

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2012-0025

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY

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

1. The City of Lakeport Municipal Sewer District (CLMSD), hereafter referred to as Discharger, submitted a Report of Waste Discharge (RWD) dated March 2009 for the City of Lakeport Wastewater Treatment Facility (WWTF). The RWD was submitted to comply with Cease and Desist Order (CDO) R5-2007-0010 Task 16, and presents recent changes completed in 2008 as a part of the Reclaimed Water Disposal Area Expansion Project. The RWD was reviewed and determined to be complete on 28 August 2009. Additional information was submitted during the months of August, September, October, and November 2011.
2. The WWTF is located in Section 36, T14N, R10W, MDB&M and Section 1, T13N, R10W, MDB&M; southwest of Clear Lake, bounded on the south by Highway 175 and on the east by Highway 29. The WWTF is comprised of Lake County Assessor's Parcel Numbers 007-003-43, 007-003-46, and 005-035-06, -16 and -18. The location of the facility is shown on Attachment A, which is attached hereto and made part of this Order by reference.
3. CLMSD owns and operates the WWTF, which includes collection, secondary wastewater treatment and storage, disinfection and on-site land application areas (LAAs).
4. The WWTF is regulated under Waste Discharge Requirements (WDRs) Order 98-207, adopted by the Central Valley Water Board on 23 October 1998. The WDRs prescribe a monthly average dry weather influent flow (ADWF) not to exceed 1.05 million gallons per day (mgd) and a maximum daily discharge not to exceed 3.8 million gallons (MG).
5. On 15 March 2007, the Central Valley Water Board adopted CDO Order R5-2007-0010. The CDO prescribed new discharge specifications, including an average monthly dry weather inflow not to exceed 0.42 mgd, an annual inflow not to exceed 885 acre-feet, and required the Discharger to submit a RWD after selecting facility improvements needed to ensure compliance.

EXISTING FACILITY AND DISCHARGE

6. The existing WWTF was constructed in 1991. The WWTF collects, treats, and disposes wastewater from residential and commercial developments within the City of Lakeport. The following table summarizes historical influent flows:

Calendar Year	Total Annual Influent Flow (MG)	Average Annual Flow (mgd)	Average Dry Weather Flow ¹ (mgd)
2005	227.6	0.623	0.411
2006	233.1	0.639	0.385
2007	154.4	0.424	0.335
2008	179.1	0.489	0.354
2009	177.7	0.488	0.447
2010	249.9	0.685	0.472

¹ August through October

7. The treatment facility includes a headworks, two unlined aeration basins that provide secondary treatment, an effluent pump station, a chlorine disinfection system, an effluent reservoir, an irrigation pump station, and on-site land application areas. A process flow diagram of the treatment facility is shown in Attachment B, which is attached hereto and made part of this Order by reference.
 - a. Wastewater is received at the headworks, which is equipped with a mechanical screen.
 - b. From the headworks, wastewater enters into two 11.8-million gallon unlined aeration basins. The basins are 16 feet deep and constructed of earth with a blown mortar slope protection at the normal water level. Settleable solids remain on the basin floor to be further decomposed by anaerobic processes. Removal of the solids is accomplished by dredging the ponds as needed.
 - c. The effluent pump station has a pumping capacity of approximately 3.5 mgd. Flow from each aeration basin enters the pump station and then is pumped to the storage reservoir via the chlorine contact pipe.
 - d. The force main/chlorine contact pipe, approximately 1,250 feet long, provides chlorine contact and conveys disinfected effluent from the effluent pump station to the storage reservoir. Effluent chlorine dosage rates range from 90 to 120 pounds per day in the summer and 100 to 150 pounds per day in the winter months.
 - e. The RWD states that the storage reservoir has a maximum capacity of approximately 650 ac-ft (212 MG) at the spillway elevation of 1,432 feet. WDRs Order 98-207 requires that the maximum reservoir level not exceed 1,430 feet (two feet freeboard below the spillway) thus allowing a permitted capacity of 600-ac-ft (195.5 MG).
 - f. Effluent is stored in the reservoir before it is applied to irrigate the LAAs, typically during the months of April to October. The LAAs support native grasses and trees. The Discharger grazes cattle on the LAAs a few months out of the year. As part of

the 2007 Reclaimed Water Disposal Area Expansion Project (Expansion Project), the LAAs were increased from 242 to 332 acres as shown on Attachment C, which is hereto and made part of this Order by reference. Although the Discharger has not assigned names to the LAAs, there are a total of four, which are defined by the tributary runoff area to each of the tailwater recapture basins. Effluent application is by a sprinkler system.

- g. Tailwater runoff from the LAAs is collected in recapture basins and pumped back into the treatment facility, as shown on Attachment C. Two additional tailwater pump stations were constructed as part of the 2007 Expansion Project to capture and return runoff from the expanded spray irrigation fields. In addition, a diversion ditch bypass pipe was installed to intercept surface runoff and divert it away from the WWTF's recapture (tailwater) basins, which thus increases storage capacity of the effluent storage reservoir.
 - h. Solids are generated at the headworks and aeration basins. Solids at the headworks are disposed of at a permitted landfill. Sludge accumulated in the aeration basins is periodically removed and disposed of offsite.
8. Influent wastewater samples are collected at the headworks on a weekly basis and analyzed for dissolved oxygen, pH, and temperature. The data below represents the 2008 influent characteristics.

