C.F.R. sections 122.62, 122.63, and 124.5. If any discrepancies exist between this MRP and the “Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to Attachment D) for NPDES Wastewater Discharge Permits” (Attachment G), this MRP shall prevail.
- B. The Discharger shall conduct all monitoring in accordance with Attachment D, section III, as supplemented by Attachment G. Equivalent test methods must be more sensitive than those specified in 40 C.F.R. section 136 and must be specified in this permit.
- C. The Discharger shall ensure that results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:  

State Water Resources Control Board  
 Quality Assurance Program Officer  
 Office of Information Management and Analysis  
 1001 I Street, Sacramento, CA 95814
- D. The Discharger shall implement a Quality Assurance-Quality Control Program for any onsite field tests (e.g., turbidity, pH, temperature, dissolved oxygen, conductivity, disinfectant residual) analyzed by a noncertified laboratory. The Discharger shall keep a manual onsite containing the steps followed in this program and must demonstrate sufficient capability to adequately perform these field tests (e.g., qualified and trained employees, properly calibrated and maintained field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

### II. MONITORING LOCATIONS

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

**Table E-1. Monitoring Locations**

Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Influent	INF-001	A point in the treatment plant headworks at which all waste tributary to the treatment system is present and preceding any phase of treatment.
Effluent	EFF-001	A point following all treatment, after disinfection and dechlorination, prior to contact with Carquinez Strait.
Receiving Water	RSW-001	A point in Carquinez Strait approximately 60 feet offshore aligned in a northeast direction with the chlorine contact basin, immediately above Discharge Point No. 001.



Sampling Location Type	Monitoring Location Name	Monitoring Location Description
Receiving Water	RSW-002	A point in Carquinez Strait approximately 50 feet down-current <sup>[1]</sup> from Discharge Point No. 001 and accessible from shore.
Receiving Water	RSW-003	A point in Carquinez Strait approximately 1,000 feet up-current <sup>[1]</sup> from Discharge Point No. 001 and accessible from shore.

Footnote:

<sup>[1]</sup> The upstream and downstream monitoring locations change depending on whether there is an incoming or outgoing tide.

### III. INFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor plant influent at Monitoring Location INF-001 as follows:

**Table E-2. Influent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Biochemical Oxygen Demand (5-day @ 20°C) (BOD <sub>5</sub> )	mg/L	Grab	1/Month
Total Suspended Solids (TSS)	mg/L	Grab	1/Week
Cyanide, Total <sup>[1]</sup>	µg/L	Grab	1/Year

Abbreviations:

mg/L = milligrams per liter  
 µg/L = micrograms per liter

Sampling Types and Frequencies:

Grab = grab sample  
 1/Week = once per week  
 1/Year = once per year

Footnote:

<sup>[1]</sup> The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.

### IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor plant effluent at Monitoring Location EFF-001 as follows:

**Table E-3. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow <sup>[1]</sup>	MG/MGD	Continuous	3/Week
BOD <sub>5</sub>	mg/L	Grab	1/Month
TSS	mg/L	Grab	1/Week
Oil and Grease	mg/L	Grab	1/Month
pH <sup>[2]</sup>	s.u.	Grab	3/Week
Ammonia, Total	mg/L as N	Grab	1/Quarter
Copper, Total	µg/L	Grab	1/Quarter
Cyanide, Total <sup>[3]</sup>	µg/L	Grab	1/Quarter
Enterococcus Bacteria	MPN/100 mL <sup>[4]</sup>	Grab	1/Week
Acute Toxicity <sup>[5]</sup>	% survival	Grab	1/Quarter
Chlorine, Total Residual <sup>[6]</sup>	mg/L	Grab	3/Week
Priority Pollutants <sup>[7]</sup>	µg/L	Grab	Once

Abbreviations:

MG	= million gallons
MGD	= million gallons per day
mg/L	= milligrams per liter
mg/L as N	= milligrams per liter as nitrogen
µg/L	= micrograms per liter
MPN/100 mL	= most probable number per 100 milliliters

Sampling Types and Frequencies:

Grab	= grab sample
Continuous	= measured continuously
Once	= once per permit term
1/Week	= once per week
3/Week	= three times per week
1/Month	= once per month
1/Quarter	= once per quarter

Footnotes:

- [1] The following flow information shall be reported in monthly self-monitoring reports:
  - Daily average flow (MGD)
  - Total monthly flow volume (MG)
- [2] If pH is monitored continuously, the minimum and maximum for each day shall be reported in self-monitoring reports.
- [3] The Discharger may, at its option, analyze for cyanide as weak acid dissociable cyanide using protocols specified in Standard Method Part 4500-CN-I, U.S. EPA Method OI 1677, or an equivalent method in the latest Standard Method edition.
- [4] Results may be reported as Colony Forming Units (CFU) per 100 mL if the laboratory method used provides results in CFU/100 mL.
- [5] Acute bioassay tests shall be performed in accordance with MRP section V.A
- [6] If residual chlorine is monitored continuously, concentrations shall be monitored, at a minimum, every hour. The Discharger shall describe all excursions of the chlorine limit in the transmittal letter of self-monitoring reports as required by Attachment G section V.C.1.a. The Discharger shall report through data upload to CIWQS, from discrete readings of the continuous monitoring every hour on the hour, the maximum for each day and any other discrete hourly reading that exceed the effluent limit, and, for the purpose of mandatory minimum penalties required by Water Code section 13385(i), compliance shall be based only on these discrete readings. The Discharger shall retain continuous monitoring readings for at least three years. The Regional Water Board reserves the right to use all continuous monitoring data for discretionary enforcement.  
  
The Discharger may elect to use a continuous on-line monitoring system for measuring or determining that residual dechlorinating agent is present. This monitoring system may be used to prove that anomalous residual chlorine exceedances measured by on-line chlorine analyzers are false positives and are not valid total residual chlorine detections because it is chemically improbable to have chlorine present in the presence of sodium bisulfite. If Regional Water Board staff finds convincing evidence that chlorine residual exceedances are false positives, the exceedances are not violations of this Order's total chlorine residual limit.
- [7] The priority pollutants are listed in Attachment G, Table B.

## V. ACUTE TOXICITY TESTING REQUIREMENTS

- A. Compliance with the acute toxicity effluent limitations shall be evaluated at Monitoring Location EFF-001 by measuring survival of test organisms exposed to 96-hour static renewal bioassays.
- B. Test organisms shall be fathead minnow (*Pimephales promelas*). Alternatively, the Executive Officer may specify a more sensitive organism or, if testing a particular organism proves unworkable, the most sensitive organism available.
- C. All bioassays shall be performed according to the most up-to-date protocols in 40 C.F.R. part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5<sup>th</sup> Edition (EPA-821-R-02-012). If these protocols prove unworkable, the Executive Officer and the Environmental Laboratory Accreditation Program may grant exceptions in writing upon the Discharger's request with justification.

- D.** If the Discharger demonstrates that specific identifiable substances in the discharge are rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after test samples are adjusted to remove the influence of those substances. Written acknowledgement that the Executive Officer concurs with the Discharger's demonstration and that the adjustment will not remove the influence of other substances must be obtained prior to any such adjustment. The Discharger may manually adjust the pH of whole effluent acute toxicity samples prior to performing bioassays to minimize ammonia toxicity interference.
- E.** Bioassay water monitoring shall include, on a daily basis, pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be reported. If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms is less than 70 percent), the Discharger shall initiate a new test as soon as practical and shall investigate the cause of the mortalities and report its findings in the next self-monitoring report. The Discharger shall repeat the test until a test fish survival rate of 90 percent or greater is observed. If the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new fish and shall continue as soon as practical until an acceptable test is completed (i.e., control fish survival rate is 90 percent or greater).

## **VI. RECEIVING WATER MONITORING REQUIREMENTS**

The Discharger shall monitor for standard observations at receiving water Monitoring Locations RSW-001, RSW-002, and RSW-003 monthly. Receiving water observations shall include those contained in Attachment G provisions III.B.1.a, III.B.1.b, III.B.1.c, and III.B.3.

## **VII. REPORTING REQUIREMENTS**

### **A. General Monitoring and Reporting Requirements**

The Discharger shall comply with all Standard Provisions (Attachments D and G) related to monitoring, reporting, and recordkeeping.

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

- 1. SMR Format.** The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) website at [http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs](http://www.waterboards.ca.gov/water_issues/programs/ciwqs). The CIWQS website will provide additional information for SMR submittal in the event of a planned service interruption for electronic submittal.
- 2. SMR Due Dates and Contents.** The Discharger shall submit SMRs by the due dates, and with the contents, specified below:
  - a. Monthly SMRs.** Monthly SMRs shall be due 30 days after the end of each calendar month, covering that calendar month. The monthly SMR shall contain the applicable items described in sections V.B and V.C of both Attachments D and G of this Order. See Provision VI.C.2 (Effluent Characterization Study and Report) of this Order for information that must also be reported with monthly SMRs.

Monthly SMRs shall include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the Discharger shall include the results of such monitoring in the calculations and reporting for the SMR.

**b. Annual SMR.** Annual SMRs shall be due February 1 each year, covering the previous calendar year. The annual SMR shall contain the items described in section V.C.1.f of Attachment G. See also Provision VI.C.2 (Effluent Characterization Study and Report) of the Order for requirements to submit reports with the annual SMR.

**3. Specifications for Submitting SMRs to CIWQS.** The Discharger shall submit analytical results and other information using one of the following methods:

**Table E-4. CIWQS Reporting**

Parameter		Method of Reporting	
		EDF/CDF data upload or manual entry	Attached File
All parameters identified in influent, effluent, and receiving water monitoring tables (except Dissolved Oxygen and Temperature)		Required for all results	
Dissolved Oxygen Temperature		Required for monthly maximum and minimum results only <sup>[1]</sup>	Discharger may use this method for all results or keep records
Antimony Arsenic Beryllium Cadmium Chromium Copper Cyanide Lead Mercury Nickel Selenium	Silver Thallium Zinc Dioxins & Furans (by U.S. EPA Method 1613) Other Pollutants (by U.S. EPA Methods 601, 602, 608, 610, 614, 624, and 625)	Required for all results <sup>[2]</sup>	
Volume and Duration of Blended Discharge <sup>[3]</sup>		Required for all blended effluent discharges	
Analytical Method		Not required (Discharger may select “data unavailable”) <sup>[1]</sup>	
Collection Time Analysis Time		Not required (Discharger may select “0:00”) <sup>[1]</sup>	

Footnotes:

- <sup>[1]</sup> The Discharger shall continue to monitor at the minimum frequency specified in this MRP, keep records of the measurements, and make the records available upon request.
- <sup>[2]</sup> These parameters require EDF/CDF data upload or manual entry regardless of whether monitoring is required by this MRP or other provisions of this Order (except for biosolids, sludge, or ash provisions).
- <sup>[3]</sup> The requirement for volume and duration of blended discharge applies only if this Order authorizes the Discharger to discharge blended effluent.

The Discharger shall arrange all reported data in a tabular format and summarize data to clearly illustrate whether the Facility is operating in compliance with effluent limitations. The Discharger is not required to duplicate the submittal of data 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, the Discharger shall electronically submit the data in a tabular format as an attachment.

**4. Monitoring Periods.** Monitoring periods for all required monitoring shall be as set forth below unless otherwise specified:

**Table E-5. Monitoring Periods**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period
1/Week 3/Week	First Sunday following or on Order effective date	Sunday through Saturday
1/Month	First day of calendar month following or on Order effective date	First day of calendar month through last day of calendar month
1/Quarter	Closest January 1, April 1, July 1, or October 1 following or on Order effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31
1/Year	Closest January 1 before or after Order effective date <sup>[1]</sup>	January 1 through December 31
Once	Order effective date	Once during the Order term no more than 12 months prior to applying for permit reissuance
1/Event	Order effective date	Event duration

Footnote:

<sup>[1]</sup> Monitoring performed during the previous order term may be used to satisfy monitoring required by this Order.

**5. RL and MDL Reporting.** The Discharger shall report with each sample result the Reporting Level (RL) and Method Detection Limit (MDL) as determined by the procedure in 40 C.F.R. part 136. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected”, or ND.
- d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (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

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

- 6. Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and in the Fact Sheet and Attachments A, D, and G. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the RL.

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

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using the Electronic Self-Monitoring Reports module eSMR 2.5 or the latest upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at [http://www.waterboards.ca.gov/water\\_issues/programs/discharge\\_monitoring](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring).

