

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-XXXX  
FOR  
CITY OF SANGER  
DOMESTIC WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 10.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
<b>INF-001</b>	Location where a representative sample of the WWTF's influent can be obtained prior to any additives, treatment processes, and plant return flow.
<b>EFF-001</b>	Location where a representative sample of the WWTF's effluent can be obtained prior to discharge into the Lincoln Ponds.
<b>MW-1 through MW-6</b>	Groundwater Monitoring Wells MW-1 through MW-6 and any other wells added to the groundwater monitoring network.
<b>SPL-001</b>	Location where a representative sample of the City's water supply can be obtained.

### INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks at INF-001. Influent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Continuous	pH	pH Units	Meter
Twice Monthly	BOD <sub>5</sub>	mg/L	24-hour composite
Twice Monthly	TSS	mg/L	24-hour composite
Monthly	Monthly Average Daily Flow	mgd	Computed

### EFFLUENT MONITORING

The Discharger shall monitor treated effluent at EFF-001 as follows. Effluent samples shall be representative of the volume and nature of the discharges. Time of collection of the samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	24-hour composite
Twice Monthly	EC	umhos/cm	24-hour composite
Twice Monthly	BOD <sub>5</sub>	mg/L	24-hour composite
Twice Monthly	TSS	mg/L	24-hour composite
Twice Monthly	Nitrate as nitrogen	mg/L	24-hour composite

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Twice Monthly	TKN	mg/L	24-hour composite
Twice Monthly	Total Nitrogen	mg/L	Computed
Twice Monthly	Ammonia	mg/L	24-hour composite
Annually	Boron	mg/L <sup>1</sup>	24-hour composite
Annually	Arsenic	mg/L <sup>1</sup>	24-hour composite
Annually	Cadmium	mg/L <sup>1</sup>	24-hour composite
Annually	Copper	mg/L <sup>1</sup>	24-hour composite
Annually	Lead	mg/L <sup>1</sup>	24-hour composite
Annually	Manganese	mg/L <sup>1</sup>	24-hour composite
Annually	Mercury	mg/L <sup>1</sup>	24-hour composite
Annually	Molybdenum	mg/L <sup>1</sup>	24-hour composite
Annually	Nickel	mg/L <sup>1</sup>	24-hour composite
Annually	Selenium	mg/L <sup>1</sup>	24-hour composite
Annually	Zinc	mg/L <sup>1</sup>	24-hour composite
Annually	General Minerals	mg/L <sup>1</sup>	24-hour composite

<sup>1</sup> mg/L or ug/L, as appropriate.

### **POND MONITORING**

Effluent pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly <sup>1</sup>	DO	mg/L <sup>2</sup>	Grab
Weekly	Freeboard	Feet <sup>3</sup>	Observation

<sup>1</sup> Measured between 8:00 and 9:00 am on the day of sample collection

<sup>2</sup> DO sample collected from within the upper one foot of all wastewater ponds containing effluent opposite the pond inlets.

<sup>3</sup> To nearest tenth of a foot

Permanent markers (e.g., staff gauges) shall be placed in storage ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard.

The Discharger shall inspect the condition of the storage ponds once per week and write visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether dead algae, vegetation, scum, or debris are accumulating on the storage pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark green, dull green, yellow, gray, tan, brown, etc.).

### **GROUNDWATER MONITORING**

After measuring water levels and prior to collecting samples, each monitoring well (MW-1 through MW-6) shall be adequately purged to remove water that has been standing within the

well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of the standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Network, and any additional wells installed pursuant to this MRP, for the following:

<u>Frequency<sup>1</sup></u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly/Semiannual	Depth to Groundwater	Feet <sup>2</sup>	Measured
Quarterly/Semiannual	Groundwater Elevation	Feet <sup>3</sup>	Computed
Quarterly/Semiannual	pH	pH Units	Grab
Quarterly/Semiannual	EC	umhos/cm	Grab
Quarterly/Semiannual	Nitrate as nitrogen	mg/L	Grab
Quarterly/Semiannual	TKN	mg/L	Grab
Quarterly/Semiannual	Ammonia	mg/L	Grab
Quarterly/Semiannual	Total Nitrogen	mg/L	Computed
Quarterly/Semiannual	General Minerals	mg/L	Grab

1. Newly installed groundwater monitoring wells will be sampled quarterly for a period of one year, and semiannually (twice/year) after 4 quarters of sampling data have been collected. If existing wells re-water due to a rise in the groundwater table, they shall be monitored semiannually.
2. To the nearest hundredth of a foot.
3. To the nearest hundredth of a foot above Mean Sea Level.

### SOURCE WATER MONITORING

The Discharger shall monitor its source water, collect samples at SPL-1, and analyze them for the specified constituents shown on the following table.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	EC	mg/L	Computed average
Annually	General Minerals	mg/L	Computed average

### SLUDGE/BIOSOLIDS MONITORING

Sludge and/or biosolids shall be sampled for the following constituents:

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

Monitoring shall be conducted as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The constituents listed above shall be monitored at the following frequency, depending on volume of sludge generated:

<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

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.

The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

### **INDUSTRIAL PRETREATMENT PROGRAM MONITORING**

The Discharger shall submit an annual report to the Central Valley 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, the Discharger shall include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements. This annual report shall be submitted by 28 February and shall contain, but not limited to items E.7.a through E.7.j of Standard Provisions dated 1 March 1991 (Standard Provisions).

