

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location EFF-001

1. The Discharger shall monitor effluent from the Easterly WWTP when discharging to Old Alamo Creek at EFF-001 as follows:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous	
Total Residual Chlorine <sup>1</sup>	mg/L	Meter	Continuous	
Turbidity <sup>2</sup>	NTU	Meter	Continuous	
Temperature	°F	Meter	Continuous	
pH	pH units	Meter	Continuous	
BOD 5-day 20°C	mg/L	24-hr Composite <sup>6</sup>	5 days/week	
Total Suspended Solids	mg/L	24-hr Composite <sup>6</sup>	5 days/week	
Total Coliform Organisms	MPN/100 mL	Grab	5 days/week	
Settleable Solids	mL/L	Grab	1/day	
Dissolved Oxygen	mg/L	Grab	1/day	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/day	
Ammonia (as N) <sup>3,4</sup>	mg/L	Grab	1/week	
Nitrate (as N)	mg/L	Grab	1/week	
Total Dissolved Solids	mg/L	Grab	1/month	
Cyanide, Total <sup>5</sup>	µg/L	Grab	1/month	
Chlorodibromomethane <sup>5</sup>	µg/L	Grab	1/month	
Chloroform <sup>5</sup>	µg/L	Grab	1/month	
Dichlorobromomethane <sup>5</sup>	µg/L	Grab	1/month	
Bromoform	µg/L	Grab	1/month	
Total Trihalomethanes <sup>8</sup>	µg/L	Grab	1/month	
Bis(2-ethylhexyl) phthalate <sup>5</sup>	µg/L	Grab	1/quarter	
Oil and Grease	mg/L	Grab	1/month	
Mercury, total	ng/L	Grab	1/month	7
Mercury, methyl	ng/L	Grab	1/month	7
Radionuclides		Grab	1/year	

- 1 Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L. In addition, if a dechlorinating chemical is used to dechlorinate the effluent, this chemical shall be monitoring continuously.
- 2 Turbidity monitoring only required from 1 May through 31 October. (Turbidity monitoring is not required until after construction of filtration facilities.)
- 3 Concurrent with biotoxicity monitoring
- 4 Report as total.
- 5 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- 6 24-hour flow proportioned composite
- 7 Unfiltered methyl mercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1630/1631 (Revision E) with a method detection limit of 0.02 ng/l for methylmercury and 0.2 ng/l for total mercury.
- 8 Total Trihalomethanes includes the sum of bromoform, chlorodibromomethane, dichlorobromomethane, and chloroform.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

- A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:
1. Monitoring Frequency – the Discharger shall perform monthly acute toxicity testing, concurrent with effluent ammonia sampling.
  2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.
  3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
  4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition, and its subsequent amendments or revisions. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
  5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

- B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:
1. Monitoring Frequency – the Discharger shall perform quarterly three species chronic toxicity testing.
  2. Sample Types – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in the Monitoring and Reporting Program. If no upstream water is available, or if Old Alamo Creek water demonstrates acute or chronic toxicity, laboratory water maybe used.
  3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
  4. Test Species – Chronic toxicity testing measures sublethal (e.g. reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
    - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
    - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
    - The green alga, *Selenastrum capricornutum* (growth test).
  5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, and its subsequent amendments or revisions.*
  6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
  7. Dilutions – For regular chronic toxicity testing it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent. For accelerated and/or TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

If the receiving water is toxic, laboratory control water may be used as the diluent, in which case, the receiving water should still be sampled and tested to provide evidence of its toxicity.

8. **Test Failure** –The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
  - a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or
  - b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI.C.2.a.iii).

**Table E-4. Chronic Toxicity Testing Dilution Series**

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

- C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.
- D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
  1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
    - a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC<sub>50</sub>, 100/EC<sub>25</sub>, 100/IC<sub>25</sub>, and 100/IC<sub>50</sub>, as appropriate.
    - b. The statistical methods used to calculate endpoints;
    - c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
    - d. The dates of sample collection and initiation of each toxicity test; and

e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE. (Note: items a through c, above, are only required when testing is performed using the full dilution series.)