**ATTACHMENT F - FACT SHEET**

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**ATTACHMENT F – FACT SHEET**

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

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility:

**Table F-1. Facility Information**

<b>WDID</b>	2 071034001
<b>CIWQS Place ID</b>	248886
<b>Discharger</b>	Crockett Community Services District
<b>Name of Facility</b>	Port Costa Wastewater Treatment Plant
<b>Facility Address</b>	End of Canyon Lake Drive, Port Costa, CA 94569 Contra Costa County
<b>Facility Contact, Title, Phone</b>	James Barnhill, Sanitary Department Manager, (510) 787- 2992
<b>Authorized Person to Sign and Submit Reports</b>	Dale McDonald, General Manager, (510) 787-2992
<b>Mailing Address</b>	850 Pomona St, Crockett, CA 94525
<b>Billing Address</b>	P.O. Box 578, Crockett, CA 94525
<b>Type of Facility</b>	Publicly-Owned Treatment Works (POTW)
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	3
<b>Complexity</b>	B
<b>Pretreatment Program</b>	No
<b>Reclamation Requirements</b>	NA
<b>Mercury and PCBs Requirements</b>	NPDES Permit No. CA0038849
<b>Nutrients Requirements</b>	NPDES Permit No. CA0038873
<b>Facility Permitted Flow</b>	0.033 million gallons per day (MGD)
<b>Facility Design Flow</b>	0.033 MGD – Average dry weather design flow capacity
<b>Watershed</b>	Suisun Basin Watershed
<b>Receiving Water</b>	Carquinez Strait
<b>Receiving Water Type</b>	Estuarine

**A.** Crockett Community Services District (Discharger) is the owner of the Port Costa Wastewater Treatment Plant (Plant) and its wastewater collection system (collectively, the Facility). The Facility provides secondary treatment of wastewater collected from the service area and discharges to Carquinez Strait, a water of the United States within the Suisun Basin watershed.

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

**B.** The Discharger is regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037885. The Discharger was previously subject to Order No. R2-2013-0035



(previous order). The Discharger filed a Report of Waste Discharge and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on May 29, 2018.

The Discharger is authorized to discharge subject to the WDRs in this Order at the discharge location described in Table 2 of this Order. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the effective period for the discharge authorization. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all requirements for continuation of expired permits.

- C. Order No. R2-2016-0008 amended the previous order to provide for an alternate monitoring program and remains in effect with this Order. The discharge is also regulated under NPDES Permit Nos. CA0038849 and CA0038873, which establish requirements on mercury and polychlorinated biphenyls (PCBs) and nutrients from wastewater discharges to San Francisco Bay. This Order does not affect those permits.
- D. When applicable, State law requires dischargers to file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce such requirements under Water Code section 1211. This is not an NPDES permit requirement.

## II. FACILITY DESCRIPTION

### A. Wastewater and Biosolids Treatment

1. **Location and Service Area.** The Plant is located on Canyon Lake Drive in Port Costa. It provides secondary treatment of wastewater from domestic and, to a lesser extent, commercial sources within the Port Costa community. There are no industrial dischargers in the service area. The service area population is approximately 250.
2. **Collection System.** The collection system consists of about 1.5 miles of terra-cotta pipe, and the Discharger maintains it with the assistance of contractors.
3. **Wastewater Treatment.** The treatment plant has a dry weather design treatment capacity of 33,000 gallons per day (0.033 MGD). Wastewater from the Port Costa community is conveyed by gravity to an 86,000-gallon capacity, baffled septic tank where primary sedimentation occurs. From the septic tank, the primary-treated wastewater flows by gravity to a wet well, where it mixes with circulating wastewater from sand/gravel filter beds at a ratio of approximately four or five parts of filtered wastewater to one-part primary-treated septic tank effluent. After mixing, the wastewater is pumped to a dosing structure, which distributes the wastewater to the sand/gravel filter beds. From the sand/gravel filter beds, a portion of the filtered wastewater is routed back to the wet well (upgradient of the sand/gravel filter beds) to mix with primary-treated septic tank effluent. The remaining filtered wastewater flows over a V-notch weir into a contact chamber, where it is chlorinated and then dechlorinated with sodium metabisulfite.

In last five years between December 2013 and February 2018, the average daily flow was 0.015 MGD, with a maximum daily flow of 0.216 MGD.

4. **Sludge and Biosolids Management.** Settled sludge in the septic tank is removed approximately every five years and hauled to an offsite septage tank receiving station for treatment and disposal (e.g., at the Central Contra Costa Sanitary District wastewater treatment plant in Martinez or the East Bay Municipal Utility District (EBMUD) wastewater treatment plant in Oakland). During the past five years, the Discharger pumped and shipped 34,046 gallons of settled sludge for disposal at EBMUD. The septic tank was last pumped in November 2017.
5. **Stormwater Management.** All stormwater at the plant and pump stations is collected and directed to the plant headworks for treatment; therefore, no stormwater discharge requirements are necessary.

**B. Discharge Point and Receiving Waters**

Treated, dechlorinated wastewater is discharged to Carquinez Strait, a water of the United States, through a submerged outfall (Discharge Point No. 001). Carquinez Strait is located between San Pablo Bay and Suisun Bay within the Suisun Basin watershed. The outfall is located approximately 60 feet offshore, at a depth of about 17.5 feet below mean lower low water at latitude 38.04861° North and longitude -122.18222° West.

**C. Previous Requirements and Monitoring Data**

The table below presents the effluent limitations of the previous order and representative monitoring data from the previous order term:

**Table F-2. Previous Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitations			Monitoring Data (5/2013 – 4/2018)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C) (BOD <sub>5</sub> )	mg/L	30	45	---	61	81	---
BOD percent removal	%	85 (minimum)	---	---	80 <sup>[1]</sup>	---	---
Total Suspended Solids (TSS)	mg/L	30	45	---	9.5	11	---
TSS percent removal	%	85 (minimum)	---	---	98 <sup>[1]</sup>	---	---
Oil and Grease	mg/L	10	---	20	7.3	---	7.3
pH	standard units	6.0 – 9.0			6.0 – 7.7 <sup>[2]</sup>		
Chlorine, Total Residual	mg/L	---	---	0.0 <sup>[3]</sup>	---	---	4.4
Ammonia, Total as N	mg/L	13	---	33	25	---	25
Copper, Total	µg/L	55	---	120	26	---	26
Cyanide, Total	µg/L	21	---	42	<0.69	---	<0.69
Enterococcus	MPN/100 mL	35 <sup>[4]</sup>	---	---	12	---	---

Parameter	Units	Effluent Limitations			Monitoring Data (5/2013 – 4/2018)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Acute Toxicity	% survival	Not less than 90% (3-Sample Median)			10 <sup>[5]</sup>		
		Not less than 70% (Single-sample Maximum)			3 <sup>[6]</sup>		

**Abbreviations:**

- mg/L = milligrams per liter
- mg/L as N = milligrams per liter as nitrogen
- µg/L = micrograms per liter
- MPN/100 mL = most probable number per 100 milliliters
- % = percent
- % survival = percent survival

**Footnotes:**

- [1] Lowest monthly average.
- [2] Range of lowest and highest pH values.
- [3] Instantaneous Maximum
- [4] The enterococcus limitation was expressed as the geometric mean of all samples in a calendar month.
- [5] Lowest 3-sample median.
- [6] Lowest single-sample maximum.

**D. Compliance Summary**

**1. Treatment Plant.** During the previous order term (between December 2013 and May 2018), the Discharger violated its numeric effluent limitations, as listed below:

**Table F-3. Effluent Limitation Violations**

Violation Date	Parameter	Units	Effluent Limitation	Reported Value
1/13/2014	Ammonia, Total as N, Monthly Average	mg/L	13	21
1/14/2014	Acute Toxicity, Single Sample	% survival	70	0
2/28/2014	Ammonia, Total as N, Monthly Average	mg/L	13	14
11/10/2014	Ammonia, Total as N, Monthly Average	mg/L	13	32
12/31/2014	BOD, % removal	% removal	85	81
12/31/2014	Ammonia, Total as N, Monthly Average	mg/L	13	16
9/30/2015	BOD, Weekly Average	mg/L	45	61
9/30/2015	BOD, % removal	% removal	85	80
9/30/2015	BOD, Monthly Average	mg/L	30	61
9/30/2015	Enterococcus, Monthly Mean	MPN/100 mL	35	46
10/18/2015	BOD, Weekly Average	mg/L	45	81
2/16/2016	Ammonia, Total as N, Monthly Average	mg/L	13	26
12/31/2016	Ammonia, Total as N, Monthly Average	mg/L	13	15
2/13/2017	Chlorine, Total Residual, Instantaneous Maximum	mg/L	0	4.4
2/20/2017	Chlorine, Total Residual, Instantaneous Maximum	mg/L	0	3.6
4/20/2017	Acute Toxicity, Single Sample	% survival	70	3
5/2/2017	Acute Toxicity, 3-Sample Median	% survival	90	10

Violation Date	Parameter	Units	Effluent Limitation	Reported Value
5/25/2017	Acute Toxicity, Single Sample	% survival	70	30
5/25/2017	Acute Toxicity, 3-Sample Median	% survival	90	30
6/22/2017	Acute Toxicity, 3-Sample Median	% survival	90	3
6/22/2017	Acute Toxicity, Single Sample	% survival	70	0
2/23/2018	Ammonia, Total as N, Monthly Average	mg/L	13	22
3/31/2018	Ammonia, Total as N, Monthly Average	mg/L	13	14

Abbreviations:

mg/L = milligrams per liter  
 MPN/100 mL = most probable number per 100 milliliters

The Discharger indicated that the causes of the total ammonia average monthly effluent limitation violations in January, February, November, and December 2014 were reduced inflow and infiltration (the Discharger had completed collection system repairs over the previous three years to reduce inflow and infiltration), colder temperatures, and sand filter bed maintenance. The Discharger has since increased the recirculation rate in the sand filter beds to maintain a healthy bacteria population and improve ammonia removal. The Discharger indicates that high ammonia concentration also caused the January 2014 acute toxicity violation.

The Discharger believes that cold temperatures around the days sampled caused the total ammonia average monthly effluent limitation violations in February 2016, December 2016, February 2018, and March 2018.

The Discharger also indicated that natural fluctuations in the activity of the sand filter bed bacteria population caused the BOD<sub>5</sub> and Enterococcus effluent limit violations in September and October 2015. Since increasing the recirculation rate in the sand filter beds, no subsequent BOD<sub>5</sub> or Enterococcus violations have been observed. The slightly low BOD<sub>5</sub> percent removal in the December 2014 sample was due to low influent BOD.

The Discharger believes heavy rain caused the instantaneous maximum chlorine residual violations in February 2017, when high treatment plant inflow coincided with lower-than-normal chlorine demand. Now, during heavy rain, an operator goes onsite to adjust the sodium metabisulfite dosing to ensure sufficient dechlorination.

The Discharger did not identify any cause for the acute toxicity violations that occurred from April through June 2017. The Discharger performed a toxicity identification evaluation in May 2017 that detected minimal concentrations of heavy metals. Since June 2017, the Discharger's acute toxicity tests have indicated no toxicity.

- 2. Collection System.** The table below shows the Discharger's collection system's sanitary sewer overflow (SSO) rates (total SSOs per 100 miles of collection system) for Category 1 SSOs over the last five years, the lengths and ages of the collection systems, and comparisons to Category 1 SSO rates for the San Francisco Bay Region and the entire State. Category 1 SSOs are those that reach waters of the United States. SSOs that result in a discharge of untreated or partially-treated wastewater to waters of the United States is prohibited pursuant to Prohibition III.E of this Order.

**Table F-4. Collection System and Category 1 SSO Rates (SSO per 100 miles)**  
 (Values based on CIWQS data analysis completed in June 2018)

	Length (miles)	Average Age of Pipe (years)	Total Category 1 <sup>[1]</sup> SSO Rate <sup>[2]</sup>				
			2013	2014	2015	2016	2017
Discharger Collection System	1.4 <sup>[3]</sup>	63	0.0	58.8	0.0	0.0	0.0
San Francisco Bay Region	17,700 <sup>[3]</sup>	45	1.1	1.5	0.68	1.2	1.7
State Rate	89,100 <sup>[3]</sup>	52 <sup>[4]</sup>	0.65	0.69	0.47	0.58	0.84

Footnotes:

- <sup>[1]</sup> Category 1 SSOs are those that reached surface water or a drainage channel tributary to a surface water, or reached a municipal separate storm sewer system and were not fully captured and disposed of properly.
- <sup>[2]</sup> The State Water Board’s *Enrollee’s Guide to the SSO Database* defines “Total number of SSOs per 100 miles of Sewer” as “...the number of SSOs, for which the reporting enrollee is responsible, for every 100 miles of pipe or sewer lines in an enrollee’s sanitary sewer system. Due to the large variation in facility specific characteristics, this metric should only be viewed as a rough comparison of the operation and maintenance performance of enrollees and their sanitary sewer systems.”
- <sup>[3]</sup> Lengths shown are from 2017 data.
- <sup>[4]</sup> The average age of pipe for the State is estimated based on the percentages of piping constructed during each decade, submitted by enrollees under State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order No. WQ 2013-0058-EXEC.

The Discharger’s Category 1 SSO rates vary significantly, particularly due to the relatively short length of the collection system because the rates above are normalized relative to a distance of 100 miles. During most years, the rates are generally below the average rates for collection systems in the San Francisco Bay Region and the State. Only one Category 1 SSO occurred during the previous permit term (in 2014).

**E. Planned Changes**

The Discharger has no plans for significant Facility changes. No operational or process changes at the Plant are planned for the next five years.

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

**A. Legal Authorities**

This Order serves as WDRs pursuant to California Water Code article 4, chapter 4, division 7 (commencing with § 13260) for discharges to land and/or waters of the State. This Order is also issued pursuant to Clean Water Act (CWA) section 402 and implementing regulations adopted by U.S. EPA, and Water Code chapter 5.5, division 7 (commencing with § 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

**B. California Environmental Quality Act**

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resources Code division 13, chapter 3 (commencing with § 21100).

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

- 1. Water Quality Control Plan.** The Regional Water Board adopted the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan), which designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, this Order implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Because of the marine influence on Carquinez Strait, total dissolved solids exceed 3,000 mg/L; therefore, Carquinez Strait meets an exception to State Water Board Resolution No. 88-63. The table below lists beneficial uses applicable to Carquinez Strait:

**Table F-4. Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Uses
001	Carquinez Strait	Industrial Service Supply (IND) Ocean, Commercial, and Sport Fishing (COMM) Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Fish Spawning (SPWN) Wildlife Habitat (WILD) Water Contact Recreation (REC-1) Non-Contact Water Recreation (REC-2) Navigation (NAV)

- 2. Sediment Quality.** The State Water Board adopted the *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* on September 16, 2008, and it became effective on August 25, 2009. This plan supersedes other narrative sediment quality objectives, and establishes new sediment quality objectives and related implementation provisions for specifically defined sediments in most bays and estuaries.
- 3. National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and incorporated the previously adopted NTR criteria that applied in the State. U.S. EPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.
- 4. 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 U.S. EPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria U.S. EPA promulgated 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.

- 5. Antidegradation Policy.** Federal regulations at 40 C.F.R. section 131.12 require that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, which is deemed to incorporate 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 Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Permitted discharges must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. (See Fact Sheet § IV.D.2.)
- 6. Anti-Backsliding Requirements.** CWA sections 402(o) and 303(d)(4) and 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 be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. (See Fact Sheet § IV.D.1.)
- 7. Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C. §§ 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, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all applicable Endangered Species Act requirements.
- 8. Sludge and Biosolids.** U.S. EPA administers 40 C.F.R. part 503, Standards for the Use or Disposal of Sewage Sludge, which regulates the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a municipal wastewater treatment facility. This Order does not authorize any act that violates those requirements. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. part 503.

#### **D. Impaired Waters on CWA 303(d) List**

On July 30, 2015, U.S. EPA approved a revised list of impaired waters prepared pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Where it has not done so already, the Regional Water Board plans to adopt total maximum daily loads (TMDLs) for pollutants on the 303(d) list. TMDLs establish wasteload allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired waters.

Carquinez Strait is 303(d) listed as impaired by mercury, PCBs, dioxin-like PCBs, selenium, chlordane, DDT, dieldrin, dioxin compounds, furan compounds, and invasive species. On February 12, 2008, U.S. EPA approved a TMDL for mercury in San Francisco Bay. On March 29, 2010, U.S. EPA approved a TMDL for PCBs in San Francisco Bay. The mercury and PCBs TMDLs apply to this discharge and are implemented through NPDES Permit

No. CA0038849. On August 23, 2016, U.S. EPA approved a TMDL for selenium in North San Francisco Bay, which includes Carquinez Strait. The selenium TMDL does not require effluent limits for municipal wastewater discharges because these discharges have an insignificant effect on North San Francisco Bay water quality.

As shown in Fact Sheet section IV.C.3, the discharge is not a significant source of chlordane, DDT, or dieldrin because these pollutants have not been detected in the discharge. The discharge is also not a source of invasive species because it is disinfected. It is an insignificant source of dioxins and furans because of the very low discharge flow to Carquinez Strait.

#### **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 discharged into 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: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of receiving waters.

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

- 1. Discharge Prohibition III.A (No discharge at location or in manner different than described in this Order):** This prohibition is based on 40 C.F.R. section 122.21(a) and Water Code section 13260, which require filing an application and Report of Waste Discharge before a discharge can occur. Discharges not described in the application and Report of Waste Discharge, and subsequently in this Order, are prohibited.
- 2. Discharge Prohibition III.B (No discharge without initial dilution of at least 72:1 as modeled):** The water quality-based effluent limitations in this Order are based on the mixing zones and dilution credits explained in Fact Sheet section IV.C.4.b. This prohibition is necessary to ensure that this Order's effluent limitations remain protective of water quality.
- 3. Discharge Prohibition III.C (No bypass to waters of United States):** This prohibition is based on 40 C.F.R. section 122.41(m) (see Attachment D section I.G).
- 4. Discharge Prohibition III.D (No average dry weather flow in excess of design capacity):** This Order prohibits average dry weather effluent flows greater than the plant's design average dry weather treatment capacity of 0.033 MGD. Exceeding this flow could result in lower treatment reliability and greater potential to violate water quality requirements.
- 5. Discharge Prohibition III.E (No sanitary sewer overflows to waters of the United States):** Discharge Prohibition 15 in Basin Plan Table 4-1 as well as the CWA prohibit the discharge of wastewater to surface waters, except as authorized under an NPDES permit. Publicly-owned treatment works must achieve secondary treatment at a minimum and any more stringent limitations necessary to meet water quality standards (33 U.S.C. § 1311(b)(1)(B) and (C)). A sanitary sewer overflow that results in the discharge of raw sewage or wastewater not meeting this Order's effluent limitations to waters of the United States is therefore prohibited under the Basin Plan and the CWA.



## B. Technology-Based Effluent Limitations

### 1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44 require that permits include conditions meeting technology-based requirements, at a minimum, and any more stringent effluent limitations necessary to meet water quality standards. The discharges authorized by this Order must meet minimum federal technology-based requirements based on the Secondary Treatment Standards at 40 C.F.R. section 133 as summarized below. In addition, the 30-day average percent removal for BOD<sub>5</sub> (or carbonaceous biochemical oxygen demand, CBOD<sub>5</sub>) and TSS, by concentration, is not to be less than 85 percent. The Basin Plan contains additional requirements for certain pollutants.

**Table F-5. Secondary Treatment Standards**

Parameter	Monthly Average	Weekly Average
BOD <sub>5</sub> <sup>[1,2]</sup>	30 mg/L	45 mg/L
CBOD <sub>5</sub> <sup>[1,2]</sup>	25 mg/L	40 mg/L
TSS <sup>[2]</sup>	30 mg/L	45 mg/L
pH	6.0 – 9.0 standard units	

Abbreviation:

mg/L = milligrams per liter

Footnotes:

<sup>[1]</sup> CBOD<sub>5</sub> effluent limitations may be substituted for BOD<sub>5</sub> limitations.

<sup>[2]</sup> The monthly average percent removal, by concentration, is not to be less than 85 percent.

### 2. Effluent Limitations

- a. BOD<sub>5</sub> and TSS.** The weekly and average monthly limitations, including the 85 percent removal requirements, are based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- b. Oil and Grease.** The oil and grease effluent limitations are based on Basin Plan Table 4-2.
- c. pH.** The pH effluent limitations are based on the Secondary Treatment Standards and Basin Plan Table 4-2.
- d. Chlorine Residual.** The chlorine residual effluent limitation is based on Basin Plan Table 4-2. The Monitoring and Reporting Program (MRP) (Attachment E) provides an allowance for determining false positives when using continuous devices based on the fact that continuous instruments occasionally have anomalous spikes, and it is chemically improbable to have free chlorine in the presence of sodium bisulfite. The allowance for using only on-the-hour measurements for mandatory minimum penalty assessment purposes under Water Code section 13385.1 is based on a 2004 strategy developed between the Regional Water Board and the Bay Area Clean Water Agencies.

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

### 1. Scope and Authority

This Order contains WQBELs that protect beneficial uses. CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than federal technology-based requirements where necessary to achieve applicable water quality standards. According to 40 C.F.R. section 122.44(d)(1)(i), permits must include effluent limitations for all pollutants that are or may be discharged at levels that have a 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, 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 a narrative criterion, supplemented with relevant information (40 C.F.R. § 122.44[d][1][vi]). The process for determining reasonable potential and calculating WQBELs is intended to achieve applicable water quality objectives and criteria, and to protect designated uses of receiving waters as specified in the Basin Plan.

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

Discharge Point No. 001 discharges to Carquinez Strait. Fact Sheet section III.C.1 identifies the beneficial uses of Carquinez Strait. Water quality criteria and objectives to protect these beneficial uses are described below:

- a. Basin Plan Objectives.** The Basin Plan specifies numerous water quality objectives, including numeric objectives for 10 priority pollutants and un-ionized ammonia.

The water quality objectives for un-ionized ammonia in Basin Plan section 3.3.20 are 0.025 mg/L (as nitrogen) as an annual median and 0.16 mg/L (as nitrogen) as a maximum for Central San Francisco Bay and upstream. Effluent and receiving water data are available for total ammonia, but not un-ionized ammonia, because (1) sampling and laboratory methods are unavailable to analyze for un-ionized ammonia, and (2) the fraction of total ammonia that exists in the toxic un-ionized form depends on pH, salinity, and temperature of the receiving water.

To translate the un-ionized ammonia objectives into total ammonia criteria, pH, salinity, and temperature data collected through the Regional Monitoring Program (RMP) at the Pacheco River sampling station (BF10) between 1993 and 2001 were used. The un-ionized fraction of the total ammonia was calculated using the following equations:

$$\text{For salinity} < 1 \text{ part per thousand (ppt): fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

Where:

$$pK = 0.09018 + 2729.92/T$$

*T = temperature in Kelvin*

$$\text{For salinity} > 10 \text{ ppt: fraction of NH}_3 = \frac{1}{1 + 10^{(pK - pH)}}$$

Where:

$$pK = 9.245 + 0.116*(I) + 0.0324*(298-T) + 0.0415*(P)/T$$

$I$  = the molal ionic strength of saltwater =  $19.9273*(S)/(1000-1.005109*S)$

$S$  = salinity (parts per thousand)

$T$  = temperature in Kelvin

$P$  = pressure (one atmosphere)

The appropriate equation was used depending on whether the salinity was less than 1 ppt or greater than 10 ppt. For waters of intermediate salinity, the equation resulting in a higher un-ionized ammonia fraction was used.

The 90th percentile and median un-ionized ammonia fractions were then used to express the maximum and annual average un-ionized objectives as acute and chronic total ammonia criteria. This approach is consistent with U.S. EPA guidance on translating dissolved metal water quality objectives to total recoverable metal water quality criteria (U.S. EPA, 1996, *The Metals Translator: Guidance for Calculating a Total Recoverable Limit from a Dissolved Criterion*, EPA Publication 823-B96-007). The equivalent acute and chronic total ammonia criteria are 4.55 mg/L and 1.39 mg/L (as nitrogen).

