CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 94-188 (REVISION 2)

FOR
SACRAMENTO COUNTY PUBLIC WORKS AGENCY
THE COURTLAND SANITATION DISTRICT
SACRAMENTO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring influent wastewater, treated effluent, wastewater ponds, groundwater, biosolids, and the domestic 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.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
3. 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 this MRP.

INFLUENT MONITORING

Influent flow monitoring shall be performed at the headworks. Samples shall be collected at approximately the same time as effluent samples. Influent monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Influent Flow	gpd	Meter	Daily	Monthly
Monthly Average Daily Flow	gpd	Calculated	Monthly	Monthly
BOD_5 [1]	mg/l	Grab	Monthly	Monthly

[1] 5-day Biochemical Oxygen Demand

POND MONITORING

Each of the wastewater treatment and percolation ponds shall be monitored for the parameters specified below:

Parameter	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Dissolved Oxygen [1]	mg/l	Grab	Weekly	Monthly
Freeboard [2]	0.1 feet	Measurement	Weekly	Monthly
pH	Std. units	Grab	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Levee condition [3]	--	Observation	Weekly	Monthly

1 Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

2 For any pond that contains an insignificant amount of water, the result may be reported as "dry".

3 Pond 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 when sampling is feasible.

EFFLUENT MONITORING

Effluent samples shall be collected before discharge to the percolation ponds. Effluent monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequenc	Reporting Frequency
BOD [1]	mg/l	Grab	Monthly	Monthly
Total Coliform Organisms [2]	MPN/100 ml [3]	Grab	Monthly	Monthly
Total Dissolved Solids	mg/l	Grab	Monthly	Monthly
Electrical Conductivity	umhos/cm	Grab	Monthly	Monthly
Sodium	mg/l	Grab	Monthly	Monthly
Chloride	mg/l	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/l	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab	Monthly	Monthly
pH	Standard	Grab	Monthly	Monthly
Standard Minerals [4]	mg/l	Grab	Annually	Annually

1 5-day biochemical oxygen demand.

2 Using a minimum of 15 tubes or three dilutions.

3 Most Probable Number.

4 Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three casing volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling and Reporting Frequency
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation [1]	0.01 feet	Calculated	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Gradient Direction	degrees	Calculated	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
Electrical Conductivity	umhos/cm	Grab	Quarterly
Nitrate as Nitrogen	mg/l	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly
pH	pH units	Grab	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly
Boron	mg/l	Grab	Quarterly
Chloride	mg/l	Grab	Quarterly
Iron	mg/l	Grab	Quarterly
Manganese	mg/l	Grab	Quarterly
Sodium	mg/l	Grab	Quarterly
Standard Minerals [2]	mg/l	Grab	Quarterly

[1] 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.

[2] Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

BIOSOLIDS MONITORING

When biosolids are removed from the ponds, then at least one composite sample of biosolids shall be collected in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

Cadmium	Copper	Nickel
Chromium	Lead	Zinc

Sampling and analysis 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.

WATER SUPPLY MONITORING

The water supply that provides domestic water for the community served by the wastewater treatment facility shall be sampled and tested. Routine drinking water monitoring reports developed by the water purveyor for submittal to the Department of Health Services can be submitted in lieu of sampling and analysis performed by the Discharger. If the Discharger elects to sample and analyze the water supply, 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:

Constituents	Units	Sampling Frequency
Electrical Conductivity (EC)[1]	µmhos/cm	Annually
pH	pH units	Annually
Nitrate nitrogen	mg/l	Annually
Standard Minerals [2]	mg/l	Annually

[1] 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.

[2] Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, total alkalinity (including alkalinity series), and hardness.

REPORTING

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 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 **1st 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. Results of influent, effluent, and pond;
2. 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;
3. If requested by staff, copies of laboratory analytical report(s); and
4. 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

The Discharger 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 Regional Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
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 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;
3. Calculation of groundwater elevations, an assessment 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. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. 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;
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

Beginning in **February 2008**, an Annual Report shall be prepared and submitted to the Regional Board by **1 February** each year. The Annual Report shall include all monitoring data required in the monthly/quarterly schedule. In addition, the Annual Report shall include the following:

1. The contents of the regular groundwater monitoring report for the last sampling event of the year;
2. If requested by staff, tabular and graphical summaries of all data collected during the year;
3. An evaluation of groundwater quality beneath the wastewater treatment facility;
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
6. A copy of the certification for each certified wastewater treatment plant operator working at the facility and a statement about whether the Discharger is in compliance with Title 23, CCR, Division 3, Chapter 26.
7. The results of effluent, groundwater, and water supply analyses performed annually (as set forth above);
8. A summary of information on the disposal of biosolids and/or solid waste;
9. The results from any biosolids monitoring required by the disposal facility; and
10. A forecast of influent flows, as described in Standard Provision No. E.4.

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 General Reporting Requirements Section B.3.

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

Ordered by: - Original Signed by -
PAMELA C. CREEDON, Executive Officer

18 January 2007
(Date)

ALO:1/18/07