

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 5-00-264-002

WASTE DISCHARGE REQUIREMENTS
FOR
MURPHYS SANITARY DISTRICT
MURPHYS WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Board), finds that:

1. The Murphys Sanitary District (MSD) submitted a Report of Waste Discharge (RWD), dated 14 September 2000, for the operation of the Murphys Wastewater Treatment Plant (WWTP). MSD is hereafter referred to as Discharger.
2. The WWTP is on Assessor's Parcel Number 66-010-010 and -016, and is owned and operated by MSD. The WWTP is located at 735 Six Mile Road approximately one mile south of the town of Murphys, in Section 8, T3N, R14E, MDB&M, as shown on Attachment A, which is attached hereto and made part of the Order by reference.
3. Order No. 88-006, adopted by the Board on 29 January 1988, prescribes requirements for the WWTP. This Order is neither adequate nor consistent with the current plans and policies of the Board.
4. WDRs No. 88-006 permit an average dry weather flow for the WWTP of 0.200 million gallons per day (mgd). Monitoring reports submitted by the Discharger indicate the current average dry weather wastewater flow is approximately 0.170 mgd. The peak wet weather flow is approximately 0.425 mgd.
5. According to the RWD, the WWTP's design capacity, based on an average dry weather flow, is 0.250 mgd.
6. The WWTP treats wastewater from the town of Murphys and the surrounding area. These WDRs regulate both the WWTP and the collection system. The WWTP is a four-pond wastewater treatment system with treatment occurring in ponds 1 through 3 and storage in pond 4. Pond 1 is aerated using 89 vertical aerators supplied by a 20 horsepower blower at 962 cubic feet per minute. The blower is operated on a timed basis depending on the time of the year and oxygen requirements. Ponds 2 and 3 are used as facultative non-aerated ponds. The three treatment ponds are approximately 4 feet deep each with a mean cell residence time of 27 days. Pond 4 is the main storage pond, with a capacity of 152 acre-feet, used for winter and peak flow storage.

7. MSD has recently renegotiated a contract with Kautz Vineyards, Inc. (owner of Ironstone Vineyards), whereby MSD will supply Ironstone Vineyards with all treated wastewater from the WWTP. This new agreement calls for MSD to deliver up to 180 acre-feet per year with the understanding that additional wastewater may be supplied if available (According to monitoring reports submitted by the Discharger, the average annual influent volume to the WWTP is approximately 220 acre-feet). Ironstone Vineyards distributes the reclaimed wastewater by drip irrigation to 60 acres of apple trees and 53 acres of vineyards. Ironstone Vineyards is located directly across the street from the WWTP as shown on Attachment A.
8. Further treatment occurs before reclaimed wastewater is delivered to Ironstone Vineyards. Wastewater is pumped from the storage pond, chlorinated, circulated through a chlorine contact basin, filtered by sand filtration, rechlorinated and then piped to Ironstone Vineyards. Chlorine is added at all times when reclaimed wastewater is being discharged to Ironstone.
9. Reclaimed wastewater is supplied to the vineyards from April through October. In the previous years, during extremely cold weather in the spring, Ironstone Vineyards would spray irrigate the vineyards with reclaimed wastewater for frost protection. However, in response comments to these tentative WDRs, the Department of Health Services (DHS) stated that this practice is no longer considered acceptable for various reasons. Therefore, these WDRs prohibit the use of spray irrigation of reclaimed wastewater for frost control, as well as for any spray irrigation directly on a food crop.
10. The State Department of Health Services has established statewide reclamation criteria (Title 22, Division 4, Chapter 4, of the California Code of Regulations (CCR)) for the use of reclaimed wastewaters. Sections 60304(b) of Title 22 allows the use of recycled water for irrigation of food crops, where the edible portion is produced above ground and not contacted by the recycled water, provided the recycled water is treated to at least disinfected secondary-2.2 standards.
11. Based on the Discharger's self-monitoring data for the last two years, the wastewater influent is characterized as follows:

<u>Constituent</u>	<u>Concentration Range</u>
Flow	0.170 - 0.260 mgd
Biochemical Oxygen Demand	170 – 259 mg/l
Total Suspended Solids	120 – 216 mg/l

12. Based on the Discharger's self-monitoring data for the last two years, the wastewater effluent is characterized as follows:

<u>Constituent</u>	<u>Concentration Range</u>
Biochemical Oxygen Demand	3.1 – 35 mg/l
Total Suspended Solids	5.0 – 28 mg/l
Total Coliform	2 - 2400+ mg/l

13. According to the RWD, MSD plans to increase the storage capacity of Pond 4 from the current 152 acre-feet to 171 acre-feet in the near future to accommodate expected growth within the Murphys area and to maintain the two feet of freeboard. According to the Discharger's self-monitoring reports, the maximum freeboard level of the storage reservoir (2273 feet mean sea level) is often approached during the winter months. During the last several years, MSD had to discharge to Ironstone Vineyards in the winter to prevent overflows from Pond 4.
14. Surface water drainage is to Six Mile Creek, thence to Angels Creek, which is a tributary to the Stanislaus River.
15. The beneficial uses of the Stanislaus River are municipal and domestic supply, agricultural supply for irrigation and stock watering, industrial service, process and power supply, contact and non-contact recreation, warm and cold freshwater habitat, cold water migration, warm and cold water spawning, and wildlife habitat.
16. The beneficial uses of underlying groundwater are domestic, industrial, and agricultural supply.
17. Surrounding land uses are primarily agricultural, residential, and rural properties.
18. Federal regulations for stormwater discharges were promulgated by the U.S. Environmental Protection Agency on 16 November 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge stormwater associated with industrial activities to obtain NPDES permits. The flow at this wastewater treatment plant is less than 1.0 mgd and therefore the Discharger is not required to apply for a stormwater NPDES permit.
19. The Board adopted a Water Quality Control Plan, Fourth Edition, for the Sacramento River and San Joaquin River Basins (hereafter Basin Plan), which contains water quality objectives for waters of the Basin. These requirements implement the Basin Plan.
20. The action to update waste discharge requirements for this facility is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Title 14, California Code of Regulations (CCR), Section 15301.
21. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 2005, et seq., (hereafter Title 27). The exemption pursuant to Section 20090(b), is based on the following:
 - a. The Board is issuing waste discharge requirements,
 - b. The discharge complies with the Basin Plan, and
 - c. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5, and Chapter 11, as a hazardous waste.

22. Section 13267(b) of California Water Code provides that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports".
23. The Board has considered anti-degradation pursuant to State Board Resolution No.68-16 and finds that not enough data exists to determine whether this discharge is consistent with those provisions. Therefore, this Order provides a timeline for data collection to determine whether the storage of wastewater will cause an increase in groundwater constituents above that of background levels. If the storage is causing such an increase, then the Discharger may be required to line the ponds, implement source control, change the method of storage, or take other action to prevent groundwater degradation.
24. The Board has notified the Discharger, and interested agencies and persons, of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
25. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 88-006 is rescinded and the Murphys Sanitation District, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated or partially treated waste is prohibited.
3. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
4. The discharge shall not cause the degradation of any water supply.

5. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15, or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.
6. Surfacing of wastewater outside and downgradient of the ponds is prohibited.
7. Discharge of untreated or partially treated waste to groundwater is prohibited.
8. The discharge of any wastewater other than that from domestic sources is prohibited.
9. The discharge of reclaimed wastewater to Ironstone Vineyards 24-hours prior to, during, and 24-hours after any storm event or when the ground is saturated is prohibited.
10. The use of reclaimed wastewater for frost control on the vineyards is prohibited.

B. Discharge Specifications:

1. The 30-day average dry weather inflow to the WWTP shall not exceed 0.20 mgd as defined by the total flow for the months of July through September divided by 92 days.
2. The monthly average discharge to Hay Station Ranch shall not exceed 450,000 gpd.
3. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the WWTP.
4. As a means of discerning compliance with Discharge Specification No.3, the dissolved oxygen content in the upper zone (1 foot) of the wastewater ponds shall not be less than 1.0 mg/l.
5. The wastewater treatment ponds shall not have a pH of less than 6.5 or greater than 8.5.
6. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
7. The ponds shall be managed to prevent the breeding of mosquitoes. In particular,
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the waste surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, and/or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

8. The freeboard in the storage pond shall never be less than two feet as measured vertically from the water surface to the lowest point of overflow.
9. The wastewater ponds shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with the historical rainfall patterns.
10. On or about **31 October** each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications No. 8 and No. 9.

C. Effluent Limitations:

The discharge of treated wastewater to Ironstone Vineyards and the spray field LAAs in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Unit</u>	<u>Monthly Average</u>	<u>Monthly Median</u>	<u>Monthly Maximum</u>
Total Coliform	MPN/100ml	-	2.2	23
Settleable Solids	ml/l	0.2	-	0.5
Total Dissolved Solids	mg/l	450	-	-
BOD ¹	mg/l	40	-	80

¹ 5 Day, 20° Celsius biochemical Oxygen Demand.

D. Spray Field Land Application Area Specifications

1. Application of waste constituents to the LAAs shall be at reasonable rates to preclude creation of a nuisance or violation of the groundwater limitation of this Order.
2. Application of treated wastewater shall be confined to the LAAs.
3. Any irrigation runoff shall be captured and recirculated to either the LAAs or the treatment system.
4. Discharge of effluent to any LAA not having a fully functional tailwater/runoff control system is prohibited.
5. Irrigation of the LAAs shall not be performed during precipitation or when the ground is saturated.
6. Discharge of storm water runoff from the LAAs to offsite areas is allowed if the discharge is in compliance with Spray Field Land Application Area Specifications D.5 above.
7. The Discharger shall cease spray irrigation of wastewater when winds exceed 30 mph.
8. Irrigation of the LAAs with recycled water shall occur only when appropriately trained personnel are on duty.

9. The LAAs 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 shall 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 recycled water.
10. Application of effluent shall comply with the following setback requirements:

<u>Setback Definition</u> ¹	<u>Minimum Irrigation Setback (feet)</u>
Edge of LAAs to property boundary	25
Edge of LAAs to public road	30
Edge of LAAs to irrigation well	100
Edge of LAAs to domestic water supply well	100
Edge of LAAs to residence	100
Edge of LAAs to manmade or natural surface <u>water drainage course² or spring</u>	50

¹ As defined by the wetted area produced during irrigation.

² Excluding ditches used exclusively for tailwater return and drainages that do not discharge to surface waters.

E. Solids Disposal Requirements:

1. Collected screenings, grit, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Storage, use and disposal of sewage sludge shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503 and the Statewide General Order for the Discharge of Biosolids (Water Quality Order No. 2000-10-DWQ) (or any subsequent document which replaces Order No. 2000-10-DWQ).
3. Sludge and other solids shall be removed from ponds, clarifiers, etc. as needed to ensure optimal plant operation and adequate hydraulic capacity. Drying operations shall take place such that leachate does not impact groundwater or surface water.
4. If biosolids will be stored onsite between 15 October and 15 May of any year, then they shall be stored in a facility constructed in accordance with Class II surface impoundment or waste pile standards contained in Title 27 of the CCR, or similar

facility approved by the Executive Officer. Such a facility shall be designed and maintained to prevent inundation or washout from a storm or flood with a 100 year return frequency. The Discharger shall collect any leachate or stormwater that comes in contact with the biosolids pile and return it to the wastewater treatment plant.

5. Biosolids may not be disposed of onsite except as a soil amendment used at agronomic rates. Before onsite disposal is permitted, the Discharger must submit a technical report containing all the information required for a Notice of Intent for Water Quality Order No. 2000-10-DWQ (or any subsequent document which replaces Order No. 2000-10-DWQ). The technical report must be submitted at least 60 days before the anticipated date of disposal.
6. Disposal of biosolids at a permitted municipal solid waste landfill or at a permitted publicly owned treatment works is acceptable. The Discharger may also elect to dispose of its biosolids at a facility permitted under Order No. 2000-10-DWQ or at a similar facility permitted under individual WDRs. No matter where the biosolids are taken, the Discharger must comply with all sampling and analytical requirements of the entity that accepts the waste.
7. If the State Water Resources Control Board and the Regional Water Resources Control Board are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger shall comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.

F. Groundwater Limitations:

Release of waste constituents from any portion of the WWTF shall not cause groundwater to:

- a. Exceed a total coliform organism level of 2.2 MPN/100mL as a 7-day median.
- b. For constituents identified in Title 22, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established therein.
- c. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Compliance with these limitations shall be determined annually based on comparison of compliance well concentrations to the specified limitation using approved statistical methods. For nitrate nitrogen in MW-4 only, exceedance of the primary MCL will not be considered a violation of this Order as long as monitoring results exhibit a decreasing temporal trend.

G. Provisions

1. All of the following reports shall be submitted pursuant to Section 13267 of the California Water Code:
 - a. By **15 March 2001**, the Discharger shall submit a comprehensive water balance analysis to determine whether the existing pond system is in compliance with Discharge Specifications No. 8-10 and with the permitted inflow of 0.2 mgd and outflow of 0.25 mgd. Total annual precipitation shall be based on a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. If insufficient volume is available, then the report shall also contain a plan and proposed time schedule for coming into compliance with this Order. The report shall be prepared and signed by a Registered Engineer.
 - b. By **1 April 2001**, the Discharger shall submit a Groundwater Monitoring Workplan. Sufficient monitoring wells shall be installed to evaluate water quality upgradient and downgradient of the ponds. The workplan shall be consistent with and include the items listed in Attachment B.
 - c. **Within 90 days** of staff approval of the monitoring well installation workplan, the Discharger shall submit a Groundwater Monitoring Report of Results. The Report shall describe all monitoring devices installed and contain as-built diagrams, and shall include all items listed in Attachment B.
 - d. By **1 May 2001**, the Discharger and Ironstone Vineyards shall jointly submit, pursuant to Title 22 California Code of Regulations, an Engineering Report which addresses and fulfills the requirements as outlined in the DHS document *Guidelines for the Preparation of an Engineering Report for a Recycled Water Project*.
 - e. By **1 July 2001**, the Discharger shall submit a Solids Management Plan for describing the permanent disposal of biosolids, the long-term management of biosolids, and all other non-effluent wastes generated by the treatment process. The Solids Management Plan shall provide a detailed program and schedule for permanent disposal of all solid wastes that will be generated in the future. Information provided shall include methods and locations of temporary on-site storage (if used), Best Management Practices for on-site handling and storage of solid waste, means of disposal, frequency of disposal, and disposal site (as applicable).

2. The Discharger shall comply with the Monitoring and Reporting Program No. 5-00-264, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
4. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving the disposal or reclamation areas, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
5. The Discharger shall submit to the Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.
6. The Discharger shall use the best practicable cost-effective control technique(s) currently available to comply with discharge limits specified in this order.
7. The Discharger shall report promptly to the Board any material change or proposed change in the character, location, or volume of the discharge.
8. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, then the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
9. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
10. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

11. The Board will review this Order periodically and may revise requirements when necessary.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 31 May 2013.

Original signed by Ken Landau for

PAMELA C. CREEDON, Executive Officer

Amended by Order R5-2013-0064 on 31 May 2013.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 5-00-264 (REV2)
FOR
MURPHYS SANITARY DISTRICT
MURPHYS WASTEWATER TREATMENT PLANT
CALAVERAS COUNTY

This monitoring and reporting program (MRP) describes requirements for monitoring of influent wastewater, treated effluent, treatment and storage ponds, onsite spray field land application areas (LAAs) groundwater, biosolids, and community water supply for the Murphys Sanitary District wastewater treatment plant (WWTP). 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. Specific sampling locations shall be approved by Central Valley Water Board staff prior to implementation of sampling activities.

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 chain of custody form. All samples shall be collected and preserved in accordance with EPA and analytical methodology.

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

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are provided with the appropriate monitoring report.

INFLUENT MONITORING

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

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Influent Flow	mgd	Continuous Meter	Daily	Monthly
BOD ¹	mg/l	Grab	Monthly	Monthly

¹ BOD, denotes five-day, 20⁰ Celsius Biochemical Oxygen Demand

POND MONITORING

The Discharger shall monitor all wastewater ponds as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard ¹	Feet	Measurement	Weekly	Monthly
Dissolved Oxygen ²	mg/l	Grab	Weekly	Monthly
pH	pH units	Grab	Weekly	Monthly

¹ Freeboard monitoring shall be performed at Pond 4 only.

² Samples shall be collected at a depth of one foot from each pond in use. Samples shall be collected between 0700 and 0900 hours.

EFFLUENT MONITORING

The Discharger shall collect effluent samples just prior to discharge to Hay Station Ranch and the on-site spray field LAAs. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Effluent samples shall be representative of the volume and nature of the discharge. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Rainfall	Inches	Cumulative	Daily	Monthly
Volume Discharged to Ironstone Vineyards	Gallons	Cumulative	Daily	Monthly
Turbidity	NTU	Continuous	Daily ¹	Monthly
Total Chlorine Residual	mg/l	Continuous	Daily	Monthly
Total Coliform Organisms ²	MPN/ 100 ml	Grab	Daily	Monthly
BOD ³	mg/l	Grab	Weekly	Monthly
Total Suspended Solids	mg/l	Grab	Weekly	Monthly
Total Settleable Solids	ml/l	Grab	Weekly	Monthly
Total Dissolved Solids	mg/l	Grab	Weekly	Monthly
Nitrate as Nitrogen	mg/l	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly	Quarterly

¹ The Discharger shall report the daily average turbidity as well as the total amount of time each day that the turbidity exceeded 5 NTU and the total amount of time each day that the turbidity exceeded 10 NTU.

² Using a minimum of 10 tubes or two dilutions.

³ 5-Day, 20⁰ Celsius Biochemical Oxygen Demand.

POND 4 WINTER MONITORING

MSD shall collect effluent samples from Pond 4 (storage pond) during the non discharge months (December to February) to Hay Station Ranch. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Effluent samples should be representative of the wastewater contained in the pond. At a minimum, effluent monitoring shall consist of the following:

<u>Constituent/Parameter</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 Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
Nitrates as Nitrogen	mg/l	Grab	Quarterly	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly	Quarterly

¹ 5 Day, 20⁰ Celsius Biochemical Oxygen Demand

SPRAY FIELD LAND APPLICATION AREA MONITORING

The monitoring shall be conducted daily when the spray field LAAs are used. 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. The monthly report shall clearly states whether or not the LAAs were used during that month. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions shall be evaluated. Effluent monitoring results shall be used in calculations to determine 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>
Wind speed	miles/hour	Meter observation	Daily	Monthly
Flow to each LAA	gpd	Meter observation	Daily	Monthly
Acreage applied	acres	Calculated	Daily	Monthly
Water application rate ¹	inches/day	Calculated	Daily	Monthly
Rainfall ²	inches	Observation	Daily	Monthly
Total nitrogen loading rate ¹	lbs./ac/mont	Calculated	Monthly	Monthly
Tailwater runoff ³	NA	Observation	Daily	Monthly

¹ Average calculated for each LAA.

² Rainfall data collected from the weather station that is nearest to the LAAs or a properly maintained on-site rain gauge.

³ When wastewater is being applied to the land application areas, the entire application area shall be inspected **daily** to identify any equipment malfunction or other circumstance that might allow irrigation runoff to leave the area and/or create ponding conditions that violate the Waste Discharge Requirements.

GROUNDWATER MONITORING

Groundwater samples shall be collected from each groundwater monitoring well in accordance with an approved groundwater monitoring workplan. Prior to sampling or purging, equilibrated groundwater elevations shall be measured to the nearest 0.01 feet. The wells shall then be purged of at least three wetted well volumes until pH electrical conductivity, and temperature have stabilized. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation ¹	0.01 feet	Measurement	Quarterly
pH	pH units	Grab	Quarterly
Total Dissolved Solids	mg/l	Grab	Quarterly
Nitrates as Nitrogen	mg/l	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/l	Grab	Quarterly
Total Coliform Organisms ²	MPN/100 ml	Grab	Quarterly
Standard Minerals ³	mg/l	Grab	Annually

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

² Using a minimum of 15 tubes or three dilutions

³ Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

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 City of Lone may submit results of the most current Department of Public Health Consumer Confidence Report.

<u>Constituent</u>	<u>Units</u>	<u>Sampling and Reporting Frequency</u>
Total dissolved solids	mg/L	Annually
Electrical conductivity	µmhos/cm	Annually
pH	standard units	Annually
Standard minerals ¹	mg/L	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.

SLUDGE AND/OR BIOSOLIDS MONITORING

Sludge and/or biosolids samples shall be analyzed to determine the total concentration in mg/Kg for the following constituents each time sludge is removed from any pond:

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

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

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type, 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

Monthly reports shall be submitted to the Regional Board by 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, pond, effluent and LAA monitoring.
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).

4. A calibration log verifying weekly calibration of all monitoring instruments and devices used to fulfill the prescribed monitoring program.

B. Quarterly Monitoring Reports

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

1. Results of groundwater.
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged.
3. Calculation of groundwater elevations, 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. Results of effluent samples collected from Pond 4 during the winter months.
5. A narrative discussion of the analytical results for all media and locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable).
6. A comparison of monitoring data to the discharge specifications, groundwater limitations and effluent limitations, and explanation of any violation of those requirements.
7. Summary of data tables of historical and current water table elevations and analytical results.
8. 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.
9. Copies of laboratory analytical reports(s) for groundwater water monitoring.

C. Annual Monitoring Reports

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

1. The results from annual monitoring of the effluent, groundwater, and water supply;
2. Average dry weather influent flow for the year; the monthly average discharge flow to the Hay Station Ranch; and a comparison of these results to the influent flow limitations of the WDRs.
3. Effluent annual average total nitrogen concentration and annual total nitrogen loading rate for each LAA;
4. A digital database (Microsoft Excel) containing historic groundwater and effluent data;
5. For each compliance groundwater monitoring well, a statistical evaluation of the groundwater quality beneath the wastewater treatment facility and a comparison of the results to the groundwater limitations.
6. An evaluation of the performance of the WWTF, including discussion of capacity issues, infiltration and inflow rates, nuisance conditions, and a forecast of the flows anticipated in the next year;
7. The results of sludge and/or biosolids monitoring for the calendar year, including:
 - a. The amount of sludge generated that year and the amount accumulated on site at the end of the calendar year (in dry tons).
 - b. For biosolids, documentation of pathogen reduction methods and vector attraction reduction methods employed, as required in 40 CFR Parts 503.17 and 503.27.
 - c. A description of disposal methods, including the following information. If more than one method was used, include the amount of sludge disposed of by each method in dry tons.
 - i. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
 - ii. For off-site land application, include: the name and location of the site, and the Order number of any WDRs that regulate it.
 - iii. For incineration, include: the name and location of the incineration facility.
 - iv. For off-site composting, include: the name and location of the facility, and the Order number of any WDRs that regulate it.
8. 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;
9. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
10. A copy of the certification for each certified wastewater treatment plant operator working at the facility and a statement about whether the Dischargers are in

compliance with California Code of Regulations, title 23, division 3, chapter 26;

11. A forecast of influent flows, as described in Standard Provision No. E.4; and

12. A statement of when the O&M Manual was last reviewed for adequacy, and a description of any changes made during the year.

A transmittal letter shall accompany each self-monitoring report. The letter shall include a discussion of all violations of the WDRs or this MRP during the reporting period and actions taken or planned for correcting each violation. If the Dischargers have 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 Dischargers or the Dischargers' 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: Original signed by Ken Landau for _____
PAMELA C. CREEDON, Executive Officer

31 May 2013

(Date)