- b. CTR Criteria.** The CTR specifies numeric aquatic life and human health criteria for numerous priority pollutants. These criteria apply to inland surface waters and enclosed bays and estuaries. Some human health criteria are for consumption of “water and organisms” and others are for consumption of “organisms only.” The criteria applicable to “organisms only” apply to Carquinez Strait because it is not a source of drinking water.
- c. NTR Criteria.** The NTR establishes numeric aquatic life and human health criteria for a number of toxic pollutants for San Francisco Bay waters upstream to and including Suisun Bay and the Sacramento-San Joaquin Delta. The NTR criteria apply to Carquinez Strait.
- d. Sediment Quality Objectives.** The *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1, Sediment Quality* contains the following narrative water quality objective: “Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California.” This objective is to be implemented by integrating three lines of evidence: sediment toxicity, benthic community condition, and sediment chemistry. The policy requires that if the Regional Water Board determines that a discharge has reasonable potential to cause or contribute to an exceedance of this objective, it is to impose the objective as a receiving water limit.
- e. Receiving Water Salinity.** Basin Plan section 4.6.2 (like the CTR and NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water are to be considered in determining the applicable water quality objectives. Freshwater criteria apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to waters with salinities between these two categories, or tidally-influenced freshwaters that support estuarine beneficial uses, the water quality objectives

are the lower of the salt or freshwater objectives (the latter calculated based on ambient hardness) for each substance.

Carquinez Strait is estuarine based on salinity data collected through the RMP at the Pacheco River sampling station (BF10) between March 1993 and August 2001. During that period, the average salinity was 4.4 ppt, with a range from 0 to 12.8 ppt. The salinity was less than 1 ppt in 39 percent of the samples and greater than 10 ppt in 14 percent of the samples. Carquinez Strait is therefore classified as estuarine, and the reasonable potential analysis and effluent limitations in this Order are based on the more stringent of the freshwater and saltwater water quality objectives.

- f. Receiving Water Hardness.** Ambient hardness data collected at the Pacheco River (BF10) RMP station between February 1995 and August 2001 were used to calculate freshwater water quality objectives that are hardness dependent. A hardness of 85 mg/L as CaCO<sub>3</sub> was used. This is the geometric mean of the 20 measurements taken at the Pacheco Station, censored to remove 8 values above 400 mg/L. Values above 400 mg/L fall beyond the range in which hardness has been correlated with metals toxicity and generally represent marine conditions where marine water quality objectives, not freshwater objectives, apply. This approach represents a conservative compromise between not using the extremely conservative lowest hardness value ever observed and a value that could be higher than the hardness typical of freshwater salinity conditions.
- g. Site-Specific Metals Translators.** Effluent limitations for metals must be expressed as total recoverable metal (40 C.F.R. § 122.45(c)). Since the water quality objectives for metals are typically expressed as dissolved metals, translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. The CTR contains default translators; however, site-specific conditions, such as water temperature, pH, total suspended solids, and organic carbon may affect the form of metal (dissolved, non-filterable, or otherwise) present and therefore available to cause toxicity. In general, dissolved metals are more available and more toxic to aquatic life than other forms. Site-specific translators can account for site-specific conditions, thereby preventing overly stringent or under-protective water quality objectives.

CTR default translators were used for all metals other than copper and nickel. Basin Plan Table 7.2.1-2 sets forth site-specific copper translators. The Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (March 2005) contains site-specific nickel translators. These translators are listed in the table below:

**Table F-6. Site-Specific Translators**

Parameter	Site Specific Translators	
	Acute	Chronic
Copper	0.66	0.38
Nickel	0.57	0.27

### 3. Need for Water Quality-Based Effluent Limitations (Reasonable Potential Analysis)

Assessing whether a pollutant has reasonable potential to exceed a water quality objective is the fundamental step in determining whether a WQBEL is required.

- a. Available Information.** The reasonable potential analysis for this Order is based on effluent monitoring data the Discharger collected from May 2013 through April 2018 and ambient background data summarized in *San Francisco Bay California Toxics Rule Priority Pollutant Ambient Water Monitoring Report* (2017), which includes data collected through the RMP at the Yerba Buena monitoring station (BC10) from March 1993 through August 2015, supplemented by additional Bay Area Clean Water Agencies data from *San Francisco Bay Ambient Water Monitoring Interim Report* (2003) and *Ambient Water Monitoring: Final CTR Sampling Update* (2004).

SIP section 1.4.3 requires that background water quality data be representative of the ambient receiving water that will mix with the discharge. For priority pollutants, the Yerba Buena RMP monitoring station (BC10), relative to other RMP stations, best fits SIP guidance for establishing background conditions. For ammonia, the nearby Pacheco River RMP monitoring station (BF10), relative to other RMP locations, best fits SIP guidance for establishing background conditions because the ammonia WQBELs are based on actual dilution at the edge of the initial mixing zone and data from monitoring station BF10 best represents water quality at the edge of the initial mixing zone.

This Order does not contain WQBELs for constituents that do not demonstrate reasonable potential; however, the MRP requires monitoring for those pollutants. If concentrations are found to have increased significantly, Provision VI.C.2 of the Order requires the Discharger to investigate the sources of the increases and implement remedial measures if the increases pose a threat to receiving water quality.

**b. Priority Pollutants and Ammonia**

- i. Methodology.** SIP section 1.3 sets forth the methodology used for this Order for assessing whether a priority pollutant has reasonable potential to exceed a water quality objective. SIP section 1.3 applies to priority pollutants and is used here as guidance for ammonia. The analysis begins with identifying the maximum effluent concentration (MEC) observed for each pollutant based on available effluent concentration data and the ambient background concentration (B). SIP section 1.4.3 states that ambient background concentrations are either the maximum ambient concentration observed or, for water quality objectives intended to protect human health, the arithmetic mean of observed concentrations. There are three triggers in determining reasonable potential:
- (a) **Trigger 1** is activated if the maximum effluent concentration is greater than or equal to the lowest applicable water quality objective ( $MEC \geq$  water quality objective).
  - (b) **Trigger 2** is activated if the ambient background concentration observed in the receiving water is greater than the lowest applicable water quality objective ( $B >$  water quality objective) *and* the pollutant is detected in any effluent sample.
  - (c) **Trigger 3** is activated if a review of other information indicates that a WQBEL is needed to protect beneficial uses.
- ii. Analysis.** The maximum effluent concentrations, most stringent applicable water quality criteria and objectives, and ambient background concentrations used in the

analysis are presented in the following table, along with the reasonable potential analysis results (yes, no, or unknown) for each pollutant. Basin Plan sections 7.2.1.2 and 4.7.2.2 require copper and cyanide WQBELs for municipal wastewater treatment facilities that discharge to San Francisco Bay.

**Table F-7. Reasonable Potential Analysis**

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	RPA Results <sup>[3]</sup>
1	Antimony	4,300	0.29	1.8	No
2	Arsenic	36	3.76	2.5	No
3	Beryllium	No Criteria	<0.29	0.22	Ud
4	Cadmium	2.17	0.52	0.13	No
5a	Chromium (III)	181	0.71	4.4	No
5b	Chromium (VI)	11	0.07	4.4	No
<b>6</b>	<b>Copper</b>	<b>14</b>	<b>26.1</b>	<b>2.6</b>	<b>Yes <sup>[4]</sup></b>
7	Lead	2.6	0.78	0.80	No
8	Mercury <sup>[5]</sup>	---	---	---	---
9	Nickel	30	6.0	4.0	No
10	Selenium <sup>[5]</sup>	---	---	---	---
11	Silver	2.2	<0.11	0.052	No
12	Thallium	6.3	<0.10	0.39	No
13	Zinc	86	58.1	5.1	No
<b>14</b>	<b>Cyanide</b>	<b>2.9</b>	<b>&lt;0.69</b>	<b>0.52</b>	<b>Yes <sup>[4]</sup></b>
15	Asbestos	Unavailable	Unavailable	Unavailable	Ud
16	2,3,7,8-TCDD	1.4E-08	<1.78E-07	2.7E-08	No
17	Acrolein	780	<3.80	<0.50	No
18	Acrylonitrile	0.66	<1.70	0.030	No
19	Benzene	71	<0.20	<0.05	No
20	Bromoform	360	<0.40	<0.15	No
21	Carbon Tetrachloride	4.4	<0.20	0.060	No
22	Chlorobenzene	21,000	<0.40	<0.18	No
23	Chlorodibromomethane	34	<0.40	<0.05	No
24	Chloroethane	No Criteria	<0.40	<0.38	Ud
25	2-Chloroethylvinyl ether	No Criteria	<0.80	<0.28	Ud
26	Chloroform	No Criteria	4.30	<0.19	Ud
27	Dichlorobromomethane	46	<0.40	<0.05	No
28	1,1-Dichloroethane	No Criteria	<0.40	<0.05	Ud
29	1,2-Dichloroethane	99	<0.40	0.04	No
30	1,1-Dichloroethylene	3.2	<0.40	<0.50	No
31	1,2-Dichloropropane	39	<0.40	<0.05	No
32	1,3-Dichloropropylene	1,700	<0.20	<0.16	No
33	Ethylbenzene	29,000	<0.40	<0.26	No
34	Methyl Bromide	4,000	<0.81	<0.30	No
35	Methyl Chloride	No Criteria	0.65	<0.30	Ud
36	Methylene Chloride	1,600	0.86	22	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	RPA Results <sup>[3]</sup>
37	1,1,2,2-Tetrachloroethane	11	<0.40	<0.05	No
38	Tetrachloroethylene	8.9	<0.40	<0.50	No
39	Toluene	200,000	<0.40	<0.19	No
40	1,2-Trans-Dichloroethylene	140,000	<0.40	<0.22	No
41	1,1,1-Trichloroethane	No Criteria	<0.40	<0.19	Ud
42	1,1,2-Trichloroethane	42	<0.40	<0.05	No
43	Trichloroethylene	81	<0.40	<0.20	No
44	Vinyl Chloride	525	<0.20	<0.25	No
45	2-Chlorophenol	400	<0.13	<0.70	No
46	2,4-Dichlorophenol	790	<0.11	<0.90	No
47	2,4-Dimethylphenol	2,300	<0.21	<0.80	No
48	2-Methyl- 4,6-Dinitrophenol	765	<1.1	<0.60	No
49	2,4-Dinitrophenol	14,000	<1.2	<0.70	No
50	2-Nitrophenol	No Criteria	<0.10	<0.80	Ud
51	4-Nitrophenol	No Criteria	<0.49	<0.50	Ud
52	3-Methyl 4-Chlorophenol	No Criteria	<0.11	<0.60	Ud
53	Pentachlorophenol	7.9	<0.057	<0.60	No
54	Phenol	4,600,000	<0.14	<0.50	No
55	2,4,6-Trichlorophenol	6.5	<1.3	<0.97	No
56	Acenaphthene	2,700	<0.087	0.00165	No
57	Acenaphthylene	No Criteria	<0.087	0.00053	Ud
58	Anthracene	110,000	<2.1	0.000653	No
59	Benzidine	0.00054	<0.15	<0.0003	No
60	Benzo(a)Anthracene	0.049	<0.16	0.00532	No
61	Benzo(a)Pyrene	0.049	<0.21	0.00147	No
62	Benzo(b)Fluoranthene	0.049	<0.28	0.00459	No
63	Benzo(ghi)Perylene	No Criteria	<0.31	0.0027	Ud
64	Benzo(k)Fluoranthene	0.049	<0.063	0.00151	No
65	Bis(2-Chloroethoxy) Methane	No Criteria	<0.091	<0.30	Ud
66	Bis(2-Chloroethyl) Ether	1.4	<0.065	<0.30	No
67	Bis(2-Chloroisopropyl) Ether	170,000	<0.86	<0.60	No
68	Bis(2-Ethylhexyl) Phthalate	5.9	<1.3	26.8	No
69	4-Bromophenyl Phenyl Ether	No Criteria	<1.2	<0.23	Ud
70	Butylbenzyl Phthalate	5,200	<1.3	<0.50	No
71	2-Chloronaphthalene	4,300	<1.3	<0.30	No
72	4-Chlorophenyl Phenyl Ether	No Criteria	<1.3	<0.30	Ud
73	Chrysene	0.049	<0.16	0.0024	No
74	Dibenzo(a,h)Anthracene	0.049	<0.21	0.00064	No
75	1,2-Dichlorobenzene	17,000	<0.22	<0.27	No
76	1,3-Dichlorobenzene	2,600	<0.26	<0.18	No
77	1,4-Dichlorobenzene	2,600	<0.27	<0.18	No
78	3,3 Dichlorobenzidine	0.077	<1.2	<0.0002	No
79	Diethyl Phthalate	120,000	<0.095	<0.20	No

CTR No.	Priority Pollutants	C or Governing criterion or objective (µg/L)	MEC or Minimum DL (µg/L) <sup>[1][2]</sup>	B or Minimum DL (µg/L) <sup>[1][2]</sup>	RPA Results <sup>[3]</sup>
80	Dimethyl Phthalate	2,900,000	<0.10	<0.20	No
81	Di-n-Butyl Phthalate	12,000	1.3	<0.50	No
82	2,4-Dinitrotoluene	9.1	<0.14	<0.27	No
83	2,6-Dinitrotoluene	No Criteria	<1.1	<0.29	Ud
84	Di-n-Octyl Phthalate	No Criteria	<1.2	<0.38	Ud
85	1,2-Diphenylhydrazine	0.54	<0.093	0.0037	No
86	Fluoranthene	370	<0.094	0.01086	No
87	Fluorene	14,000	<0.061	0.00208	No
88	Hexachlorobenzene	0.00077	<0.0053	0.00002	No
89	Hexachlorobutadiene	50	<0.32	<0.30	No
90	Hexachlorocyclopentadiene	17,000	<0.15	<0.30	No
91	Hexachloroethane	8.9	<0.28	<0.20	No
92	Indeno(1,2,3-cd) Pyrene	0.049	<0.23	0.00398	No
93	Isophorone	600	<0.14	<0.30	No
94	Naphthalene	No Criteria	<1.4	0.00922	Ud
95	Nitrobenzene	1,900	<0.23	<0.25	No
96	N-Nitrosodimethylamine	8.1	<0.13	<0.30	No
97	N-Nitrosodi-n-Propylamine	1.4	<0.88	<0.0002	No
98	N-Nitrosodiphenylamine	16	<0.13	<0.001	No
99	Phenanthrene	No Criteria	<0.076	0.00609	Ud
100	Pyrene	11,000	<0.081	0.00139	No
101	1,2,4-Trichlorobenzene	No Criteria	<1.4	<0.30	Ud
102	Aldrin	0.00014	<0.0019	<0.00000849	No
103	Alpha-BHC	0.013	<0.0019	0.0005	No
104	Beta-BHC	0.046	<0.0029	0.0004	No
105	Gamma-BHC	0.063	<0.0019	0.00070	No
106	Delta-BHC	No Criteria	<0.0019	0.000053	Ud
107	Chlordane	0.00059	<0.024	0.00018	No
108	4,4'-DDT	0.00059	<0.0019	0.00017	No
109	4,4'-DDE	0.00059	<0.0019	0.00069	No
110	4,4'-DDD	0.00084	<0.0019	0.00031	No
111	Dieldrin	0.00014	<0.0019	0.00026	No
112	Alpha-Endosulfan	0.0087	<0.0019	0.00011	No
113	Beta-Endosulfan	0.0087	<0.0019	0.00011	No
114	Endosulfan Sulfate	240	<0.0019	0.000082	No
115	Endrin	0.0023	<0.0019	0.00004	No
116	Endrin Aldehyde	0.81	<0.0019	<0.005	No
117	Heptachlor	0.00021	<0.0019	0.000019	No
118	Heptachlor Epoxide	0.00011	<0.0019	0.006089	No
119-125	PCBs sum <sup>[5]</sup>	---	---	---	---
126	Toxaphene	0.00020	<0.15	<8.2E-07	No
	<b>Ammonia, Total as N (mg/L)</b>	<b>1.4</b>	<b>25</b>	<b>0.20</b>	<b>Yes</b>



Abbreviations:

B	= background concentration
C	= water quality criterion or objective
DL	= detection level
MEC	= maximum effluent concentration
mg/L	= milligrams per liter
µg/L	= micrograms per liter
RPA	= reasonable potential analysis

Footnotes:

- <sup>[1]</sup> The MEC and ambient background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (DL).
- <sup>[2]</sup> The MEC or ambient background concentration is “Unavailable” when there are no monitoring data for the constituent.
- <sup>[3]</sup> RPA Results = Yes, if  $MEC \geq WQC$ ,  $B > WQC$  and MEC is detected, or Trigger 3  
= No, if  $MEC$  and  $B$  are  $< WQC$  or all effluent data are undetected  
= Unknown (U) if no criteria have been promulgated or data are insufficient.
- <sup>[4]</sup> Basin Plan sections 7.2.1.2 and 4.7.2.1 require copper and cyanide WQBELs.
- <sup>[5]</sup> SIP section 1.3 excludes from its reasonable potential analysis procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849, which implements the San Francisco Bay Mercury and PCBs TMDLs. A TMDL has also been developed for selenium in North San Francisco Bay, which includes Carquinez Strait. Basin Plan section 7.2.4.5 finds that municipal wastewater dischargers have no reasonable potential to cause or contribute to the selenium impairment in San Francisco Bay segments and, therefore, are not required to have numeric effluent limitations.

- c. **Acute Toxicity.** Basin Plan section 4.5.5.3.1 requires acute toxicity monitoring and effluent limitations.
- d. **Enterococcus Bacteria.** Basin Plan Table 4-2A requires an enterococcus effluent limitation for discharges to waters with the water contact recreation beneficial use.
- e. **Sediment Quality.** Pollutants in some receiving water sediments may be present in quantities that alone or in combination are toxic to benthic communities. Efforts are underway to identify stressors causing such conditions. However, to date there is no evidence directly linking compromised sediment conditions to the discharges subject to this Order; therefore, the Regional Water Board cannot draw a conclusion about reasonable potential for these discharges to cause or contribute to exceedances of the sediment quality objectives.

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

WQBELs were developed for the pollutants or pollutant parameters determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. With the exception of acute toxicity and enterococcus bacteria (discussed below), the WQBELs in this Order are based on the procedures in SIP section 1.4. Average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs) were calculated as shown in Table F-8, below.

- a. **Mixing Zones and Dilution Credits.** SIP section 1.4.2 allows mixing zones and dilution credits under certain circumstances. The Discharger submitted a study titled *Near field Mixing Zone and Dilution Analysis*, which used the EPA-approved CORMIX modeling software, to the Regional Water Board on May 29, 2018. The study demonstrated that the treatment plant outfall achieves a minimum dilution of 20:1 ( $D=19$ ) under acute conditions and 72:1 ( $D = 71$ ) under chronic conditions.

- i. Copper and Cyanide.** For copper and cyanide, a conservative dilution credit of 10:1 ( $D = 9$ ) has been assigned. The 10:1 dilution credit is based, in part, on Basin Plan Prohibition 1 (Table 4-1), which prohibits discharges with less than 10:1 dilution. SIP section 1.4.2 allows for limiting the dilution credit. The dilution credit is limited for the following reasons:

  - (a)** San Francisco Bay is a complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. SIP section 1.4.3 allows background conditions to be determined on a discharge-by-discharge or water body-by-water body basis. A water body-by-water body approach is taken here due to inherent uncertainties in characterizing ambient background conditions in a complex estuarine system on a discharge-by-discharge basis.
  - (b)** Because of the complex hydrology of San Francisco Bay, there are uncertainties in accurately determining an appropriate mixing zone. The models used to predict dilution do not consider the three-dimensional nature of San Francisco Bay currents resulting from the interaction of tidal flushes and seasonal fresh water outflows. Being heavier and colder than fresh water, ocean salt water enters San Francisco Bay on a twice-daily tidal cycle, generally beneath the warmer fresh water that flows seaward. When these waters mix and interact, complex circulation patterns occur due to the varying densities of the fresh and ocean waters. The complex patterns occur throughout San Francisco Bay, but are most prevalent in San Pablo Bay, Carquinez Strait, and Suisun Bay. The locations of this mixing and interaction change depending on the strength of each tide. Additionally, sediment loads from the Central Valley change on a long-term basis, affecting the depth of different parts of San Francisco Bay, resulting in alteration of flow patterns, mixing, and dilution at the outfall.
- ii. Ammonia.** For ammonia, a conservative estimate of actual initial dilution was used to calculate the effluent limitations. This is justified because ammonia, a non-persistent pollutant, quickly disperses and degrades to a non-toxic state, and cumulative toxicity is unlikely. This Order uses the 72:1 dilution ratio ( $D=71$ ) to calculate WQBELs based on the chronic objective because that objective is an annual median; the dilution ratio associated with the permitted average dry weather flow best represents long-term (chronic) conditions. This Order uses the 20:1 dilution ratio ( $D=19$ ) to calculate WQBELs based on the acute water quality objective because that objective is a maximum; the dilution associated with the peak wet weather flow, conservatively represents short-term (acute) conditions.
- b. WQBEL Calculations.** The following table shows the WQBEL calculations. The copper and cyanide WQBELs are calculated as required by SIP section 1.4. This same methodology is used as guidance to calculate the ammonia WQBELs.

**Table F-8. WQBEL Calculations**

Pollutant	Copper	Cyanide	Total Ammonia (acute)	Total Ammonia (chronic)
Units	µg/L	µg/L	mg/L as N	mg/L as N
Basis and Criteria type	Basin Plan Aquatic Life	Basin Plan Site-Specific Objective	Basin Plan Aquatic Life	Basin Plan Aquatic Life
Criteria -Acute	-----	-----	4.53	-----
Criteria -Chronic	-----	-----	-----	1.38
Site-Specific Objective Criteria -Acute	9.4	9.4	-----	-----
Site-Specific Objective Criteria -Chronic	6.0	2.9	-----	-----
Water Effects ratio (WER)	1	1	-----	1
Lowest WQO	14	2.9	4.5	1.4
Site-Specific Translator – MDEL	0.66	-----	-----	-----
Site-Specific Translator - AMEL	0.38	-----	-----	-----
Dilution Factor (D)	9	9	19	71
No. of samples per month	4	4	4	30
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y
HH criteria analysis required? (Y/N)	N	Y	N	N
Applicable Acute WQO	14	9.4	4.5	-----
Applicable Chronic WQO	16	2.9	-----	1.4
HH criteria	-----	2.20E+05	-----	-----
Background (Maximum Conc for Aquatic Life calc)	2.55	0.4	0.20	0.07
Background (Average Conc for Human Health calc)	-----	0.4	-----	-----
Is the pollutant on the 303d list and/or bioaccumulative (Y/N)?	N	N	N	N
ECA acute	119	90.4	86.7	-----
ECA chronic	135	25.4	-----	94.8
ECA HH	-----	2.20E+05		
No. of data points <10 or at least 80% of data reported non-detect? (Y/N)	N	Y	N	N
Avg of effluent data points	12.64	0.35	9.81	9.81
Std Dev of effluent data points	6.36	0.00	6.98	6.98
CV calculated	0.50	0.00	0.71	0.71
CV (Selected) – Final	0.50	0.60	0.71	0.71
ECA acute mult99	0.37	0.32	0.28	-----
ECA chronic mult99	0.58	0.53	-----	0.92
LTA acute	44.3	29.0	24.2	-----
LTA chronic	78.2	13.4	-----	87.0
minimum of LTAs	44.3	13.4	24.2	87.0

Pollutant	Copper	Cyanide	Total Ammonia (acute)	Total Ammonia (chronic)
Units	µg/L	µg/L	mg/L as N	mg/L as N
AMEL mult95	1.5	1.6	1.7	1.2
MDEL mult99	2.7	3.1	3.6	3.6
AMEL (aquatic life)	64.6	21	40.1	106.7
MDEL (aquatic life)	119.5	42	87.2	313.9
MDEL/AMEL Multiplier	1.9	2.0	2.2	2.9
AMEL (human health)	-----	2.20E+05	-----	-----
MDEL (human health)	-----	4.41E+05	-----	-----
minimum of AMEL for Aq. life vs HH	64.6	21	40.1	106.7
minimum of MDEL for Aq. Life vs HH	120	42	87.2	313.9
Previous order limit - AMEL	55	21	13	13
Previous order limit - MDEL	120	42	33	33
<b>Final limit - AMEL</b>	<b>55</b>	<b>21</b>	<b>32<sup>[1]</sup></b>	<b>32<sup>[1]</sup></b>
<b>Final limit - MDEL</b>	<b>120</b>	<b>42</b>	<b>58<sup>[1]</sup></b>	<b>58<sup>[1]</sup></b>

Footnote:

<sup>[1]</sup> These effluent limits are based on the predicted 99th and 95th percentile intervals of the Discharger’s sample data.

This Order increases the effluent limits for ammonia because the Discharger cannot feasibly comply with the WQBELs in the previous order. Consistent with the intent of the anti-backsliding requirements, however, this Order does not increase the ammonia WQBELs as high as the limits calculated based on the water quality objectives and full dilution. Instead, this Order allows no more backsliding than is necessary for the Dischargers to comply with the revised WQBELs. A statistical analysis of measurements collected over the previous order term indicates that the Discharger can feasibly comply with a maximum daily effluent limit of 58 mg/L, based on the predicted 99<sup>th</sup> percentile interval of the sample data, and a monthly average effluent limit of 32 mg/L, based on the predicted 95<sup>th</sup> percentile interval of the sample data. This Order allows backsliding up to these concentrations as WQBELs.

- c. **Acute Toxicity.** This Order includes effluent limitations for acute toxicity based on Basin Plan Table 4-3. Based on Basin Plan section 3.3.20, if the Discharger can demonstrate that ammonia causes acute toxicity in excess of the acute toxicity limitations in this Order, and that the ammonia in the discharge complies with the ammonia effluent limitations in this Order, then such toxicity does not constitute a violation of the effluent limitations for whole effluent acute toxicity.
- d. **Enterococcus Bacteria.** The enterococcus effluent limitation is based on Basin Plan Table 4-2A, which requires this limitation for discharges to receiving waters with the water contact recreation beneficial use.

## D. Discharge Requirement Considerations

- 1. Anti-backsliding.** This Order complies with the anti-backsliding provisions of CWA sections 402(o) and 303(d)(4) and 40 C.F.R. section 122.44(l), which generally require effluent limitations in a reissued permit to be as stringent as those in the previous permit. The requirements of this Order are at least as stringent as those of the previous order, with the exception of the ammonia WQBELs.

The ammonia WQBELs in the previous order were carried over from the Discharger's 2008 permit (Order No. R2-2008-0005), which established the ammonia WQBELs using the SIP methodology and a 10:1 dilution ratio. As part of its application for this Order, the Discharger submitted the study *Near field Mixing Zone and Dilution Analysis*, which demonstrated that the Discharger's outfall achieved higher minimum dilution ratios (20:1, or  $D=19$ , under acute conditions and 72:1,  $D = 71$  under chronic conditions) than those used to establish the WQBELs in the 2008 and 2013 permits. Monitoring results from the last permit term indicates that the Discharger cannot reliably meet the previous order's ammonia WQBELs during periods of colder temperatures, when bacteria remove ammonia more slowly. The Discharger's relatively simple treatment system reflects the size and resources of the community it serves, and the Discharger has properly operated and maintained the Facility. Nevertheless, the Discharger has been unable to reliably comply with the previous WQBELs.

CWA section 402(o)(2) allows effluent limitation backsliding if good cause exists because of events beyond the Discharger's control and for which there is no reasonably available remedy. Section 402(o)(2) also allows backsliding if new information is available that was not available at the time of the previous permit issuance that would have justified less stringent effluent limitations. There is good cause to establish less stringent ammonia WQBELs in this Order because the cold temperatures leading to the prior ammonia WQBELs exceedances are events beyond the Discharger's control and for which there is no reasonably available remedy. Furthermore, new information contained in the May 2018 *Near field Mixing Zone and Dilution Analysis* study about mixing and dilution at the outfall is now available that justifies the less stringent WQBELs. Finally, CWA section 303(d)(4) also allows backsliding because Carquinez Strait is not impaired by ammonia and the less stringent ammonia WQBELs are consistent with antidegradation policies, as discussed below.

- 2. Antidegradation.** This Order complies with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. Except for ammonia, the Order continues the status quo with respect to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increased flow or reduced level of treatment relative to the previous order.

This Order contains less stringent ammonia WQBELs compared to those in the previous order; however, the less stringent WQBELs will not degrade Carquinez Strait water quality. Data from the *Nutrient Watershed Permit 2018 Annual Report*, published by the Bay Area Clean Water Agencies, indicates that the Discharger's ammonia load represents only about 0.01 percent of the total monthly ammonia load from all municipal treatment plants to San Pablo Bay. Because the Facility's discharge is insignificant compared to other ammonia

sources, and because Carquinez Strait experiences continuous tidal mixing and flushing from upstream rivers, the relatively small load increase will not be observable. For these reasons, findings authorizing degradation are unnecessary.

- 3. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and WQBELs for individual pollutants. The technology-based requirements implement minimum, applicable federal technology-based requirements. In addition, this Order contains more stringent effluent limitations as necessary to meet water quality standards. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement CWA requirements.

This Order's WQBELs have been derived to implement water quality objectives that protect beneficial uses. The beneficial uses and water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating these WQBELs are based on the CTR, as implemented in accordance with the SIP, which U.S. EPA approved on May 18, 2000. U.S. EPA approved most Basin Plan beneficial uses and water quality objectives prior to May 30, 2000. Beneficial uses and water quality objectives 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). U.S. EPA approved the remaining beneficial uses and water quality objectives so they are applicable water quality standards pursuant to 40 C.F.R. section 131.21(c)(2).

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

The receiving water limitations in Provisions V.A and V.B of the Order are based on Basin Plan narrative and numeric water quality objectives. The receiving water limitation in Provision V.C of the Order requires compliance with federal and State water quality standards in accordance with the CWA and regulations adopted thereunder.

## **VI. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions**

Attachment D contains standard provisions that apply to all NPDES permits in accordance with 40 C.F.R. section 122.41 and additional conditions applicable to specific categories of permits in accordance with 40 C.F.R. section 122.42. The Discharger must comply with these provisions. The conditions set forth in 40 C.F.R. sections 122.41(a)(1) and (b) through (n) apply to all state-issued NPDES permits and must be incorporated into permits either expressly or by reference.

In accordance with 40 C.F.R. section 123.25(a)(12), states may omit or modify conditions to impose more stringent requirements. Attachment G contains standard provisions that supplement the federal standard provisions in Attachment D. This Order omits the federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the State's enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates Water Code section 13387(e) by reference.

## **B. Monitoring and Reporting**

CWA section 308 and 40 C.F.R. sections 122.41(h), 122.41(j)-(l), 122.44(i), and 122.48 require that NPDES permits specify monitoring and reporting requirements. Water Code section 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP establishes monitoring, reporting, and recordkeeping requirements that implement federal and State requirements. For more background regarding these requirements, see Fact Sheet section VIII of this Fact Sheet. Regional Water Board Order No. R2-2016-0008 allows the Discharger to opt into certain alternative monitoring requirements.

## **C. Special Provisions**

### **1. Reopener Provisions**

These provisions are based on 40 C.F.R. sections 122.62 and 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated water quality objectives, regulations, or other new and relevant information that may become available in the future, and other circumstances as allowed by law.

### **2. Effluent Characterization Study and Report**

This Order does not include effluent limitations for priority pollutants that do not demonstrate reasonable potential, but this provision requires the Discharger to evaluate monitoring data to verify that the reasonable potential analysis conclusions of this Order remain valid. This requirement is authorized pursuant to 40 C.F.R. section 122.41(h) and Water Code section 13383, and is necessary to inform the next permit reissuance and to ensure that the Discharger takes timely steps in response to any unanticipated change in effluent quality during the term of this Order.

### **3. Pollutant Minimization Program**

This provision is based on Basin Plan section 4.13.2 and SIP section 2.4.5.

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

- a. Sludge and Biosolids Management.** This provision is based on Basin Plan section 4.17. “Sludge” refers to the solid, semisolid, and liquid residue removed during primary, secondary, and advanced wastewater treatment processes. “Biosolids” refers to sludge that has been treated and may be beneficially reused.
- b. Collection System Management.** The Discharger’s collection system (see Fact Sheet section II.A.2) is part of the Facility regulated through this Order. This provision requires compliance with Attachments D and G and states that these requirements may be satisfied by separately complying with State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order No. WQ 2013-0058-EXEC and any subsequent order updating these requirements. These statewide WDRs require public agencies that own or operate sanitary sewer systems with one or more miles of sewer lines to enroll for coverage and comply with requirements to develop sanitary sewer management plans and report sanitary sewer overflows, among other provisions and prohibitions. The statewide

WDRs contain requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows that are more extensive and, therefore, more stringent than the standard provisions in Attachments D and G. Compliance with the statewide WDRs will satisfy the corresponding requirements in Attachments D and G.

## 5. Other Special Provisions

- a. **Copper Action Plan.** This provision is based on Basin Plan section 7.2.1.2 and is necessary to ensure that use of copper site-specific objectives is consistent with antidegradation policies. This Order requires the Discharger to implement pretreatment, source control, and pollution prevention for identified sources. Data the San Francisco Estuary Institute compiled for 2011-2015 indicate no degradation of San Francisco Bay water quality with respect to copper (<http://www.sfei.org/pages/copper-site-specific-objective-3-year-rolling-averages-0>).
- b. **Cyanide Action Plan.** This provision is based on Basin Plan section 4.7.2.2 and is necessary to ensure that use of cyanide site-specific objectives is consistent with antidegradation policies. The threshold for considering influent cyanide concentrations to indicate a possible “significant cyanide discharge” in the Discharger’s service area is set at 9.0 µg/L, which is three times the minimum level (3.0 µg/L). All cyanide concentrations were non-detect during the previous order term. Because the Discharger has observed no influent cyanide concentrations greater than 3.0 µg/L, if influent concentrations three times this concentration were observed, there could be a significant cyanide source.

## VII. RATIONALE FOR MONITORING AND REPORTING PROGRAM (MRP)

Attachment E contains the MRP for this Order. It specifies sampling locations, pollutants to be monitored (including all parameters for which effluent limitations are specified), monitoring frequencies, and reporting requirements. The following provides the rationale for these requirements:

### A. Monitoring Requirements Rationale

1. **Influent Monitoring.** Influent BOD and TSS monitoring is necessary to evaluate compliance with this Order’s 85 percent removal requirement. Basin Plan section 4.7.2.2 requires cyanide monitoring because this Order is based on site-specific cyanide water quality objectives.
2. **Effluent Monitoring.** Effluent flow monitoring is necessary to understand Facility operations. Monitoring for other parameters is necessary to evaluate compliance with this Order’s effluent limitations and to conduct future reasonable potential analyses.
3. **Acute Toxicity Testing.** Acute toxicity tests are necessary to evaluate compliance with this Order’s effluent limitations.
4. **Receiving Water Monitoring.** Standard observations are necessary to observe the effects of the discharge and evaluate compliance with this Order’s receiving water limitations. The location upstream from the outfall represents background conditions. The locations near and



downstream from the outfall represent conditions affected by the discharge. Because the site is tidal, the upstream and downstream monitoring locations change depending on whether there is an incoming or outgoing tide.

**5. Other Monitoring Requirements.** Pursuant to CWA section 308, U.S. EPA requires dischargers to participate in a Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program. The program annually evaluates the analytical abilities of laboratories that perform or support NPDES permit-required monitoring. The program applies to discharger laboratories and contract laboratories. There are two options to comply: (1) dischargers can obtain and analyze DMR-QA samples, or (2) pursuant to a waiver U.S. EPA issued to the State Water Board, dischargers can submit results from the most recent Water Pollution Performance Evaluation Study. Dischargers must submit results annually to the State Water Board, which then forwards the results to U.S. EPA.

**B. Monitoring Requirements Summary.** The table below summarizes routine monitoring requirements. This table is for informational purposes only. The actual requirements are specified in the MRP and elsewhere in this Order.

**Table F-9. Monitoring Requirements Summary**

Parameter	Influent INF-001 <sup>[1]</sup>	Effluent EFF-001 <sup>[1]</sup>	Receiving Water RSW-001, RSW-002, RSW-003
Flow	---	Continuous	---
BOD <sub>5</sub>	1/Month	1/Month	---
TSS	1/Week	1/Week	---
Oil and Grease	---	1/Month	---
pH	---	3/Week	---
Total Residual Chlorine	---	3/Week	---
Acute Toxicity	---	1/Quarter	---
Enterococcus Bacteria	---	1/Week	---
Copper	---	1/Quarter	---
Cyanide	1/Year	1/Quarter	---
Total Ammonia	---	1/Quarter	---
Standard Observations	---	---	1/Month
Priority Pollutants	---	Once	---

Footnote:

<sup>[1]</sup> The MRP defines these sampling frequencies.

## VIII. PUBLIC PARTICIPATION

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

**A. Notification of Interested Persons.** The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the *Contra Costa Times*. The public had access to the agenda and any changes in dates

and locations through the Regional Water Board's website at <http://www.waterboards.ca.gov/sanfranciscobay>.

- B. Written Comments.** Interested persons were invited to submit written comments concerning the tentative WDRs as explained through the notification process. Comments were to be submitted either in person or by mail to the Executive Officer at the Regional Water Board at 1515 Clay Street, Suite 1400, Oakland, California 94612, to the attention of William Burrell.

For full staff response and Regional Water Board consideration, the written comments were due at the Regional Water Board office by **5:00 p.m. on November 19, 2018**.

- C. Public Hearing.** The Regional Water Board held a public hearing on the tentative WDRs during its regular meeting at the following date and time, and at the following location:

Date: **December 12, 2018**  
Time: 9:00 am  
Location: Elihu Harris State Office Building  
1515 Clay Street, 1<sup>st</sup> Floor Auditorium  
Oakland, CA 94612  
Contact: William Burrell, (510) 622-2317, [William.Burrell@waterboards.ca.gov](mailto:William.Burrell@waterboards.ca.gov).

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

Dates and venues change. The Regional Water Board web address is <http://www.waterboards.ca.gov/sanfranciscobay>, where one could access the current agenda for changes in dates and locations.

- D. Reconsideration of Waste Discharge Requirements.** Any aggrieved person may petition the State Water Board to review the Regional Water Board decision regarding the final WDRs. The State Water Board must receive the petition at the following address within 30 calendar days of the Regional Water Board action:

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

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

- E. Information and Copying.** The Report of Waste Discharge, related supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m. (except noon to 1:00 p.m.), Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

- 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 the 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 William Burrell, (510) 622-2317, [William.Burrell@waterboards.ca.gov](mailto:William.Burrell@waterboards.ca.gov).

## **ATTACHMENT G**

### **REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)**

November 2017

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## REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS

### APPLICABILITY

This document supplements the requirements of Federal Standard Provisions (Attachment D). For clarity, these provisions are arranged using to the same headings as those used in Attachment D.

#### I. STANDARD PROVISIONS - PERMIT COMPLIANCE

**A. Duty to Comply** – Not Supplemented

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

**C. Duty to Mitigate** – Supplement to Attachment D, Provision I.C.

**1. Contingency Plan.** The Discharger shall maintain a Contingency Plan as prudent in accordance with current facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan (see Provision I.C.2, below) into one document. In accordance with Regional Water Board Resolution No. 74-10, discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below may be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code section 13387. The Contingency Plan shall, at a minimum, provide for the following:

- a. Sufficient personnel for continued facility operation and maintenance during employee strikes or strikes against contractors providing services;
- b. Maintenance of adequate chemicals or other supplies, and spare parts necessary for continued facility operations;
- c. Emergency standby power;
- d. Protection against vandalism;
- e. Expedient action to repair failures of, or damage to, equipment, including any sewer lines;
- f. Reporting of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges; and
- g. Maintenance, replacement, and surveillance of physical condition of equipment and facilities, including any sewer lines.

- 2. Spill Prevention Plan.** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and to minimize the effects of any such discharges. The Spill Prevention Plan shall do the following:
  - a. Identify the possible sources of accidental discharge, untreated or partially-treated waste bypass, and polluted drainage;
  - b. State when current facilities and procedures became operational and evaluate their effectiveness; and
  - c. Predict the effectiveness of any proposed facilities and procedures and provide an implementation schedule with interim and final dates when the proposed facilities and procedures will be constructed, implemented, or operational.

**D. Proper Operation and Maintenance – Supplement to Attachment D, Provision I.D**

- 1. Operation and Maintenance Manual.** The Discharger shall maintain an Operation and Maintenance Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the Operation and Maintenance Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The Operation and Maintenance Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.
- 2. Wastewater Facilities Status Report.** The Discharger shall maintain a Wastewater Facilities Status Report and regularly review, revise, or update it, as necessary. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.
- 3. Proper Supervision and Operation of Publicly-Owned Treatment Works (POTWs).** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, section 3680, of the California Code of Regulations.

**E. Property Rights – Not Supplemented**

**F. Inspection and Entry – Not Supplemented**

**G. Bypass – Not Supplemented**

**H. Upset – Not Supplemented**



## **I. Other – Addition to Attachment D**

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code section 13050.
2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.
3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

## **II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented**

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

### **A. Sampling and Analyses – Supplement to Attachment D, Provisions III.A and III.B**

1. **Certified Laboratories.** Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code section 13176.
2. **Minimum Levels.** For the 126 priority pollutants, the Discharger should use the analytical methods listed in Table B unless the Monitoring and Reporting Program (MRP, Attachment E) requires a particular method or minimum level (ML). All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.
3. **Monitoring Frequency.** The MRP specifies the minimum sampling and analysis schedule.
  - a. **Sample Collection Timing**
    - i. The Discharger shall collect influent samples on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative influent sampling plan if it is representative of plant influent and complies with all other permit requirements.
    - ii. The Discharger shall collect effluent samples on days coincident with influent sampling, unless otherwise stipulated by the MRP. If influent sampling is not required, the Discharger shall collect effluent samples on varying days selected at random, unless otherwise stipulated in the MRP. The Executive Officer may approve an alternative effluent sampling plan if it is representative of plant discharge and in compliance with all other permit requirements.
    - iii. The Discharger shall collect effluent grab samples during periods of daytime maximum peak flows (or peak flows through secondary treatment units for facilities that recycle effluent).

- iv. Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay the MRP requires. During the course of the bioassay, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event that a bioassay result does not comply with effluent limitations, the Discharger shall analyze the retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limitations.
  - (a) The Discharger shall perform bioassays on final effluent samples; when chlorine is used for disinfection, bioassays shall be performed on effluent after chlorination and dechlorination; and
  - (b) The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet effluent limitations.

**b. Conditions Triggering Accelerated Monitoring**

- i. **Average Monthly Effluent Limitation Exceedance.** If the results from two consecutive samples of a constituent monitored in a particular month exceed the average monthly effluent limitation for any parameter (or if the required sampling frequency is once per month or less and the monthly sample exceeds the average monthly effluent limitation), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter complies with the average monthly effluent limitation.
- ii. **Maximum Daily Effluent Limitation Exceedance.** If a sample result exceeds a maximum daily effluent limitation, the Discharger shall, within 24 hours after the result is received, increase its sampling frequency to daily until the results from two samples collected on consecutive days show compliance with the maximum daily effluent limitation.
- iii. **Acute Toxicity.** If final or intermediate results of an acute bioassay indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay is less than 70 percent), the Discharger shall initiate a new test as soon as practical or as described in applicable State Water Board plan provisions that become effective after adoption of these Regional Standard Provisions. The Discharger shall investigate the cause of the mortalities and report its findings in the next self-monitoring report.
- iv. **Chlorine.** The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limitation is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring.
- v. **Bypass.** Except as indicated below, if a Discharger bypasses any portion of its treatment facility, it shall monitor flows and collect samples at affected discharge

points and analyze samples for all constituents with effluent limitations on a daily basis for the duration of the bypass. The Discharger need not accelerate chronic toxicity monitoring. The Discharger also need not collect and analyze samples for mercury, dioxin-TEQ, and PCBs after the first day of the bypass. The Discharger may satisfy the accelerated acute toxicity monitoring requirement by conducting a flow-through test or static renewal test that captures the duration of the bypass (regardless of the method specified in the MRP). If bypassing disinfection units only, the Discharger shall only monitor bacteria indicators daily.

**(a) Bypass for Essential Maintenance.** If a Discharger bypasses a treatment unit for essential maintenance pursuant to Attachment D section I.G.2, the Executive Officer may reduce the accelerated monitoring requirements above if the Discharger (i) monitors effluent at affected discharge points on the first day of the bypass for all constituents with effluent limitations, except chronic toxicity; and (ii) identifies and implements measures to ensure that the bypass will continue to comply with effluent limitations.

**(b) Approved Wet Weather Bypasses.** If a Discharger bypasses a treatment unit or permitted outfall during wet weather with Executive Officer approval pursuant to Attachment D section I.G.4, the Discharger shall monitor flows and collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze daily for TSS using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limitations using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze daily the retained samples for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass for all other constituents with effluent limitations, except oil and grease, mercury, PCBs, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

## **B. Standard Observations – Addition to Attachment D**

- 1. Receiving Water Observations.** The following requirements only apply when the MRP requires standard observations of receiving waters. Standard observations shall include the following:
  - a. Floating and Suspended Materials** (e.g., oil, grease, algae, and other macroscopic particulate matter) — presence or absence, source, and size of affected area.
  - b. Discoloration and Turbidity** — color, source, and size of affected area.
  - c. Odor** — presence or absence, characterization, source, and distance of travel.
  - d. Beneficial Water Use** — estimated number of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities.



## **B. Records of Monitoring** – Supplement to Attachment D, Provision IV.B

Monitoring records shall include the following:

- 1. Analytical Information.** Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.
- 2. Disinfection Process.** For the disinfection process, records shall include the following:
  - a.** For bacteriological analyses:
    - i.** Wastewater flow rate at the time of sample collection; and
    - ii.** Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in the MRP).
  - b.** For the chlorination process (when chlorine is used for disinfection), at least daily average values for the following:
    - i.** Chlorine residual of treated wastewater as it enters the chlorine contact basin (mg/L);
    - ii.** Chlorine dosage (kg/day); and
    - iii.** Dechlorination chemical dosage (kg/day).
- 3. Wastewater Treatment Process Solids.** For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:
  - a.** Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and
  - b.** Final disposition of such solids (e.g., landfill, other subsequent treatment unit).
- 4. Treatment Process Bypasses.** For all treatment process bypasses, including wet weather blending, records shall include the following:
  - a.** Chronological log of treatment process bypasses;
  - b.** Identification of treatment processes bypassed;
  - c.** Beginning and ending dates and times of bypasses;
  - d.** Bypass durations;
  - e.** Estimated bypass volumes; and
  - f.** Description of, or reference to other reports describing, the bypasses, their cause, the corrective actions taken (except for wet weather blending explicitly approved within the permit and in compliance with any related permit conditions), and any additional monitoring conducted.

- 5. Treatment Plant Overflows.** The Discharger shall retain a chronological log of overflows at the treatment plant, including the headworks and all units and appurtenances downstream, and records supporting the information provided in accordance with Provision V.E.2, below.

**C. Claims of Confidentiality** – Not Supplemented

**V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information** – Not Supplemented

**B. Signatory and Certification Requirements** – Not Supplemented

**C. Monitoring Reports** – Supplement to Attachment D, Provision V.C

- 1. Self-Monitoring Reports.** For each reporting period established in the MRP, the Discharger shall submit a self-monitoring report to the Regional Water Board in accordance with the requirements listed in the MRP and below:

**a. Transmittal Letter.** Each self-monitoring report shall be submitted with a transmittal letter that includes the following:

- i.** Identification of all violations of effluent limitations or other waste discharge requirements found during the reporting period;
- ii.** Details regarding the violations, such as parameters, magnitude, test results, frequency, and dates;
- iii.** Causes of the violations;
- iv.** Corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedules for implementation (the Discharger may refer to previously submitted reports that address the corrective actions);
- v.** Explanation for any data invalidation. Data should not be submitted in a self-monitoring report if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate a measurement after submitting it in a self-monitoring report, the Discharger shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. The formal request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation (e.g., laboratory sheet, log entry, test results), and a discussion of the corrective actions taken or planned (with a time schedule for completion) to prevent recurrence of the sampling or measurement problem;
- vi.** Description of blending, if any. If the Discharger blends, it shall describe the duration of blending events and certify whether the blending complied with all conditions for blending;



- iv. Dioxin-TEQ.** The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the reporting level, the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (MLs) to zero. The Discharger shall calculate and report dioxin-TEQ using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \Sigma (C_x \times \text{TEF}_x \times \text{BEF}_x)$$

where:  $C_x$  = measured or estimated concentration of congener  $x$   
 $\text{TEF}_x$  = toxicity equivalency factor for congener  $x$   
 $\text{BEF}_x$  = bioaccumulation equivalency factor for congener  $x$

**Table A**  
 Minimum Levels, Toxicity Equivalency Factors,  
 and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	2005 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0003	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.03	0.2
2,3,4,7,8-PeCDF	50	0.3	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0003	0.02

- e. Results Not Yet Available.** The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses may require additional time to complete analytical processes and report results. In these cases, the Discharger shall describe the circumstances in the self-monitoring report and include the data for these parameters and relevant discussions of any violations in the next self-monitoring report due after the results are available.



- f. Annual Self-Monitoring Reports.** By the date specified in the MRP, the Discharger shall submit an annual self-monitoring report covering the previous calendar year. The report shall contain the following:
- i.** Comprehensive discussion of treatment plant performance, including documentation of any blending or other bypass events, and compliance with the permit. This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve the performance and reliability of wastewater collection, treatment, or disposal practices;
  - ii.** List of approved analyses, including the following:
    - (a)** List of analyses for which the Discharger is certified;
    - (b)** List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory need not be submitted but shall be retained onsite); and
    - (c)** List of “waived” analyses, as approved;
  - iii.** Plan view drawing or map showing the Discharger’s facility, flow routing, and sampling and observation station locations; and
  - iv.** Results of facility report reviews. The Discharger shall regularly review, revise, and update, as necessary, the Operation and Maintenance Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report so these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall describe or summarize its review and evaluation procedures, recommended or planned actions, and estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure that they remain up-to-date.

