

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-XXXX

FOR  
CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION  
CALIFORNIA DEPARTMENT OF FORESTRY FIRE ACADEMY  
MULE CREEK STATE PRISON  
AMADOR COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code 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.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified otherwise in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges, and groundwater.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions). Field test instruments (such as those used to measure pH electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided that:

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

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *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/AWWAWEF); 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 (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

### WASTEWATER TRANSMISSION LINE

The California Department of Forestry Fire Academy shall monitor the collection system and wastewater pipeline on its property on a monthly basis for pipe anomalies, cracks, overflows, or leaks. A copy of all monitoring inspections shall be submitted to California Department of Corrections and Rehabilitation (CDCR) and shall be included in the CDCR's monthly reports to the Central Valley Water Board.

### INFLUENT MONITORING

Influent monitoring shall include, at a minimum, the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Meter Observation	Continuous	Monthly
BOD <sub>5</sub> <sup>1</sup>	mg/L	Grab	Monthly	Monthly

<sup>1</sup> 5-day biochemical oxygen demand.

### EFFLUENT MONITORING

CDCR shall collect effluent samples immediately downstream from the last connection through which wastes can be admitted to the storage reservoirs and/or land application areas, but prior to these facilities. At a minimum, effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flows <sup>1</sup>	gpd	Meter Observation	Continuous	Monthly
Total Coliform Organisms <sup>2</sup>	MPN /100 mL	Grab	Weekly	Monthly
BOD <sub>5</sub>	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Nitrate Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
pH	Standard	Grab	Monthly	Monthly
Volatile Organic Compounds <sup>3</sup>	µg/L	Grab	Monthly	Monthly
Standard Minerals <sup>4</sup>	mg/L	Grab	Annually	Annually

- <sup>1</sup> Flows sent to Preston Reservoir, Effluent Storage Reservoir and each LAAs, respectively.
- <sup>2</sup> Using a minimum of 15 tubes or three dilutions
- <sup>3</sup> Volatile Organic Compounds shall include benzene, acetone, and toluene.
- <sup>4</sup> Standard minerals shall include, at a minimum, the following elements/compounds: arsenic, boron, calcium, dissolved iron, magnesium, dissolved manganese, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

### EFFLUENT STORAGE RESERVOIR MONITORING

CDCR shall collect samples from an established sampling station located in an area that will provide a sample representative of the wastewater in the effluent storage reservoir. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of the storage reservoir shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Monitoring E quency</u>	<u>Reporting Fr equency</u>
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
pH	Standard	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Levee Condition	--	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> Containment levees shall be observed for signs of seepage or surfacing water along the exterior toe of the levees. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

### LAND APPLICATION AREA MONITORING

CDCR shall monitor the LAAs on an **hourly basis** when the LAAs are used. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in a daily log and be submitted with the monthly monitoring reports. If the LAAs are not used, then the monthly monitoring reports shall state so. Effluent monitoring results shall be used in calculations to ascertain loading rates at the LAAs. Monitoring of the LAAs shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow to Each LAA <sup>1</sup>	gpd	Meter observation	Daily	Monthly
Acreage Applied <sup>1</sup>	acres	Calculated	Daily	Monthly
Water Application Rate <sup>2</sup>	inches/day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate <sup>2</sup>	lbs./ac/mont	Calculated	Monthly	Monthly
Rainfall <sup>3</sup>	inches	Observation	Daily	Monthly
Tailwater Runoff	--	Observation	Daily	Monthly

- <sup>1</sup> Specific LAAs shall be identified.
- <sup>2</sup> Calculated average for each LAA.

3. Rainfall data to be collected from the weather station that is nearest to the LAAs. Alternatively, a rain gauge may be installed at the site.

### **GROUNDWATER MONITORING**

CDCR shall conduct the following groundwater monitoring program. This groundwater sampling and analysis program applies to all groundwater monitoring wells installed at the site.

Prior to sampling, depth to groundwater measurements shall be measured in each monitoring well to the nearest 0.01 feet. Groundwater elevations shall then be calculated to determine groundwater gradient and flow direction. Monitoring wells to be sampled shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Samples shall be collected and analyzed using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Groundwater Elevation <sup>1</sup>	0.01 feet	Calculated	Quarterly	Quarterly
Depth to Groundwater	0.01 feet	Measurement	Quarterly	Quarterly
Gradient	feet/foot	Calculated	Quarterly	Quarterly
Gradient Direction	degrees	Calculated	Quarterly	Quarterly
pH	Standard	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Coliform Organisms <sup>2</sup>	MPN/100 mL	Grab	Quarterly	Quarterly
Volatile Organic Compounds <sup>3</sup>	µg/L	Grab	Quarterly	Quarterly
Trihalomethanes <sup>4</sup>	µg/L	Grab	Annually	Annually
Standard Minerals <sup>5</sup>	mg/L	Grab	Annually	Annually

<sup>1</sup> Groundwater elevations shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.  
<sup>2</sup> Using a minimum of 15 tubes or three dilutions.  
<sup>3</sup> VOCs samples only need to be collected at monitoring wells S-1 (replaced well), S-2, R-2, S-7W and S-7E. VOCs shall include benzene, acetone, and toluene.  
<sup>4</sup> Individual trihalomethane constituent concentrations shall be reported (EPA Method 8260B or equivalent).  
<sup>5</sup> Standard Minerals shall include, at a minimum, the following elements and compounds: arsenic, boron, calcium, chloride, dissolved iron, magnesium, dissolved manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness. Samples for metals shall be filtered prior to preservation and digestion using a 0.45-micron filter.

### **SOLIDS/SLUDGE DISPOSAL MONITORING**

CDCR shall keep records regarding the quantity of biosolids and residual sludge generated by the treatment processes; any sampling and analytical data; the quantity of biosolids and residual sludge stored on site; and the quantity removed for disposal. The records shall also

indicate the steps taken to reduce odor and other nuisance conditions. Records shall be stored onsite and available for review during inspections.

If biosolids are transported off-site for disposal, then the Discharger shall submit records identifying the hauling company, the amount of biosolids transported, the date removed from the facility, the location of disposal, and copies of all analytical data required by the entity accepting the waste. All records shall be submitted as part of the Annual Monitoring Report.

### WATER SUPPLY MONITORING

CDCR shall complete the following water supply monitoring. 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 for each water source used during the previous year. As an alternative to annual water supply monitoring, CDCR may submit results of the most current water supply monitoring data for Division of Drinking Water Program.

<u>Constituent</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/L	Annually	Annually
pH	pH units	Annually	Annually
Standard Minerals <sup>1</sup>	mg/L	Annually	Annually

<sup>1</sup>. Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, chloride, iron, magnesium, manganese, nitrate as nitrogen, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness. Include verification that the analysis is complete (i.e., cation/anion balance).

### REPORTING

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleysacramento@waterboards.ca.gov](mailto:centralvalleysacramento@waterboards.ca.gov).

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board  
ECM Mailroom  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, California 95670

Please include a transmittal sheet that includes the following:

Attention: Compliance/Enforcement Section  
California Department of Corrections and Rehabilitation  
Mule Creek State Prison Wastewater Treatment Plant  
Amador County  
Place ID: 241842

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., 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 in the next scheduled monitoring report.

Laboratory analysis reports do not need to be included in the monitoring reports; however, all laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

In addition to the requirements of 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.

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 professional engineer or geologist and signed by the registered professional.

#### **A. Monthly Monitoring Reports**

CDCR shall submit Monthly Monitoring Reports to the Central Valley Water Board by the **1<sup>st</sup> day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March). At a minimum, the reports shall include:

1. Results of the collection system, pump stations, wastewater transmission line, influent, effluent, storage reservoir, and land application area monitoring;
2. Copies of inspection logs;
3. A comparison of the monitoring data to the discharge specifications and an explanation of any violation of those requirements;
4. If requested by staff, copies of laboratory analytical report(s);and

5. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program.

## **B. Quarterly Monitoring Reports**

CDCR shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarter is due by May 1<sup>st</sup>) each year. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and sample handling for groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDRs, 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; sample preparation (e.g., filtering); and sample preservation.
3. Calculation of the groundwater elevation at each monitoring well, and determination of groundwater flow direction and gradient on the date of measurement.
4. Summary data tables 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, surface waters, and groundwater elevation contours referenced to an appropriate datum (e.g., NGVD).
6. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements.
7. Copies of laboratory analytical report(s) for groundwater monitoring.

## **C. Annual Monitoring Reports**

CDCR shall submit an Annual Monitoring Report to the Central Valley Water Board by **1 February** of each year. This report shall be submitted separately from monthly and quarterly monitoring reports. The Annual Report shall include the following:

1. The annual total influent flow and average dry weather influent flow for the year; and a comparison of these results to the flow limitations of this Order;

2. Summary of the monthly and annual total effluent flow discharged to the LAAs and the ARSA system;
3. An evaluation of the wastewater quality and comparison to the groundwater quality. Determination of whether the results reveal a previously unidentified threat to water quality or indicate a change in waste character such that the discharge poses a threat to water quality. This shall be determined by comparing the annual average concentration of the effluent quality during the calendar year to the corresponding concentration of the groundwater.
4. A digital database (Microsoft Excel) containing historic groundwater, influent and effluent data;
5. Concentration vs. time graphs for each monitored constituent using all historic groundwater monitoring data. Each graph shall show the background groundwater concentration range and the Groundwater Limitation as horizontal lines at the applicable concentration;
6. An evaluation of the groundwater quality beneath the site and determination of Compliance with Groundwater Limitations of the WDRs based on statistical analysis for each constituent monitored for each downgradient well. Include all calculations and data input/analysis tables derived from use of statistical software as applicable;
7. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
8. A discussion of the following:
  - a. Waste constituent reduction efforts implemented in accordance with any required workplan;
  - b. Other treatment or control measures implemented during the calendar year either voluntarily or pursuant to the WDRs, this MRP, or any other Order;
  - c. Based on monitoring data, an evaluation of the effectiveness of the treatment or control measures implemented to date.
9. A discussion of any data gaps and potential deficiencies or redundancies in the monitoring system or reporting program.
10. A forecast of influent flows predicted for the next year.
11. Summary of information on the disposal of sludge and/or solid waste, including the quantity, disposal locations and dates, and the hauler names; and
12. Monitoring equipment maintenance and calibration records, as described in Standard Provision C.4.

A transmittal letter shall accompany each monitoring report. The letter shall include a discussion of all violations of the WDRs and 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: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

\_\_\_\_\_  
(Date)