In addition to the information required in the annual report, the Discharger shall report quarterly the information in E.7.d (1) through (7) of Standard Provisions. Quarterly reports shall also describe progress towards compliance with audit or pretreatment compliance inspection requirements. Quarterly reports shall be submitted by 1st day of the second month following the end of each quarter. The fourth quarterly report may be included as part of the annual report. If none of the aforementioned conditions exists, at a minimum, the Discharger must submit a letter certifying that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter.

### **REPORTING**

All monitoring results shall be reported in **Quarterly Monitoring Reports**, which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

- First Quarter Monitoring Report: **1 May**
- Second Quarter Monitoring Report: **1 August**

Third Quarter Monitoring Report: **1 November**

Fourth Quarter Monitoring Report: **1 February.**

**A transmittal letter shall accompany each monitoring report.** The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The following information is to be included on all monitoring reports, as well as report transmittal letters:

City of Sanger  
Sanger Domestic WWTF  
MRP Order R5-2014-XXXX  
Chief Plant Operator  
Phone Number  
E-Mail Address

In reporting 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 that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. Monitoring data or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. If the chief plant operator is not in direct line of supervision of the laboratory function for a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

**A. All Quarterly Monitoring Reports** shall include the following:

**Wastewater Reporting:**

1. The results of influent and effluent monitoring specified on pages 2 and 3.
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each month of the quarter, calculation of the 12-month rolling average EC of the discharge using the EC value for that month averaged with the EC values for the previous 11 months.
4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.
5. A summary of the notations made in the pond monitoring log during each quarter. The entire contents of the log for the reporting period do not need to be submitted.

**Pond Monitoring Reporting**

1. The results of the monitoring specified on page 3.

**Groundwater Reporting:**

1. The results of groundwater monitoring specified on pages 3 and 4.
2. For each monitoring well, a table showing constituent concentrations for the last five quarters, up through the current quarter.
3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow under/around the facility and/or effluent disposal area(s). The map shall also include the locations of monitoring wells and wastewater storage and discharge areas.

**Source Water Reporting**

1. For each quarter, calculation of average EC of the source water for the most recent four quarters.

**Pretreatment Reporting**

1. For each quarter, a report describing the compliance status of any industrial user per the requirements of item E.7.d of the Standard Provisions.

**B. Fourth Quarter Monitoring Reports**, in addition to the above, shall include the following:

**Wastewater Treatment Facility Information:**

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal.
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.
3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).
4. A statement whether the current operation and maintenance manual, sampling plan, nutrient management plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

**Sludge/Biosolids** sampling records shall be retained for a minimum of five years. 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. Sludge reporting shall include:

1. The results of sludge monitoring specified on page 4.
2. The amount of sludge generated that year, in dry metric tons, and the amount accumulated from previous years.
3. Demonstrations of pathogen reduction methods and vector attraction reduction methods, as described in 40 CFR Parts 503.17 and 503.27, and certifications.
4. A description of disposal methods, including the following information related to the disposal methods used at the WWTF. If more than one method is used, include the percentage of sludge production disposed of by each method.
  - a. For landfill disposal, include: the name and location of the landfill receiving the sludge, and the Order number of WDRs that regulate it.
  - b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
  - c. For incineration, include: the name and location of the site where sludge incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
  - d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

### **Pretreatment Information**

1. A discussion of Upset, Interference, or Pass Through incidents, if any, at the Domestic WWTF which the Discharger knows or suspects were caused by industrial users of the system.
2. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
3. 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.
4. 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.
5. 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:
  - a. Warning letters or notices of violation regarding the industrial user's 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;
  - b. Administrative Orders regarding the industrial user's 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;
  - c. Civil actions regarding the industrial user's 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;
  - d. Criminal actions regarding the industrial user's 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;
  - e. Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
  - f. Restriction of flow to the treatment plant; or
  - g. Disconnection from discharge to the treatment plant.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by:

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PAMELA C. CREEDON, Executive Officer

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(Date)

## GLOSSARY

BOD <sub>5</sub>	Five-day biochemical oxygen demand		
CBOD	Carbonaceous BOD		
DO	Dissolved oxygen		
EC	Electrical conductivity at 25° C		
FDS	Fixed dissolved solids		
NTU	Nephelometric turbidity unit		
TKN	Total Kjeldahl nitrogen		
TDS	Total dissolved solids		
TSS	Total suspended solids		
Continuous	The specified parameter shall be measured by a meter continuously.		
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.		
Daily	Samples shall be collected every day.		
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.		
Weekly	Samples shall be collected at least once per week.		
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.		
Monthly	Samples shall be collected at least once per month.		
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months		
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.		
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.		
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.		
mg/L	Milligrams per liter		
mL/L	Milliliters [of solids] per liter		
µg/L	Micrograms per liter		
µmhos/cm	Micromhos per centimeter		
mgd	Million gallons per day		
MPN/100 mL	Most probable number [of organisms] per 100 milliliters		
General Minerals	Analysis for General Minerals shall include at least the following:		
	Alkalinity	Chloride	Sodium
	Bicarbonate	Hardness	Sulfate
	Calcium	Magnesium	TDS
	Carbonate	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance.