



**California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair**



Linda S. Adams
Acting Secretary for
Environmental Protection

11020 Sun Center Drive, #200, Rancho Cordova, California 95670-6114
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Edmund G. Brown Jr.
Governor

3 June 2011

Mr. Gene Mancebo, General Manager
Amador Water Agency
12800 Ridge Road
Sutter Creek, CA 95685-9630

CERTIFIED MAIL
7010 1670 0002 0652 1145

NOTICE OF APPLICABILITY AMENDMENT NO. 1, WATER QUALITY ORDER NO. 97-10-DWQ, GAYLA MANOR WASTEWATER TREATMENT FACILITY, AMADOR COUNTY

On 16 February 2011 a Notice of Applicability (NOA) was issued to the Amador Water Agency (hereafter "Discharger") for Gayla Manor Wastewater Treatment Facility in accordance with State Water Resources Control Board Water Quality Order No. 97-10-DWQ. The Discharger was assigned No. 97-10-DWQ-R5064 for the discharge.

Based on the information provided in the 3 December 2009 Report of Waste Discharge, the original design estimates the percolation rate of Leachfield A to be about 2,800 gallons per day (gpd). It is necessary to amend the NOA to include a discharge limit for Leachfield A: the monthly average discharge of treated effluent to Leachfield A shall not exceed 2,800 gpd. The monthly average shall be calculated by dividing the total inflow for the month by the number of days in the month.

All other requirements of Water Quality Order No. 97-10-DWQ, the NOA, and Monitoring and Reporting Program No. 97-10-DWQ-R5064 remain in effect. The amended NOA is attached.

All monitoring reports, submittals, discharge notifications, and questions regarding compliance or enforcement should be directed to Ms. Mary Boyd at (916) 464-4676 or mboyd@waterboards.ca.gov. Questions regarding the NOA should be directed to Ms. Lixin Fu at (916) 464-4689 or lfu@waterboards.ca.gov.

Original Signed by Frederick Moss for

Pamela C. Creedon
Executive Officer

Enclosures: Amended Notice of Applicability

cc: Mr. Michael Israel, Amador County Environmental Health Department, Jackson

California Environmental Protection Agency





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Amended 3 June 2011

Mr. Gene Mancebo, General Manager
Amador Water Agency
12800 Ridge Road
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NOTICE OF APPLICABILITY, WATER QUALITY ORDER NO. 97-10-DWQ-R5064, GAYLA MANOR WASTEWATER TREATMENT FACILITY, AMADOR COUNTY

On 3 December 2009, the Amador Water Agency (hereafter "Discharger") submitted a Report of Waste Discharge (RWD) for Gayla Manor Wastewater Treatment Facility (hereafter "WWTF") in Amador County. Supplemental information updating the RWD was received in June and July 2010. The Discharger is currently in compliance with its existing Waste Discharge Requirements (WDRs) Order No. R5-2003-0182. The construction of a new leachfield (Leachfield B) was completed in September 2010 to meet the disposal capacity required by Cease and Desist Order (CDO) R5-2003-0169. The Discharger is not requesting an increase to the permitted influent limit for the WWTF.

Based on the information provided in the RWD and supplemental information, the treatment of 12,000 gallons per day (gpd) of domestic wastewater at Gayla Manor WWTF satisfies the general and specific conditions of State Water Resources Control Board (State Water Board) Water Quality Order No. 97-10-DWQ *General Waste Discharge Requirements for Discharges to Land by Small Domestic Wastewater Treatment Systems* (General Order). This letter serves as formal notice that General Order No. 97-10-DWQ is applicable to the site and the discharge described below. You are hereby assigned General Order No. 97-10-DWQ-R5064 for this facility. It is expected that WDRs Order No. R5-2003-0182 will be rescinded at the April 2011 Central Valley Regional Water Quality Control Board (Central Valley Water Board) meeting.

You are urged to familiarize yourself with the contents of the General Order. The facility must be operated in accordance with the requirements contained in this Notice of Applicability (NOA) and the General Order, with the information submitted in the RWD, and Monitoring and Reporting Program (MRP) No. 97-10-DWQ-R5064 as attached.

A copy of the General Order is enclosed. You can also find the General Order on the State Water Board's website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/1997/wq1997_10.pdf.

California Environmental Protection Agency



BACKGROUND

WDRs No. R5-2003-0182, adopted by the Central Valley Water Board on 5 December 2003, prescribes requirements for the wastewater discharge from Gayla Manor WWTF, and allows a monthly average dry weather inflow (ADWF) of 12,000 gpd.

The CDO was issued on 5 December 2003 due to a series of violations, including overflow of partially treated wastewater and failure to provide sufficient storage and disposal capacity.

The main requirements outlined in the CDO include: (1) a *Contingency Plan* describing the steps to be taken if the effluent storage reservoir encroaches within one foot of the two-foot freeboard requirement, (2) a report describing an evaluation of the sprayfield below the storage reservoir and the potential for subsurface flow of effluent from the sprayfield to enter the surface watercourse, (3) a *Facility Upgrade Plan* containing an evaluation of the WWTF and improvement proposals, and (4) groundwater sampling.

The Discharger has been making improvements to meet the CDO requirements including the construction of Leachfield B to increase the disposal capacity. In September 2009, the Discharger received a Small Community Wastewater Grant from the State Water Board for this purpose. According to the schedule in the grant agreement, the operation of Leachfield B was scheduled for November 2010. The Discharger stated that adding Leachfield B roughly doubled the disposal capacity of the WWTF. As part of the operational improvements, the reservoir will be drained completely before each wet season to prevent overflows from the reservoir to surface water, and to allow the facility to meet the ongoing storage capacity requirements. The Discharger is not requesting an increase in its influent flow limit.

