

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2013-XXXX

FOR  
CALAVERAS COUNTY WATER DISTRICT  
LA CONTENTA WASTEWATER TREATMENT FACILITY  
CALAVERAS COUNTY

This Monitoring and Reporting Program (MRP) presents requirements for monitoring of wastewater influent, effluent, storage pond, groundwater and water supply. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Central Valley Water Board staff shall approve specific sampling locations prior to any sampling activities. All samples shall be representative of the volume and nature of the discharge. The time, date, and location of each sample shall be recorded on the sample chain of custody form.

Field testing instruments (such as those used to test pH, wind speed, precipitation and electrical conductivity) may be used provided that:

- 1 The operator is trained in proper use and maintenance of the instruments;
- 2 The instruments are calibrated prior to each monitoring event;
- 3 The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency;
- 4 Field calibration reports are submitted as described in the "Reporting" section of this MRP.

**INFLUENT MONITORING**

Samples of influent wastewater shall be collected at approximately the same time as effluent samples and should be representative of the influent flow to the treatment plant. At a minimum, influent monitoring shall consist of the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	mgd	Meter Observation	Daily	Monthly
BOD <sub>5</sub> at 20° C	mg/L	Grab	Monthly	Monthly

### EFFLUENT MONITORING

Effluent samples shall be collected at the locations shown on Attachment C. Effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Turbidity <sup>1</sup>	NTU	Meter	Continuous <sup>3</sup>	Monthly
Total Coliform Organisms <sup>2,4</sup>	MPN/100 mL	Grab	Daily <sup>5</sup>	Monthly
BOD <sub>5</sub> <sup>2</sup>	mg/L	Grab	Weekly	Monthly
Total Dissolved Solids <sup>2</sup>	mg/L	Grab	Monthly	Monthly
Total Nitrogen <sup>6</sup>	mg/L	Grab	Monthly	Monthly
pH <sup>2</sup>	Standard	Grab	Monthly	Monthly

<sup>1</sup> Samples shall be obtained upstream of the UV system as shown on Attachment C.

<sup>2</sup> Samples shall be obtained after UV disinfection and before discharge into the Lower Pond as shown on Attachment C.

<sup>3</sup> For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

<sup>4</sup> Using a minimum of 15 tubes or three dilutions.

<sup>5</sup> Monday through Saturday.

<sup>6</sup> Samples shall be collected in both the Lower and Upper Ponds as shown on Attachment C.

### ULTRAVIOLET LIGHT (UV) DISINFECTION SYSTEM MONITORING

The UV disinfection system shall be monitored as specified below:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Flow	mgd	Meter	Continuous <sup>1</sup>	Monthly
Number of UV Banks in Operation	Number	Observation	Continuous <sup>1</sup>	Monthly
UV Transmittance	Percent (%)	Meter	Continuous <sup>1</sup>	Monthly
UV Power Setting	Percent (%)	Meter	Continuous <sup>1</sup>	Monthly
UV Dose <sup>2</sup>	mJ/cm <sup>2</sup>	Calculated	Continuous <sup>1</sup>	Monthly

<sup>1</sup> For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

<sup>2</sup> Report daily minimum UV dose, daily average UV dose, and weekly average UV dose. For the daily minimum UV dose, also report associated number of banks, gallons per minute per lamp, and UV transmittance used in the calculation. If effluent discharge has received less than the minimum UV dose, report the duration and dose calculation variables associated with each incident.

### STORAGE POND MONITORING

Each of the effluent storage ponds shall be monitored as specified below:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
pH	pH units	Grab	Weekly	Monthly
Freeboard	0.1 feet	Observation	Weekly	Monthly
Berm Seepage <sup>2</sup>	NA	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Algae	--	Observation	Weekly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet.

<sup>2</sup> Pond containment berms and the dams shall be observed for signs of seepage or surfacing water along the exterior toe. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

### GROUNDWATER MONITORING

Groundwater samples shall be collected from existing groundwater monitoring wells UR-1, UR-2, UR-3, LR-1, LR-2 and LR-3 and any well subsequently installed under direction of the Central Valley Water Board. The compliance wells are UR-1, UR-2, UR-3, LR-2 and LR-3.

Prior to any sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 feet. Sample collection and laboratory analysis shall follow standard EPA procedures. Each groundwater monitoring well shall be monitored at least for the following:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling and Reporting Frequency</u>
Groundwater Elevation <sup>1</sup>	± 0.01 feet	Measured	Semi-annually <sup>2</sup>
Depth to groundwater	± 0.01 feet	Measured	Semi-annually <sup>2</sup>
Gradient	feet/feet	Calculated	Semi-annually <sup>2</sup>
Gradient Direction	degrees	Calculated	Semi-annually <sup>2</sup>
Total Coliform Organisms	MPN/100 mL	Grab	Semi-annually <sup>2</sup>
Total Dissolved Solids	mg/L	Grab	Semi-annually <sup>2</sup>
Nitrate as Nitrogen	mg/L	Grab	Semi-annually <sup>2</sup>

<sup>1</sup> Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

<sup>2</sup> Samples shall be collected in the first and third quarters of each year.

### WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Sampling and Reporting Frequency</u>
Electrical Conductivity <sup>1</sup>	µmhos/cm	Annually
Total Dissolved Solids	mg/L	Annually
pH	pH units	Annually
Standard Minerals <sup>2</sup>	mg/L	Annually

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

<sup>2</sup> Standard Minerals shall include, at a minimum, the following elements/compounds: barium, boron, calcium, chloride, iron, magnesium, manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

### SLUDGE AND/OR BIOSOLIDS MONITORING

Sludge and/or biosolids monitoring shall be conducted as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4) at the following frequency, depending on volume of sludge generated and removed from the wastewater treatment system:

<u>Volume Generated (dry metric tons/year)</u>	<u>Frequency</u>
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (six samples per year)
Greater than 15,000	Monthly

Sludge and/or biosolids samples shall be analyzed to determine the total concentration in mg/Kg for the following constituents:

Arsenic	Lead	Nickel
Cadmium	Mercury	Selenium
Copper	Molybdenum	Zinc
Total Nitrogen	Total Solids	

Sludge and/or biosolids monitoring records shall be retained for a minimum of five years in accordance with 40 CFR, Part 503.17. A log shall be kept of sludge quantities generated and of handling, application, and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis to report sludge monitoring.

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogen reduction levels by one of the methods listed in 40 CFR, Part 503.32, and shall

maintain records of the operational parameters used to comply with the Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

### A. Monthly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Monthly total and average daily influent flows;
2. Results of influent, effluent, UV disinfection, and storage pond monitoring, including calculation of the 7-day median total coliform results for each day of the month;
3. The duration and volume of wastewater diverted to the Upper Pond for each event;
4. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
5. If requested by staff, copies of laboratory analytical report(s); and
6. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

### B. Semi-Annual Groundwater Monitoring Reports

Semi-annual monitoring reports shall be submitted to the Central Valley Water Board by the **1<sup>st</sup> day of August** (for the first six months of the year) and the **1<sup>st</sup> day of February** (for the last six months of the year). The Semi-Annual Monitoring Reports shall include the following:

1. Results of groundwater monitoring for all monitoring and sampling events during the last six months;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, determination of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. Summary data tables and graphs of historical and current water table elevations and analytical results;
5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
6. Copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Report**

An Annual Report shall be submitted to the Regional Board by **1 February** each year. The Annual Report shall include the following:

1. The results from annual monitoring of water supply;
2. Average dry weather influent flow for the year, and total annual influent flow for the year; and a comparison of these results to the influent flow limitations of this Order;
3. A digital database (Microsoft Excel) containing historic groundwater and effluent data;
4. An evaluation of the performance of the WWTF, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and a forecast of the flows anticipated in the next year;
5. The results of sludge and/or biosolids monitoring for the calendar year, including:
  - a. The amount of sludge generated that year and the amount accumulated on site at the end of the calendar year (in dry tons).
  - b. For biosolids, documentation of pathogen reduction methods and vector attraction reduction methods employed, as required in 40 CFR Parts 503.17 and 503.27.
  - c. A description of disposal methods, including the following information. If more than one method was used, include the amount of sludge disposed of by each

method in dry tons.

- i. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
  - ii. For off-site land application, include: the name and location of the site, and the Order number of any WDRs that regulate it.
  - iii. For incineration, include: the name and location of the incineration facility.
  - iv. For off-site composting, include: the name and location of the facility, and the Order number of any WDRs that regulate it.
6. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs; and
  7. An evaluation of the groundwater quality beneath the site and determination of whether any groundwater limitations were exceeded in any compliance well at any time during the calendar year. This shall be determined by comparing the annual average concentration for each monitored constituent in each compliance well during the calendar year to the groundwater limitations.

A transmittal letter shall accompany each self-monitoring report. The letter shall include a discussion of all violations of the WDRs or this MRP during the reporting period and actions taken or planned for correcting each violation. If the Discharger has previously submitted a report describing corrective actions taken and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. Pursuant to Section B.3 of the Standard Provisions and General Reporting Requirements, the transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent certifying under penalty of perjury that the report is true, accurate and complete to the best of the signer's knowledge.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by:

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PAMELA C. CREEDON, Executive Officer

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(Date)