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.
4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes :
  - a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.
  - b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
  - c. Any information on deviations or problems encountered and how they were dealt with.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)**

**VII. RECLAMATION MONITORING REQUIREMENTS (NOT APPLICABLE)**

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

**A. Monitoring Location RSW-001, RSW-002, RSW-003, and RSW-004**

1. The Discharger shall monitor the receiving waters at RSW-001, RSW-002, RSW-003, and RSW-004 as follows:

**Table E-5. Receiving Water Monitoring Requirements-**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow <sup>1</sup>	cfs	Meter <sup>2</sup>	1/week	
Temperature	°F (°C)	Grab	1/week	
pH	Standard Units	Grab	1/week	
Dissolved Oxygen	mg/L	Grab	1/week	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/week	

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity	NTUs	Grab	1/week	
Total Dissolved Solids	mg/L	Grab	1/month	

<sup>1</sup> Flow monitoring only required in New Alamo Creek, upstream of the confluence with Old Alamo Creek.

<sup>2</sup> Estimate of receiving water flow, recorded for each day of sample collection. Use nearby gauging station, if available.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations RSW-001 and RSW-002 and RSW-003 and RSW-004. Attention shall also be given to the presence or absence of:

- a. Floating or suspended matter
- b. Discoloration
- c. Bottom deposits
- d. Aquatic life
- e. Visible films, sheens or coatings
- f. Fungi, slimes, or objectionable growths
- g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

**C. Monitoring Location RGW-001 thru RGW-005**

1. Groundwater grab samples shall be collected from all groundwater monitoring wells. Prior to sampling, the wells should be pumped until the temperature, specific conductivity, and pH have stabilized to ensure representative samples. The Discharger shall monitor groundwater at RGW-001, RGW-002, RGW-003, RGW-004, and RGW-005 as follows:

**Table E-6. Receiving Water Monitoring Requirements-Groundwater Wells**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	feet	Grab	Quarterly	
Groundwater Elevation <sup>1</sup>	feet	Grab	Quarterly	
pH	pH units	Grab	Quarterly	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Quarterly	
TDS	mg/L	Grab	Quarterly	
Fecal Coliform Organism	MPN/100ml	Grab	Quarterly	
Nitrate (as N)	mg/L	Grab	Quarterly	
Ammonia, Total (as NH <sub>4</sub> )	mg/L	Grab	Quarterly	

<sup>1</sup> Groundwater elevation shall be used to calculate the direction and gradient of groundwater flow. Elevations shall be measured to the nearest one-tenth of a foot from mean sea level. The groundwater elevation shall be measured prior to purging the wells.

Prior to construction or destruction of any groundwater monitoring wells, plans and specifications for groundwater monitoring wells shall be submitted to the Regional Board staff for review and approval. Wells shall comply with requirements of the Department of Water Resources. Installation and/or destruction of groundwater

monitoring wells are permitted through the Solano County Department of Environmental Management.

## IX. OTHER MONITORING REQUIREMENTS

### A. Biosolids-Monitoring Location BIO-001

1. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for priority pollutants listed in 40 CFR section 122 Appendix D, Tables II and III (excluding total phenols).
2. A composite sample of sludge shall be collected when sludge is removed from the ponds for disposal in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the metals listed in Title 22.
3. Sampling records shall be retained for a minimum of **five years**. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.
4. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Suggested methods for analysis of sludge are provided in USEPA publications titled "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" and "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other guidance is available in USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.

### B. Municipal Water Supply

#### 1. Monitoring Location SPL-001

The Discharger shall monitor all the Municipal Water Supplies at SPL-001 as follows. A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

**Table E-7. Municipal Water Supply Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids	mg/L	Grab	1/quarter	
Electrical Conductivity @ 25°C <sup>1</sup>	µmhos/cm	Grab	1/quarter	
Standard Minerals <sup>2</sup>	mg/L	Grab	1/year	

<sup>1</sup> If the water supply is from more than one source, the EC shall be reported as a weighted average and include copies of supporting calculations.

<sup>2</sup> Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.
5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 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 the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
  - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

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

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring

results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.

3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Dr., Suite #200  
Rancho Cordova, CA 95670-6114

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

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

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	First day of calendar month following permit effective date	All	Submit with monthly SMR
Hourly	First day of calendar month following permit effective date	Hourly	Submit with monthly SMR
Daily	First day of calendar month following permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	First day of calendar month following permit effective date	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date	1 <sup>st</sup> day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 after (or on) first day of calendar month following permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 of same year August 1 of same year November 1 of same year February 1 of next year
Semiannually	Closest of January 1 or July 1 after (or on) first day of calendar month following permit effective date	January 1 through June 30 July 1 through December 31	August 1 of same year February 1 of the next year
Annually	January 1 after (or on) first day of calendar month following permit effective date	January 1 through December 31	February 1 of the next year

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

- As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
- DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR to the address listed below:

Standard Mail	FedEx/UPS/ Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified will not be accepted unless they follow the exact same format of EPA form 3320-1.

**D. Other Reports**

1. **Progress Reports.** As specified in the compliance time schedules required in Special Provisions VI, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

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

Special Provision	Reporting Requirements
Electrical Conductivity (EC) and pH Study (Special Provisions VI.C.2.b)	1 June, annually, after approval of work plan until final compliance

2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. This does not apply to online analyzers used for continuous monitoring.
3. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.
4. **Annual Operations Report.** By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:
  - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

- b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
  - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration. Flow meters must be certified by an independent company.
  - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
  - e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.
5. **Annual Pretreatment Reporting Requirements.** The Discharger shall submit annually a report to the Regional Water Board, with copies to US EPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months. In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

An annual report shall be submitted by **28 February** and include at least the following items:

- a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling, or grab samples, as appropriate, of the POTW's influent and effluent for those pollutants EPA has identified under Section 307(a) of the CWA which are known or suspected to be discharged by industrial users.

Sludge shall be sampled and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over a 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for non-priority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows or suspects were caused by industrial users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements.
- c. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The Discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
  - i. complied with baseline monitoring report requirements (where applicable);
  - ii. consistently achieved compliance;
  - iii. inconsistently achieved compliance;
  - iv. significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
  - v. complied with schedule to achieve compliance (include the date final compliance is required);
  - vi. did not achieve compliance and not on a compliance schedule; and
  - vii. compliance status unknown.

A report describing the compliance status of each industrial user characterized by the descriptions in items iii. through vii. above shall be submitted for each calendar quarter **by the first day of the second month following the end of the quarter**. The report shall identify the specific compliance status of each such industrial user and shall also identify the compliance status of the POTW with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report shall be included as part of the annual report.

This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users. The summary shall include:
  - i. the names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
  - ii. the conclusions or results from the inspection or sampling of each industrial user.
- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
  - i. Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.
  - ii. Administrative orders regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iii. Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iv. Criminal actions regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - v. Assessment of monetary penalties. For each industrial user identify the amount of the penalties.
  - vi. Restriction of flow to the POTW.
  - vii. Disconnection from discharge to the POTW.
- g. A description of any significant changes in operating the pretreatment program which differ from the information in the Discharger's approved Pretreatment Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

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

State Water Resources Control Board  
Division of Water Quality  
P.O. Box 944213  
Sacramento, CA 94244-2130

and the

Regional Administrator  
U.S. Environmental Protection Agency W-5  
75 Hawthorne Street  
San Francisco, CA 94105

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

<b>WDID</b>	5A480105002
<b>Discharger</b>	City of Vacaville
<b>Name of Facility</b>	Easterly Wastewater Treatment Plant
<b>Facility Address</b>	6040 Vaca Station Road
	Elmira, CA 95625
	Solano County
<b>Facility Contact, Title and Phone</b>	Mr. David Tompkins, Assistant Public Works Director, (707) 469-6400
<b>Authorized Person to Sign and Submit Reports</b>	Mr. David Tompkins, Assistant Public Works Director
<b>Mailing Address</b>	650 Merchant Street, Vacaville, Ca 95688
<b>Billing Address</b>	SAME as mailing
<b>Type of Facility</b>	POTW
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	Category 1
<b>Complexity</b>	Category A
<b>Pretreatment Program</b>	Y
<b>Reclamation Requirements</b>	N/A
<b>Facility Permitted Flow</b>	15 mgd Average Dry Weather Flow (ADWF)
<b>Facility Design Flow</b>	15 mgd (ADWF)
<b>Watershed</b>	Vaca Mountains
<b>Receiving Water</b>	Old Alamo Creek and New Alamo Creek
<b>Receiving Water Type</b>	Tributaries to the Sacramento-San Joaquin Delta

A. The City of Vacaville (hereinafter Discharger) is the owner and operator of the Easterly Wastewater Treatment Plant (hereinafter Facility), a POTW.

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

- B. The Facility discharges wastewater to Old Alamo Creek tributary to New Alamo Creek, tributary to the Sacramento-San Joaquin River Delta, all waters of the United States, and is currently regulated by Order 5-01-044 which was adopted on 15 March 2001 and expired on 1 March 2006. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 1 September 2005. Site visits were conducted on 30 November 2006 and 22 August 2007, to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

The Discharger provides sewerage service to the City of Vacaville and for the unincorporated community of Elmira and serves a population of approximately 96,735. The Facility's average dry weather flow (ADWF) design capacity is 15 mgd.

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

The Facility consists of two parallel treatment plants, the existing North Plant and the newly constructed South Plant. The treatment system at the North Plant consists of bar screens, grit removal, primary clarifiers, activated sludge aeration basins, and secondary clarifiers with nitrification capacity of 6 mgd ADWF. The new South Plant that was commissioned in November 2004 consists of headworks, primary sedimentation basins, aeration basins, secondary circular clarifiers, a chlorination contact chamber and dechlorination facilities. Secondary effluent from the North Plant is disinfected at the South Plant. Sludge is anaerobically digested, dewatered using a belt filter press. Dried biosolids are hauled to the B&J Landfill. The North Plant was designed for 10 mgd ADWF but derated to 6 mgd because of nitrification capacity, and 27 mgd daily peak wet weather flow (PWWF) with primary effluent by-pass to disinfection for flows above 17 mgd. Improvements to the North Plant were completed December 2006. The new South Plant was designed to handle 9 mgd ADWF. Therefore, the designed flow for both plants in operation is 15 mgd ADWF and 55 mgd PWWF with primary effluent by-pass to disinfection for flows above 39 mgd (as limited by secondary treatment capabilities).

## B. Discharge Points and Receiving Waters

1. The Facility is located in Section 19, T6N, R1E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Treated municipal wastewater is discharged at Discharge Point 001 to Old Alamo Creek, at a point Latitude 38°, 20', 48" N and longitude 121°, 54', 06". Old Alamo Creek is a water of the United States, and *tributary to New Alamo Creek, which is tributary to a section of Ulatis Creek found within the legal boundaries of the Sacramento-San Joaquin River Delta.*

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

After adoption of the previous NPDES permit, Order No. 5-01-044, by the Regional Water Board in March 2001, the Discharger petitioned the adopted Order to the State Water Board. The State Water Board held a three day hearing September 2001 and adopted Water Quality Order WQO 2002-0015 in October 2002. The major issues of the petition were regarding the tributary rule and beneficial use designations; beneficial uses of Old Alamo Creek; Sources of Drinking Water Policy (State Water Board Resolution 88-63); disinfection requirements; bypass prohibition; and effluent, groundwater, and receiving water limitations. The Discharger and the California Association of Sanitation Agencies challenged WQO 2002-0015 in Superior Court.

WQO 2002-0015 stayed the copper effluent limit, chloroform effluent limit, receiving water temperature limit, receiving water ammonia limit, groundwater limitations, and compliance schedules for tertiary limits, until the Regional Water Board acted on the remand. Additionally, WQO 2002-0015 stayed for three years the compliance schedules for limits based on the COLD and MUN beneficial uses in Old Alamo Creek, including the effluent and receiving water dissolved oxygen limits, final biochemical oxygen demand effluent limits, chlorodibromomethane effluent limits, dichlorobromomethane effluent limits, and chloroform effluent limits.