Other improvements that the Discharger has completed are summarized below:

- (1) In 2005, improvements were made to the stormwater diversion ditches to prevent stormwater runoff from entering the effluent storage reservoir. In addition, the Discharger recently installed 340 feet of storm drain pipe on the north and northwest edge of the storage reservoir.
- (2) In 2005, repairs were made to the storage reservoir dam. Since then, the Discharger has not observed seepage through the dam face.
- (3) In August 2004, sprayfield sprinkler heads 26 through 31 were permanently removed from service to reduce the potential of subsurface flow of effluent to the surface watercourse.
- (4) From 2003 through 2006, extensive smoke testing of the wastewater collection system was done to determine the locations of inflow and infiltration (I&I). Repairs were made at all the locations where I&I was detected. Annual smoke testing continues as part of the Discharger's *Operation and Maintenance Manual and Facilities Upgrade Plan*. The Discharger states that the effluent rate has remained fairly constant for the past two years since the major I&I testing and repairs were conducted. Additionally, during winter

months, the Discharger covers the gravel filter beds to prevent direct rainfall from entering the WWTF.

To investigate the quality of groundwater, three monitoring wells were installed in May 2004. These wells will continue to be monitored in accordance with the attached MRP.

DISCHARGE DESCRIPTION

The WWTF is adjacent to the Gayla Manor subdivision and is off of Highway 88 approximately 2.5 miles southeast of Pine Grove in Amador County, in Section 2, T6N, R12E, MDB&M. The WWTF consists of facilities at two different locations: (a) the main treatment plant is on Assessor's Parcel Number 38-620-057, and (b) Leachfield B is on Assessor's Parcel Number 38-620-060. The site location is presented on Attachment A, which is part of this NOA.

The WWTF treats domestic wastewater for the rural community of Gayla Manor Subdivision. The community has 58 single family residences and six fourplexes with a total of 82 equivalent dwelling units (EDUs) and is currently at full build-out. The WWTF serves the existing subdivision, and there is no plan for future expansion or capacity increase. The Discharger owns and operates the WWTF. The collection system is a gravity and force main sewer system. The main treatment plant receives wastewater from 45 EDUs, and Leachfield B receives wastewater from 37 EDUs. The main treatment plant consists of two recirculating fine gravel filters, a recirculating tank, an effluent disinfection system utilizing liquid chlorine, Leachfield A, a storage reservoir, and spray disposal areas. A main treatment plant site plan is included in Attachment B, which is part of this NOA.

Leachfield B is located approximately 500 feet east of the main treatment plant, as shown in Attachment C, which is part of this NOA. The Leachfield B system consists of a pump station, filter tank, two dosing tanks and approximately 2,650 lineal feet of leach line. Wastewater sent to Leachfield B is not disinfected.

The main treatment plant was designed to treat up to 22,000 gpd of domestic wastewater. However, the WWTF does not have capacity to dispose of 22,000 gpd of wastewater. The water balance contained in the RWD shows that after the completion of Leachfield B, the WWTF will have adequate disposal capacity for a monthly average influent flow of 12,000 gpd for a 100-year return period annual precipitation event. Thus, this NOA contains a monthly average influent flow limit of 12,000 gpd.

Septic Tank and Wastewater Collection

Each residential parcel has a 1200-gallon septic tank and sewer line owned by the property owner; from the curb the wastewater is conveyed to either the main treatment facility or Leachfield B in a collection system, which is owned by the Discharger. The collection system is a combination of 2-inch to 6-inch polyvinyl chloride (PVC) gravity sewers, a force main and a pump station. The septic tanks are inspected by the Discharger at a minimum of once per year. If a septic tank requires cleaning, maintenance, or replacement, the Discharger notifies the property owner to complete the necessary work. If the property owner does not complete the work, the Discharger arranges for the work to be done and bills the property owner.

Wastewater from the collection system is divided between the main treatment plant and Leachfield B. The wastewater treatment process schematic is shown in Attachment D, which is part of this NOA.

Main Treatment Plant

Wastewater collected from 45 EDUs flows into a 10,000-gallon recirculation tank and two identical 3,000 square-foot recirculating fine gravel filters. Each filter is lined with 30-mil PVC and is covered during the winter months to prevent rainfall from entering the filters.

The treatment process has a power failure alarm, autodialer, and manually activated backup generator set. When power failure occurs, the gravel filters have an under-drain system that can store approximately 31,000 gallons of wastewater. Under design flows of 22,000 gpd, wastewater should flow through the gravel filters about four times before being diverted for disinfection.

Effluent disinfection is achieved by dosing with sodium hypochlorite. The design chlorine dose is approximately 10 mg/L. The 2,000-gallon chlorine contact basin is designed to provide 30 minutes of contact time at maximum effluent pumping rates. With typical daily average and peak flows, the actual chlorine contact times are most likely around 150 to 300 minutes. The disinfected treated wastewater is then discharged to the storage reservoir.

The storage reservoir was constructed in a small drainage course. Stormwater diversion ditches were constructed to direct stormwater around the reservoir. The locations of the diversion ditches are shown on Attachment B. The reservoir is unlined and has a storage capacity of 10.2 acre-feet excluding two feet of freeboard. The Discharger's revised water balance shows that the required maximum reservoir storage is 8.3 acre-feet for a monthly average influent flow of 12,000 gpd and 100-year return period annual precipitation.

The storage reservoir currently has two floating Spritzer Barges for wastewater disposal by evaporation. Each barge consists of a five-horsepower pump operating at 80 psi and thirteen spray nozzles rated at 5.66 gallons per minute each, mounted fifteen feet in the air. The spray nozzles operate 23 hours a day and are designed to automatically shut off when wind speeds exceed 30 miles per hour.

The disinfected effluent is pumped from the storage reservoir to either Leachfield A or sprayfields for disposal. The pump station is equipped with two pumps that can operate individually or together, and has a flow meter to monitor the flows being discharged to Leachfield A and sprayfields.

The sprayfields consist of five separate irrigation areas spread over roughly 4.75 acres of natural vegetation. The sprayfields are adjacent to, and below the storage reservoir. The sprayfields are on sloping land, which is bisected by a surface water drainage course. The sprayfields are set back 25 feet from adjacent parcels and the surface water drainage course that runs through the site. The sprayfields are designed to automatically shut off when wind speeds exceed 30 miles per hour or temperatures drop below 38 degrees. Also, the sprayfields are shut off 24 hours prior to, during, and 24 hours after rain events.

Leachfield A has approximately 1,200 feet of leach line located between the sprayfields and property boundaries. This leachfield consists of 12 pressure-dose leaching trenches, each roughly 100 feet long. The trenches are two feet wide and one foot deep below the bottom of the dosing pipe. Leachfield A provides an absorption surface area of roughly 4,800 square feet, and contains risers to monitor the level of wastewater in each trench. The original design estimates the percolation rate of Leachfield A to be about 2,800 gpd.

Sludge from the storage reservoir and the dosing tanks is directly hauled to a permitted landfill. There is no sludge drying bed onsite.

Leachfield B

Leachfield B provides treatment and disposal of wastewater from a lift station, which serves 37 EDUs including 13 lots and six fourplexes. The lift station has a high water alarm with auto dialer, a 4,000-gallon overflow tank to receive wastewater during brief power failures, and facilities to allow hookup of a portable generator set for use in the event of a protracted power failure. Wastewater from the lift station will enter into a new 1,000-gallon filter tank with dual biotube filters and two 2,000-gallon dosing tanks with siphons along a wastewater line easement/access road. Based on the monthly average influent flow rate of 12,000 gpd, the average inflow to Leachfield B will be 4,400 gpd and the average inflow to the main treatment plant will be 7,600 gpd. Inflow to the main treatment plant and to Leachfield B will be metered and sampled separately. Any excess flow from the 37 EDUs will be pumped to the main treatment plant. Wastewater from the dosing tanks will be discharged to Leachfield B without disinfection.

The Leachfield-B parcel has a total area of 3.06 acres, with a usable portion of 2.09 acres. Leachfield B has approximately 2,650 lineal feet of leach line that operates by gravity flow. The leach trenches are 3 feet wide with high capacity infiltrators and are effective at disposing 0.52 gallons per square foot per day. This leachfield provides an absorption surface area of roughly 7,500 square feet. A 420-foot storm drain pipe with surface V-ditch was installed on the northwest side of the parcel along the access road. The entire parcel slopes to the southeast at approximately 20% to 35%.

For Leachfield A and Leachfield B, the replacement area is within the existing fields. The leach lines were installed at twenty-foot offsets, so that the replacement lines can be installed between the existing leach lines.

Wastewater Flow Rate and Quality

According to the Discharger's monthly monitoring reports, from April 2007 through January 2009, the main wastewater treatment facility had a monthly average influent flow of 9,098 gpd, with a maximum of 10,440 gpd in February 2008. Flow measurements are taken from a flow meter located between the recirculating gravel filters and the disinfection system.

Wastewater constituents fall within the typical range for domestic wastewater. The quality of influent, effluent and the wastewater in the storage reservoir has been characterized based on the Discharger's monitoring reports from April 2007 to June 2009. Samples of influent were

collected prior to discharge into the circulating gravel filters. Samples of effluent were collected immediately downstream of the chlorine contact basin.

Influent Wastewater Constituent Concentrations

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
pH ¹	Std. Units	6.6	7.2	5.8
BOD ²	mg/L	114	313	4.2

¹. Samples were collected weekly.

². Samples were collected monthly.

Effluent Wastewater Constituent Concentrations

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
pH ¹	Std. Units	6.5	7.6	3.8
BOD ¹	mg/L	5.3	12	1.0
TSS ¹	mg/L	10.5	26	5.0
Coliform (TCO) ¹	MPN/100mL	2	2	2
TDS ²	mg/L	517	1120	286
Sodium ²	mg/L	59	62	56
Chloride ²	mg/L	51	63	44
Nitrate as N ²	mg/L	24	34	6.8
TKN ²	mg/L	8.8	22	1.7

BOD denotes Biochemical Oxygen Demand. TSS denotes Total Suspended Solids. TCO denotes Total Coliform Organisms. TDS denotes Total Dissolved Solids. MPN/100mL denotes Most Probable Number per 100 mL. TKN denotes Total Kjeldahl Nitrogen. ¹. Samples were collected monthly. ². Samples were collected quarterly.

Wastewater in Storage Reservoir Constituent Concentrations

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
TDS	mg/L	318	538	158
Nitrate as N	mg/L	11	29	0.1

Based on the above data, the effluent and the wastewater in the storage reservoir have the average nitrate as nitrogen concentrations of 24 mg/L and 11 mg/L, respectively.

These values exceed the USEPA Primary Maximum Contaminant Level (Primary MCL) of 10 mg/L for nitrate as nitrogen. However, groundwater monitoring data indicate that the nitrogen is further treated by plant uptake and soil processes in the sprayfields and leachfields.

The RWD indicates that the potable water in Gayla Manor subdivision is obtained from the Mokelumne River. The RWD states that the potable water average TDS in 2007 was approximately 36 mg/L.

Groundwater Concerns

The Discharger installed three groundwater monitoring wells in May 2004. The well locations are presented on Attachment C. MW-1 is considered to be an upgradient well and MW-2 and MW-3 are downgradient wells.

The depth to groundwater ranges from approximately 10 feet to 42 feet below the ground surface. Generally, groundwater flows from north to south with a gradient of approximately 0.07 feet/foot.

Groundwater quality has been characterized by quarterly sampling of monitoring wells. A summary of average groundwater quality is presented in the table below as well as the Water Quality Limit (WQL) for each analyte.

<u>Constituent</u>	<u>Units</u>	<u>WQL</u>	Upgradient ¹ <u>MW-1</u>	Downgradient ² <u>MW-2</u>	Downgradient ² <u>MW-3</u>
Nitrate as N	mg/L	10 ³	<0.05 ⁴	0.29 ⁴	0.06 ⁴
Total Dissolved Solids	mg/L	450 ⁵	286 ⁴	76 ⁴	108 ⁴
Total Kjeldahl Nitrogen	mg/L	NA	<1 ⁴	<1 ⁴	<1 ⁴
pH	Std. Units	6.5-8.4 ³	4.5 ⁴	4.9 ⁴	5.7 ⁴
Chloride	mg/L	106 ³	7.7 ⁶	27 ⁶	2.9 ⁶
Sodium	mg/L	69 ³	10.9 ⁶	14.7 ⁶	8.9 ⁶

¹ Upgradient of the WWTF.

² Downgradient of the storage reservoir, sprayfields, and Leachfield A.

³ Primary MCL.

⁴ Samples were collected quarterly from February 2007 to March 2010.

⁵ Agricultural Water Quality Goals.

⁶ Samples were collected annually from February 2007 to March 2010.

The groundwater has a low pH in the upgradient and downgradient wells. These low pH conditions are typical in the Sierra Foothills. Other constituents in the above table do not exceed the water quality objectives or agriculture water quality goals.

Groundwater monitoring reports show that some sampling events have total coliform organisms concentration greater than 2.2 MPN/100 mL, which is the Basin Plan's numeric water quality objective for total coliform organisms. The monitoring reports submitted during February 2007 to March 2010 show that the wells MW-2 and MW-3 have exceedences in 2 and 3 out of 13 test samples, respectively; while the upgradient well MW-1 does not. For the effluent collected downstream of the chlorine contact basin, the monthly medians of total coliform organisms during the last three years did not exceed 2.2 MPN/100 mL. The effluent

before entering the storage reservoir contains lower total coliform organism concentrations than that of the groundwater within MW-2 and MW-3.

Based on the disinfected secondary level of wastewater treatment, the Central Valley Water Board is requiring continued monitoring of groundwater because of the high concentrations of nitrate in the effluent and in the reservoir and the exceedences of total coliform organism in the groundwater.

FACILITY SPECIFIC REQUIREMENTS

The Discharger must comply with the following sections of Water Quality Order No. 97-10-DWQ:

- All Prohibitions
- Requirements B.1 (for all small domestic systems)
- Requirements B.2 (for septic systems)
- Requirements B.5 (for subsurface disposal systems)
- Requirements B.6 (for surface disposal systems)
- Groundwater and Surface Water Limitations
- Provisions D.1 a-v; D.2 a-b; D.3b; and D.4

In addition, the Discharger must comply with the following facility-specific requirements:

1. The monthly average influent flow rate to the main treatment plant shall not exceed 7,600 gpd; the monthly average discharge of treated effluent to Leachfield A shall not exceed 2,800 gpd; and the monthly average influent flow rate to Leachfield B shall not exceed 4,400 gpd. The monthly average shall be calculated by dividing the total inflow for the month by the number of days in the month.
2. Surfacing of wastewater outside or downgradient of the effluent storage reservoir is prohibited.
3. Surfacing of wastewater within or downgradient of the leachfields or sprayfields is prohibited.
4. The dissolved oxygen content in the upper zone (one foot) of the effluent storage reservoir shall not be less than 1.0 mg/L.
5. The sprayfields shall maintain a setback of 25 feet from adjacent parcels and the surface water drainage course that runs through the site. In addition, wastewater may not be applied to land within the spray-pattern boundaries of former sprinkler heads 26 through 31.
6. Irrigation of effluent shall not be performed within 24 hours of a forecasted storm, during a storm, within 24 hours after any measurable precipitation event, or when the ground is saturated or frozen.
7. The storage reservoir shall be completely empty by **15 October** of each year.

8. Between **15 October** and **15 April** each year, the gravel filter beds shall be covered during precipitation events such that rainwater does not enter this portion of the treatment system.
9. Residential septic tanks shall be inspected annually and maintenance requirements communicated to the property owner.
10. Spray irrigation or spray evaporation of effluent is prohibited when wind velocities exceed 30 mph.
11. The spray disposal area shall be managed to prevent breeding of mosquitoes. In particular:
 - a. There shall be no standing water 48 hours after irrigation ceases;
 - b. Tailwater ditches must be maintained essentially free of emergent, marginal, and floating vegetation, and;
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store effluent.
12. All collected screenings, sludges, and other solids removed from liquid waste shall be disposed of at a landfill in a manner that complies with CCR Title 27.
13. Effluent discharged from the chlorine contact chamber shall not exceed the following limits:

Constituent	Units	Monthly Average	Daily Maximum
BOD ¹	mg/L	20	40
Total Settleable Solids	ml/L	0.5	1.0
Total Coliform Organisms	MPN/100 ml	23 ²	240

¹ BOD denotes 5-day biochemical oxygen demand at 20°C.

² Measured as a monthly median.

14. Effluent discharged to the effluent storage reservoir and/or Leachfield A shall not have a pH of less than 6.5 or greater than 8.4.

MONITORING AND REPORTING PROGRAM

The Discharger shall comply with the monitoring and reporting requirements prescribed in MRP No. 97-10-DWQ-R5064, which replaces MRP No. 97-10-DWQ for this facility.

Since Leachfield B has a separate influent, treatment system and effluent pathway, it shall be sampled separately from other components of the main treatment plant. The MRP reflects this requirement.

GENERAL INFORMATION

Please review this NOA carefully to ensure that it completely and accurately reflects the proposed discharge. If the discharge violates the terms or conditions above, the Central Valley Water Board may take enforcement action, including assessment of administrative civil liability.

The Discharger generates the waste subject to the terms and conditions of General Order No. 97-10-DWQ and will maintain exclusive control over the discharge. As such, the Discharger is primarily responsible for compliance with General Order No. 97-10-DWQ, this NOA, and the attached MRP No. 97-10-DWQ- R5064. Failure to comply with the requirements in the documents could result in an enforcement action as authorized by provisions of the California Water Code. Discharge of wastes other than those described in the RWD is prohibited. If the method of waste disposal changes from that described in your application, you must submit a new RWD describing the new operation.

The required annual fee specified in the annual billing from the State Water Board shall be paid until this NOA is officially terminated. You must notify this office in writing if the discharge regulated by this General Order ceases so that we may terminate coverage and avoid unnecessary billing.

If you have any questions regarding submitting an updated RWD, or questions about making changes to your permitted operations, please contact Ms. Lixin Fu at (916) 464-4689 or lfu@waterboards.ca.gov.

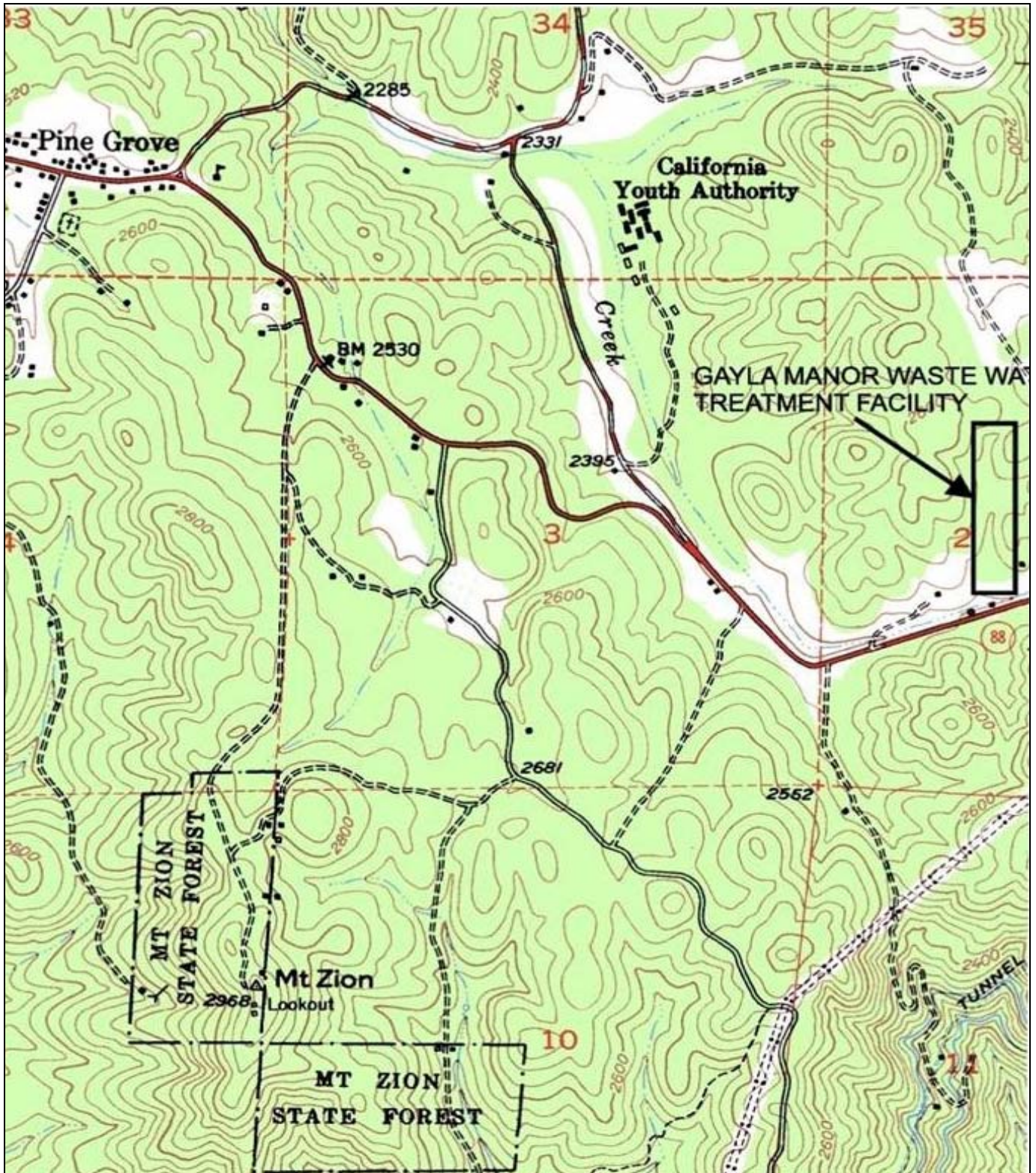
All compliance and enforcement questions should be directed to Ms. Mary Boyd at (916) 464-4676 or mboyd@waterboards.ca.gov. All monitoring reports should be submitted by the corresponding due dates to Ms. Boyd.

Pamela C. Creedon
Executive Officer

Attachments: Attachment A
Attachment B
Attachment C
Attachment D
MRP No. 97-10-DWQ-R5064

Enclosures: General Order No. 97-10-DWQ

cc: Mr. Michael Israel, Amador County Environmental Health Department, Jackson



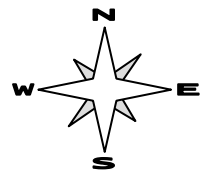
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Report of Waste Discharge

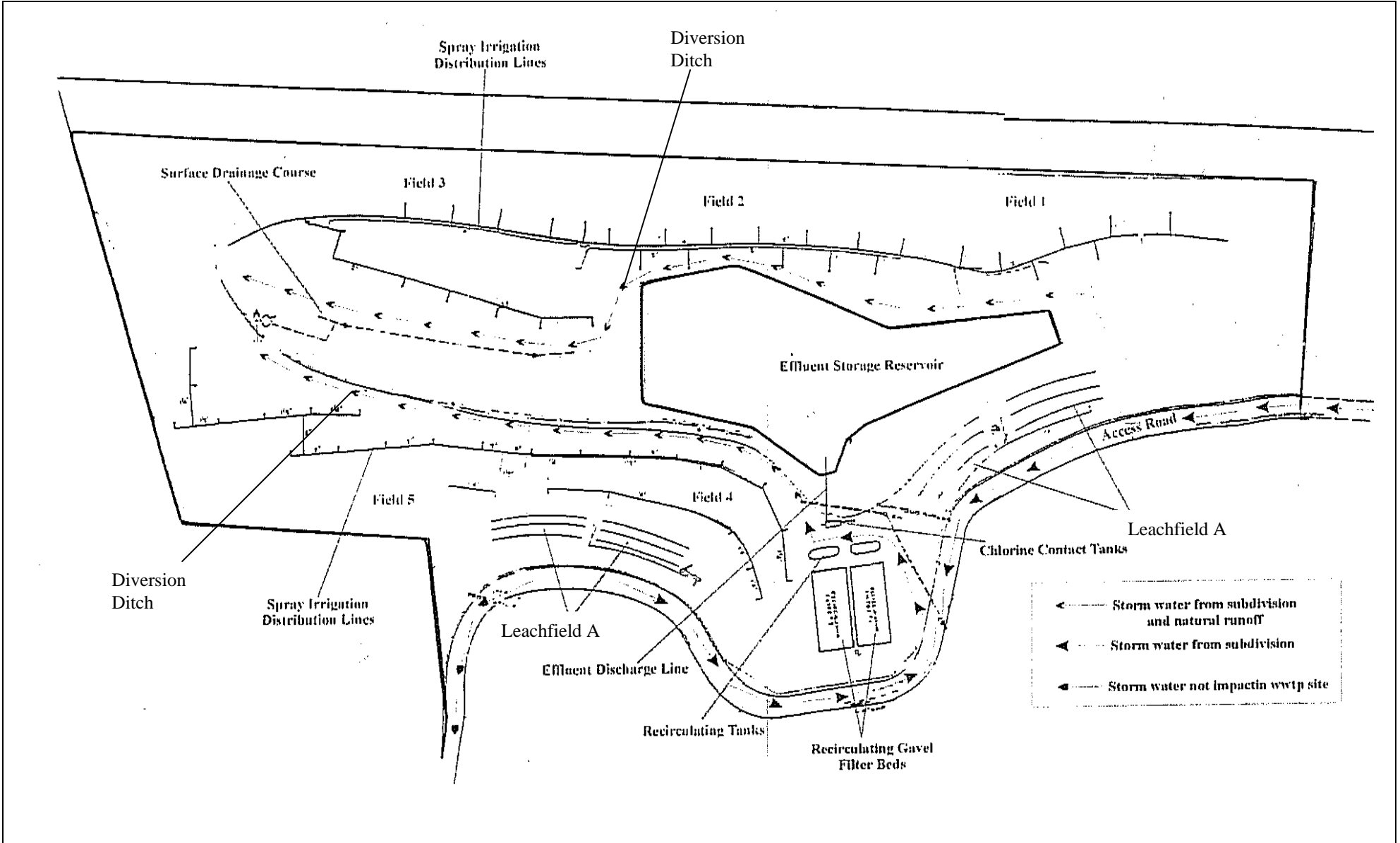
November 2009

SITE LOCATION MAP

Amador Water Agency Gayla Manor WWTF
Amador County



approx. scale
1 in. = 1500 ft.



Not to Scale

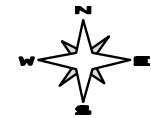
Drawing Reference:
 Shaw, Morlan, and Associates
 As Built drawing Gayla Manor WWTF, 1992
 Report of Waste Discharge, 2002

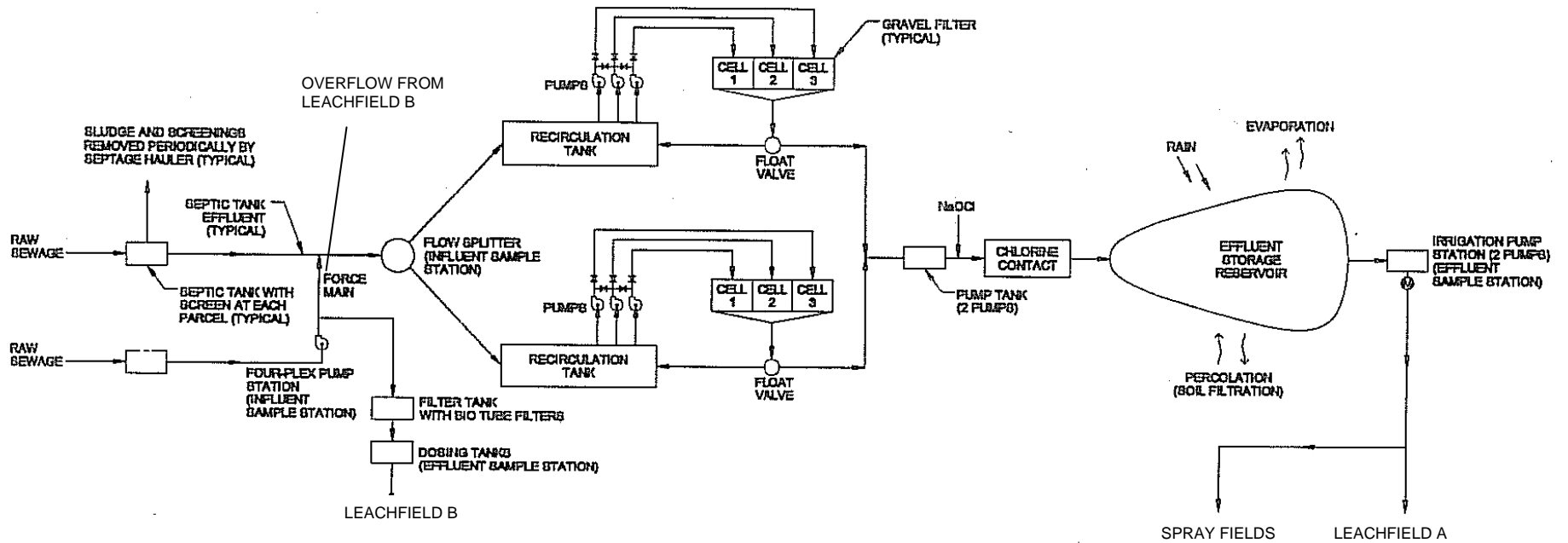
MAIN TREATMENT PLANT SITE MAP
 Amador Water Agency Gayla Manor WWTF
 Amador County



Drawing Reference:
RWD supplemental, July 2010
Unknown scale

WASTEWATER TREATMENT FACILITY SITE PLAN
Amador Water Agency Gayla Manor WWTF
Amador County





Drawing Reference:
RWD Supplemental, July 2010

WASTEWATER TREATMENT FACILITY SCHEMATIC DIAGRAM
Amador Water Agency Gayla Manor WWTF
Amador County

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 97-10-DWQ-R5064
FOR
AMADOR WATER AGENCY
GAYLA MANOR WASTEWATER TREATMENT FACILITY
AMADOR COUNTY

This Monitoring and Reporting Program (MRP) presents requirements for monitoring of septic tanks, wastewater influent, effluent, storage reservoir, spray disposal areas, leachfields, groundwater, sludge, 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.

Section 13267 of the California Water Code states, in part:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

Section 13268 of the California Water Code states, in part:

“(a) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of Section 13399.2, or falsifying and information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b). (b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars (\$1,000) for each day in which the violation occurs.”

The Discharger owns and operates the facility that is subject to the Notice of Applicability (NOA) of Water Quality Order No. 97-10-DWQ (General Order). The reports are necessary to ensure that the Discharger complies with the NOA and the General Order. Pursuant to Section 13267 of the California Water Code, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

Central Valley Regional Water Quality Control Board (Central Valley Water Board) staff shall approve specific sampling locations prior to any sampling activities. All samples should 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 and dissolved oxygen) 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; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

SEPTIC TANK MONITORING

The Discharger shall monitor each residential septic tank and report this information in the annual reports. Septic tanks shall be inspected annually for the presence of scum in the second compartment of each septic tank. If sludge is encountered, then the septic tank shall be inspected as described in the table below. In addition, the first compartment of each tank shall be monitored as described below once every three years, even if no sludge is encountered in the second compartment.

<u>Parameter</u>	<u>Units</u>	<u>Type of Measurement</u>	<u>Minimum Inspection</u>	<u>Reporting Frequency</u>
Sludge depth and scum thickness in the first compartment of each septic tank ¹	Feet	Staff Gauge	Annually	Annually
Distance between bottom of scum layer and bottom of outlet device ¹	Inches	Staff Gauge	Annually	Annually
Distance between top of sludge layer and bottom of outlet device ¹	Inches	Staff Gauge	Annually	Annually

¹ The Discharger shall visually inspect the tanks for signs of damages, leakage, or deterioration.

The Discharger shall retain records of each inspection, by street address, noting the date and measured readings and calculations. The Discharger will also record when cleaning is required, the date of notice to the homeowner, the condition of the tank, the date that cleaning or repair occurred, and the date of re-inspection.

INFLUENT MONITORING

Influent samples shall be collected at approximately the same time as effluent samples and should be representative of the influent. For the main treatment plant, the meter station shall be placed between the recirculating filters and the disinfection system. For Leachfield B, the inflow shall be metered upstream of the filter tank.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Continuous Meter	Daily ¹	Monthly

¹ Daily flow measurements for weekends may be estimated using flow meter readings taken from the Friday and Monday readings.

EFFLUENT MONITORING AT MAIN TREATMENT PLANT

For the main treatment plant, effluent samples shall be collected downstream of the chlorine contact basin. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD ¹	mg/L	Grab	Quarterly	Quarterly
Total Suspended Solids	mg/L	Grab	Quarterly	Quarterly
pH	Standard Units	Grab	Quarterly	Quarterly
Total Coliform Organisms	MPN ² /100 mL	Grab	Quarterly	Quarterly
Sodium	mg/L	Grab	Quarterly	Quarterly
Chloride	mg/L	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
Standard Minerals ³	mg/L	Grab	Annually	Annually

¹ 5-day Biochemical Oxygen Demand.

² Most Probable Number.

³ Standard Minerals shall include, at a minimum, the following constituents: boron, calcium, iron, magnesium, manganese, nitrogen, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

EFFLUENT MONITORING AT LEACHFIELD B

Leachfield B effluent shall be sampled immediately downstream of the filter tank. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly	Quarterly

STORAGE RESERVOIR MONITORING

The effluent storage reservoir shall be monitored as follows. If the reservoir is empty on the scheduled monitoring date, the Discharger shall report the freeboard monitoring result as “dry”. Freeboard shall be measured vertically from the water surface to the lowest elevation of the pond berm, and shall be measured to the nearest 0.10 feet.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen ¹	mg/L	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Levee condition	--	Observation	Weekly	Monthly

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

SPRAY DISPOSAL AREA MONITORING

Monitoring of the spray disposal areas shall be conducted **daily** (except on weekends and holidays) when the disposal areas are used, and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, irrigation spray/mist migrating off site, or the presence of nuisance conditions shall be noted in the report. Storage reservoir monitoring results shall be used in calculations to ascertain loading rates at the spray disposal areas. Monitoring of the spray disposal areas shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow ¹	Gallons	Continuous	Daily	Monthly
Rainfall ²	Inches	Observation	Daily	Monthly
Acreage Applied ³	Acres	Calculated	Daily	Monthly
Water Application Rate ^{1, 4}	gal/acre/day	Calculated	Daily	Monthly
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 Nitrogen Loading Rate ^{4, 5}	lbs/ac/month	Calculated	Quarterly	Quarterly
Total Dissolved Solids Loading Rate ^{4, 5}	lbs/ac/month	Calculated	Quarterly	Quarterly

¹ Flow and application rates for weekends and holidays may be calculated using meter readings taken from Friday and Monday readings.

² On weekends and holiday when the spray disposal fields are not operating due adverse conditions (i.e., rainfall, field saturation, etc), daily rainfall may be reported as averages over a time period or estimated based on data from nearby weather station. However, if spray fields are operating during the weekend or holiday, then daily rainfall totals must be reported.

³ Land application areas shall be identified.

⁴ Calculated averages for each disposal field area and the whole sprayfield.

⁵ The calculated value during the sampling month.

At least **once per week** when the spray disposal areas are being used, the entire sprayfield area shall be inspected to identify any equipment malfunction or other circumstances that

might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the General Order. A daily log of each inspection shall be kept at the facility and be submitted with the monthly monitoring reports. Photocopies of entries into an operator's field log are acceptable. If the spray disposal areas are not used, then the monthly monitoring reports shall state so.

LEACHFIELD MONITORING

The Discharger shall conduct a visual inspection of Leachfields A and B on a weekly basis. Results shall be recorded and submitted with the monthly monitoring report. Photocopies of entries into an operator's field log are acceptable. Evidence of surfacing wastewater, erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total dissolved solids. In addition to the visual inspections, monitoring of Leachfields A and B shall include at a minimum the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow to leachfields	gpd ¹	Calculated	Twice weekly	Monthly
Leachline Riser Inspection ²	Inches	Measurement	Quarterly	Quarterly

¹ The calculated application rate for each leachfield.

² The Discharger shall measure the depth of any ponded wastewater in each inspection riser. The monitoring report shall indicate the depth of each disposal trench and the corresponding depth of soil remaining between the ponded wastewater and the surface.

GROUNDWATER MONITORING

Prior to sampling, groundwater elevations shall be measured and the wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Groundwater Elevation ¹	0.01 Feet	Measurement	Semi-annually ²
Depth to Groundwater	0.01 Feet	Calculated	Semi-annually ²
Gradient	Feet/Feet	Calculated	Semi-annually ²
Gradient Direction	Degrees	Calculated	Semi-annually ²
Total Coliform ³	MPN/100ml	Grab	Semi-annually ²
pH	S.U.	Grab	Semi-annually ²
Total Dissolved Solids	mg/L	Grab	Semi-annually ²
Nitrates as Nitrogen	mg/L	Grab	Semi-annually ²
Total Kjeldahl nitrogen	mg/L	Grab	Semi-annually ²

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Standard Minerals ⁴	mg/L	Grab	Annually

¹ Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation on the well and a surveyed reference elevation.

² Semi-annual samples shall be collected twice per year, once between January and June, and once between July and December. Results shall be reported in the second and fourth quarter monitoring reports.

³ Using a minimum of 15 tubes or three dilutions.

⁴ Standard minerals shall include, at a minimum, the following elements and compounds: boron, calcium, chloride, iron, magnesium, manganese, nitrogen, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness.

SLUDGE MONITORING

Prior to the removal of sludge from the storage pond, a composite sample 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 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. If sludge has not been removed from the storage pond, the annual report shall simply include a statement to that effect.

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 for each water source used during the previous year. As an alternative to annual water supply monitoring, the Discharger may submit results of the most current water supply monitoring data of California Department of Public Health.

<u>Constituents</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 ¹	mg/L	Annually	Annually

¹ Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, chloride, iron, magnesium, manganese, nitrogen, potassium, sodium, 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, reservoir, 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 the NOA 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.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st 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 influent, reservoir, spray disposal area, and leachfield 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. A statement as to whether the wind meter was operational;
5. If requested by staff, copies of laboratory analytical report(s); and
6. Date(s) on which the monitoring instruments were calibrated.

B. Quarterly Monitoring Reports

Quarterly reports shall be submitted to the Regional Board by the **1st day of the second month** following the end of the quarter period (i.e. 1 May, 1 August, 1 November, and 1 February each year). Quarterly reports shall be separate from the monthly reports. At a minimum, the reports shall include:

1. The results of the quarterly effluent monitoring at the main treatment plant and at Leachfield B;
2. The results of the quarterly monitoring at spray disposal areas;
3. The results of the quarterly monitoring at the leachfields; and
4. The results of the semi-annual groundwater monitoring.

The Discharger shall establish a semi-annual sampling schedule for groundwater monitoring, such that samples are collected between January and June and between July and December. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, groundwater monitoring reports shall be prepared under the supervision of a California licensed engineer or geologist and shall include the following:

- 4a. Results of groundwater monitoring;
- 4b. 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 General Order, NOA, 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;

- 4c. Calculation of groundwater elevations and discussion of seasonal trends if any;
- 4d. 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 appended analytical reports (as applicable);
- 4e. A comparison of the monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
- 4f. Summary data tables of historical and current water table elevations and analytical results;
- 4g. 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
- 4h. 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, and shall be separate from the monthly and quarterly reports. The Annual Report shall include the following:

- 1. If requested by staff, tabular and graphical summaries of all data collected during the year;
- 2. 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;
- 3. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
- 4. 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;
- 5. The results from annual monitoring of the effluent and water supply;
- 6. Annual summary of the septic tank inspections for the year, including the number of tanks on which notifications for cleaning were issued, and verification that those tanks were pumped and that waste was removed;
- 7. The results from any sludge monitoring required by the disposal facility; and
- 8. A statement of when the Operation and Maintenance Manual was last reviewed for adequacy, and a description of any changes made during the year.

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 following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

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

Original Signed by Frederick Moss for

PAMELA C. CREEDON, Executive Officer

17 February 2011

Date