**D. Compliance Schedules – Not supplemented**

**E. Twenty-Four Hour Reporting – Supplement to Attachment D, Provision V.E**

**1. Oil or Other Hazardous Material Spills**

- a.** Within 24 hours of becoming aware of a spill of oil or other hazardous material not contained onsite and completely cleaned up, the Discharger shall report as follows:
  - i.** If the spill exceeds reportable quantities for hazardous materials listed in 40 C.F.R. part 302. The Discharger shall call the California Office of Emergency Services (800-852-7550).
  - ii.** If the spill does not exceed reportable quantities for hazardous materials listed in 40 C.F.R., part 302, the Discharger shall call the Regional Water Board (510-622-2369).

- b.** The Discharger shall submit a written report to the Regional Water Board within five working days following either of the above telephone notifications unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:
  - i.** Date and time of spill, and duration if known;
  - ii.** Location of spill (street address or description of location);
  - iii.** Nature of material spilled;
  - iv.** Quantity of material spilled;
  - v.** Receiving water body affected, if any;
  - vi.** Cause of spill;
  - vii.** Estimated size of affected area;
  - viii.** Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);
  - ix.** Corrective actions taken to contain, minimize, or clean up the spill;
  - x.** Future corrective actions planned to prevent recurrence, and implementation schedule; and
  - xi.** Persons or agencies notified.

**2. Unauthorized Municipal Wastewater Treatment Plant Discharges<sup>1</sup>**

- a. Two-Hour Notification.** For any unauthorized discharge that enters a drainage channel or surface water, the Discharger shall, as soon as possible, but not later than two hours after becoming aware of the discharge, notify the California Office of Emergency Services (800-852-7550) and the local health officer or director of environmental health with jurisdiction over the affected water body. Notification shall include the following:
  - i.** Incident description and cause;
  - ii.** Location of threatened or involved waterways or storm drains;
  - iii.** Date and time that the unauthorized discharge started;
  - iv.** Estimated quantity and duration of the unauthorized discharge (to the extent known), and estimated amount recovered;

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<sup>1</sup> California Code of Regulations, Title 23, section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially-treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment, or disposal system.

- v. Level of treatment prior to discharge (e.g., raw wastewater, primary-treated wastewater, or undisinfected secondary-treated wastewater); and
  - vi. Identity of person reporting the unauthorized discharge.
- b. Five-Day Written Report.** Within five business days following the two-hour notification, the Discharger shall submit a written report that includes, in addition to the information listed in Provision V.E.2.a, above, the following:
- i. Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;
  - ii. Efforts implemented to minimize public exposure to the unauthorized discharge;
  - iii. Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of receiving water) and extent of sampling if conducted;
  - iv. Corrective measures taken to minimize the impact of the unauthorized discharge;
  - v. Measures to be taken to minimize the potential for a similar unauthorized discharge in the future;
  - vi. Summary of Spill Prevention Plan or Operation and Maintenance Manual modifications to be made, if necessary, to minimize the potential for future unauthorized discharges; and
  - vii. Quantity and duration of the unauthorized discharge, and the amount recovered.

**F. Planned Changes** – Not supplemented

**G. Anticipated Noncompliance** – Not supplemented

**H. Other Noncompliance** – Not supplemented

**I. Other Information** – Not supplemented

**VI. STANDARD PROVISION – ENFORCEMENT** – Not Supplemented

**VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS** – Not Supplemented

**VIII. DEFINITIONS** – Addition to Attachment D

More definitions can be found in Attachment A of this NPDES Permit.

**A. Arithmetic Calculations –**

- 1. Geometric Mean.** The antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

$$\text{Geometric Mean} = \text{Anti log} \left( \frac{1}{N} \sum_{i=1}^N \text{Log}(C_i) \right)$$

or

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_N)^{1/N}$$

Where “N” is the number of data points for the period analyzed and “C” is the concentration for each of the “N” data points.

- 2. Mass Emission Rate.** The rate of discharge expressed in mass. The mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N} \sum_{i=1}^N Q_i C_i$$

In which “N” is the number of samples analyzed in any calendar day and “Q<sub>i</sub>” and “C<sub>i</sub>” are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the “N” grab samples that may be taken in any calendar day. If a composite sample is taken, “C<sub>i</sub>” is the concentration measured in the composite sample and “Q<sub>i</sub>” is the average flow rate occurring during the period over which the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

$$C_d = \text{Average daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

In which “N” is the number of component waste streams and “Q” and “C” are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the “N” waste streams. “Q<sub>t</sub>” is the total flow rate of the combined waste streams.

- 3. Removal Efficiency.** The ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified)

of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

$$\text{Removal Efficiency (\%)} = 100 \times [1 - (\text{Effluent Concentration} / \text{Influent Concentration})]$$

- B. Blending** – the practice of bypassing biological treatment units and recombining the bypass wastewater with biologically-treated wastewater.
- C. Composite Sample** – a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative protocol.
- D. Duplicate Sample** – a second sample taken from the same source and at the same time as an initial sample (such samples are typically analyzed identically to measure analytical variability).
- E. Grab Sample** – an individual sample collected during a short period not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the sample is collected.
- F. Overflow** – the intentional or unintentional spilling or forcing out of untreated or partially-treated waste from a transport system (e.g., through manholes, at pump stations, or at collection points) upstream of the treatment plant headworks or from any part of a treatment plant.
- G. Priority Pollutants** – those constituents referred to in 40 C.F.R. part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule.
- H. Untreated waste** – raw wastewater.

**Table B**  
List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method <sup>2</sup>	Minimum Levels <sup>3</sup> (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2	Arsenic	206.3				20		2	10	2	2	1		1000
3	Beryllium						20	0.5	2	0.5	1			1000
4	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a	Chromium (III)	SM 3500												
5b	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total) <sup>4</sup>	SM 3500					50	2	10	0.5	1			1000
6	Copper	200.9					25	5	10	0.5	2			1000
7	Lead	200.9					20	5	5	0.5	2			10,000
8	Mercury	1631 (note) <sup>5</sup>												
9	Nickel	249.2					50	5	20	1	5			1000
10	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11	Silver	272.2					10	1	10	0.25	2			1000
12	Thallium	279.2					10	2	10	1	5			1000
13	Zinc	200 or 289					20		20	1	10			
14	Cyanide	SM 4500 CN <sup>-</sup> C or I				5								
15	Asbestos (only required for dischargers to MUN waters) <sup>6</sup>	0100.2 <sup>7</sup>												
16	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17	Acrolein	603	2.0	5										
18	Acrylonitrile	603	2.0	2										
19	Benzene	602	0.5	2										
33	Ethylbenzene	602	0.5	2										
39	Toluene	602	0.5	2										
20	Bromoform	601	0.5	2										
21	Carbon Tetrachloride	601	0.5	2										
22	Chlorobenzene	601	0.5	2										
23	Chlorodibromomethane	601	0.5	2										
24	Chloroethane	601	0.5	2										
25	2-Chloroethylvinyl Ether	601	1	1										
26	Chloroform	601	0.5	2										

<sup>2</sup> The suggested method is the U.S. EPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another U.S. EPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

<sup>3</sup> Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., U.S. EPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

<sup>4</sup> Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 µg/l).

<sup>5</sup> The Discharger shall use ultra-clean sampling (U.S. EPA Method 1669) and ultra-clean analytical methods (U.S. EPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 µg/l).

<sup>6</sup> MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

<sup>7</sup> Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters, U.S. EPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method <sup>2</sup>	Minimum Levels <sup>3</sup> (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
75	1,2-Dichlorobenzene	601	0.5	2										
76	1,3-Dichlorobenzene	601	0.5	2										
77	1,4-Dichlorobenzene	601	0.5	2										
27	Dichlorobromomethane	601	0.5	2										
28	1,1-Dichloroethane	601	0.5	1										
29	1,2-Dichloroethane	601	0.5	2										
30	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31	1,2-Dichloropropane	601	0.5	1										
32	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34	Methyl Bromide or Bromomethane	601	1.0	2										
35	Methyl Chloride or Chloromethane	601	0.5	2										
36	Methylene Chloride or Dichloromethane	601	0.5	2										
37	1,1,2,2-Tetrachloroethane	601	0.5	1										
38	Tetrachloroethylene	601	0.5	2										
40	1,2-Trans-Dichloroethylene	601	0.5	1										
41	1,1,1-Trichloroethane	601	0.5	2										
42	1,1,2-Trichloroethane	601	0.5	2										
43	Trichloroethene	601	0.5	2										
44	Vinyl Chloride	601	0.5	2										
45	2-Chlorophenol	604	2	5										
46	2,4-Dichlorophenol	604	1	5										
47	2,4-Dimethylphenol	604	1	2										
48	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49	2,4-Dinitrophenol	604	5	5										
50	2-Nitrophenol	604		10										
51	4-Nitrophenol	604	5	10										
52	3-Methyl-4-Chlorophenol	604	5	1										
53	Pentachlorophenol	604	1	5										
54	Phenol	604	1	1		50								
55	2,4,6-Trichlorophenol	604	10	10										
56	Acenaphthene	610 HPLC	1	1	0.5									
57	Acenaphthylene	610 HPLC		10	0.2									
58	Anthracene	610 HPLC		10	2									
60	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61	Benzo(a)Pyrene	610 HPLC		10	2									
62	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64	Benzo(k)Fluoranthene	610 HPLC		10	2									
74	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86	Fluoranthene	610 HPLC	10	1	0.05									
87	Fluorene	610 HPLC		10	0.1									
92	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100	Pyrene	610 HPLC		10	0.05									
68	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70	Butylbenzyl Phthalate	606 or 625	10	10										
79	Diethyl Phthalate	606 or 625	10	2										

CTR No.	Pollutant/Parameter	Analytical Method <sup>2</sup>	Minimum Levels <sup>3</sup> (µg/l)													
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP		
80	Dimethyl Phthalate	606 or 625	10	2												
81	Di-n-Butyl Phthalate	606 or 625		10												
84	Di-n-Octyl Phthalate	606 or 625		10												
59	Benzidine	625		5												
65	Bis(2-Chloroethoxy)Methane	625		5												
66	Bis(2-Chloroethyl)Ether	625	10	1												
67	Bis(2-Chloroisopropyl)Ether	625	10	2												
69	4-Bromophenyl Phenyl Ether	625	10	5												
71	2-Chloronaphthalene	625		10												
72	4-Chlorophenyl Phenyl Ether	625		5												
73	Chrysene	625		10	5											
78	3,3'-Dichlorobenzidine	625		5												
82	2,4-Dinitrotoluene	625	10	5												
83	2,6-Dinitrotoluene	625		5												
85	1,2-Diphenylhydrazine (note) <sup>8</sup>	625		1												
88	Hexachlorobenzene	625	5	1												
89	Hexachlorobutadiene	625	5	1												
90	Hexachlorocyclopentadiene	625	5	5												
91	Hexachloroethane	625	5	1												
93	Isophorone	625	10	1												
94	Naphthalene	625	10	1	0.2											
95	Nitrobenzene	625	10	1												
96	N-Nitrosodimethylamine	625	10	5												
97	N-Nitrosodi-n-Propylamine	625	10	5												
98	N-Nitrosodiphenylamine	625	10	1												
99	Phenanthrene	625		5	0.05											
101	1,2,4-Trichlorobenzene	625	1	5												
102	Aldrin	608	0.005													
103	α-BHC	608	0.01													
104	β-BHC	608	0.005													
105	γ-BHC (Lindane)	608	0.02													
106	δ-BHC	608	0.005													
107	Chlordane	608	0.1													
108	4,4'-DDT	608	0.01													
109	4,4'-DDE	608	0.05													
110	4,4'-DDD	608	0.05													
111	Dieldrin	608	0.01													
112	Endosulfan (alpha)	608	0.02													
113	Endosulfan (beta)	608	0.01													
114	Endosulfan Sulfate	608	0.05													
115	Endrin	608	0.01													
116	Endrin Aldehyde	608	0.01													
117	Heptachlor	608	0.01													
118	Heptachlor Epoxide	608	0.01													
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5													
126	Toxaphene	608	0.5													

<sup>8</sup> Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.