The Discharger's challenge to Order No. 5-01-044 is still being litigated in the Contra Costa County Superior Court, *City of Vacaville v. State Water Resources Control Board* (Contra Costa County Case No. CIV MSN 03-0956).

Since the adoption of Order No. 5-01-044, the Basin Plan was amended to de-designate the COLD and MUN beneficial uses in Old Alamo Creek. This Order reflects the changes in beneficial uses of Old Alamo Creek. The Discharger, Regional Water Board, State Water Board, and USEPA are working to determine the beneficial uses of New Alamo Creek. In addition, the Discharger has requested the State Water Board to grant an exception to implementation of the dichlorobromomethane and chlorodibromomethane CTR criteria pursuant to Section 5.3 of the State Implementation Policy.

Effluent limitations/Discharge Specifications contained in the existing Order for discharges from 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

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

Parameter	Units	Effluent Limitation			Monitoring Data (From 1/2004 - To 5/2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
BOD*	mg/L	20	25	30	6.0		16
TSS*	mg/L	30	45	50	7.6		39.8
Total Coliform*	MPN/100ml	23 <sup>1</sup>		240			500
Dichlorobromomethane*	µg/L			23			43
Chlorodibromomethane*	µg/L			8.4			14
Chloroform*	µg/L			39			73
Oil & Grease	mg/L	10		15	<5	<5	<5
Antimony	µg/L			6.0			0.7

\* - Interim limitations, final limitations and/or compliance schedules stayed.

1. For total coliform, the effluent limitation is a monthly median

#### D. Compliance Summary

The City of Vacaville previously accrued MMPs that were assessed by ACLC No. R5-2004-0522 and ACLC No. 5-01-0521 for violations from 1 January 2000 to 31 March 2004 in the total amount of eighty-four thousand dollars (\$84,000). These cases are now closed. Most violations were for chlorine residual, settleable solids, total coliform and pH limits. Since April 2004, the City accrued similar effluent violations. Also, the influent monitoring structure had not operated for over three years in violation of the permit requirement to monitor influent flows. The influent monitoring structure, a flume, was installed as part of the recent construction project to expand the treatment plant but was not providing consistent flow measurement. The flume was modified and has been providing influent flow measurements since October 2007. The City has provided documentation that these interim modifications have resulted in accurate, reliable and repeatable influent flow measurements. Further, the City has taken appropriate actions to ensure that permanent modifications will be completed by end of summer 2008.

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

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

**A. Legal Authority**

See Limitations and Discharge Requirements - Findings, Section II.C.

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

See Limitations and Discharge Requirements - Findings, Section II.E.

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

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006)*, for the Sacramento and San Joaquin River Basins (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The beneficial uses of the Sacramento-San Joaquin River Delta which includes the section of Ulatis Creek downstream of the discharge are municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, water contact recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, wildlife habitat, and navigation.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*" and with respect to disposal of wastewaters states that "*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

This Order contains Effluent Limitations requiring a tertiary level of treatment, or equivalent, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements, as discussed in more detail in the Fact Sheet, Attachment F, Section IV.C.3.t.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. However, the immediate receiving waters do not fall under an estuary or enclosed bay, therefore the thermal plan is not applicable to this discharge.
3. **Bay-Delta Plan.** The *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) was adopted in December 13, 2006, superceding both the May 1995, by the State Water Board and the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

The Bay-Delta Plan attempts to create a management plan that is acceptable to the stakeholders while at the same time is protective of beneficial uses of the San Joaquin River and Sacramento River in the Bay Delta Estuary. The State Water Board adopted Decision 1641 (D-1641) on December 29, 1999. D-1641 implements flow objectives for the Bay-Delta Estuary; approves a petition to change points of diversion of the Central Valley Project and the State Water Project in the Southern Delta; and approves a petition to change places of use and purposes of use of the Central Valley Project.

4. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water (surface and groundwater) quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.) the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.
5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the