<u>Constituent</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Monthly Average</u>
Dissolved Oxygen	0.1 mg/L	1.9 mg/L	0.68 mg/L
pH	6.4	7.8	7.2
Temperature	52°F	77°	66.1°F

9. Treated wastewater is sampled at the end of the chlorine contact pipeline prior to discharge into the storage reservoir. Effluent characteristics based on monthly averages from January through September 2008 are shown below.

<u>Constituent</u>	<u>Units</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Effluent Flow	MG	0.318	0.791	0.477
pH	Std.	6.5	7.3	6.9
Total Coliform	MPN/100 mL	0	280	0/69
BOD	mg/L	12.6	35.9	17.3 / 25.6 ¹
Settleable Solids	ml/L	<0.1	<0.1	<0.1
TDS	mg/L	330	400	355.6
Nitrate as Nitrogen	mg/L	4.4	53.0	18.5
TKN	mg/L	3.6	21.0	10.6
Specific Conductivity	µmhos/cm	462.0	601.0	557.7

¹ average minimum value/average maximum value

10. The Discharger has not complied with the total coliform organisms effluent limit of WDRs Order 98-207. Effluent coliform violations since 2009 are shown in the table below.

<u>Date</u>	<u>Coliform Monthly Average (MPN/100 mL)</u>	<u>Coliform Daily Maximum (MPN/100 mL)</u>
April 2009	52	201
May 2009	42	201
September 2009	41	201
October 2009	24	11
May 2010	950	3,500
June 2010	130	780
July 2010	34	120
May 2011	75	300
June 2011	623	840

In a 14 November 2011 letter, the Discharger stated that the total coliform violations were attributed to seasonal algae blooms that occur during the spring and fall months. This conclusion was based on the wastewater treatment operator's observations of the color of the treatment ponds when the samples were collected. The Discharger plans to increase chlorine feed rates and contact detention time during the months of April through October as a corrective action. Regardless, it is appropriate to require that a registered professional evaluate disinfection performance and recommend system or operational changes, as appropriate to ensure compliance with the effluent coliform limits of this Order.

MODIFICATIONS TO THE WASTEWATER SYSTEM

11. The RWD requested that the storage reservoir freeboard be reduced to the elevation of the dam spillway. The Division of Safety of Dams regulates the storage reservoir and the concrete spillway is set at 4.75 feet below the dam crest. The existing WDRs require two feet of freeboard below the reservoir spillway elevation. To mitigate the potential for wave action causing a spill and violation of the WDRs, the RWD proposed to install a floating boom at the storage reservoir spillway that would result in the following:
- a. Increase reservoir storage capacity to 650 ac-ft,
 - b. Increase the WWTF's storage and disposal capacity from 0.42 to 0.55 mgd as an ADWF.
12. A water balance was included in the RWD. The water balance was prepared based on reasonable estimates of influent flows, inflow and infiltration (I/I), precipitations, percolation, and evaporation. The water balance was used to model disposal capacity during the 100-year, 365-day precipitation event followed by a year with average precipitation. The model shows that the WWTF has the storage capacity to handle an annual ADWF for up to 0.55 mgd if the storage reservoir freeboard is reduced as proposed in the RWD.

13. Based on the following, a one-foot freeboard at the spillway crest is appropriate to prevent spills.
 - a. Data from three weather stations within the Lakeport Area (Department of Water Resources Rainfall Data) indicates that a spill would unlikely occur (one foot freeboard below the spillway crest) during a 100-year rainfall, 24-hour precipitation.
 - b. The reservoir is located in an area such that trees and surrounding mountains provide some wind protection, and therefore substantial wave action is unlikely to occur.

According to the water balance, one-foot freeboard requirement will provide sufficient storage capacity to support an average dry weather flow of 0.53 mgd.

14. The RWD indicates that there is significant sludge accumulation in the existing two wastewater treatment ponds. The Discharger envisions the sludge would be dried onsite prior to offsite disposal or onsite land application as a soil conditioner and fertilizer supplement. The RWD did not provide the information necessary to develop appropriate sludge discharge requirements.
15. Changes in the influent and effluent character are not anticipated.

SITE-SPECIFIC CONDITIONS

16. The surrounding land uses are primarily residential with some land use for the grazing of cattle.
17. The elevation of the WWTF ranges from approximately 1,560 feet above mean sea level (AMSL) at the western edge of the property to 1,350 feet AMSL at the eastern edge. The LAAs are moderately to steeply sloped. The annual average precipitation in the vicinity of the WWTF is approximately 29.03 inches. The 100-year return period annual precipitation is 58.25 inches based on data from the Western Regional Climate Center for Lakeport Station 0440701. The mean evapotranspiration rate is approximately 46.8 inches per month. All portions of the WWTF are outside the 100-year flood zone.
18. The WWTF is located on Franciscan Complex rocks, a mixture of deformed and metamorphosed greywacke, argillite, greenstone and serpentine. Terrace deposits comprise most of the local near-surface materials and the uppermost unit of Quaternary sediments. Franciscan Complex rocks are generally impermeable and are not considered water bearing formations although water is encountered along the contact between the Franciscan Complex and Quaternary sediments and possibly in fractures within the Franciscan.
19. The potable water supply for the City of Lakeport service area is Clear Lake and the Scotts Valley Aquifer, both of which are located in the same watershed. Potable water quality data from a single sample collected in 2005 is presented below:

<u>Constituent</u>	<u>2005</u>	<u>Units</u>
Chloride	3.7	mg/L
Sodium	8.4	mg/L
Electrical Conductivity	210	µmhos/cm
Nitrate	6.3	mg/L
Total Dissolved Solids	110	mg/L

GROUNDWATER CONSIDERATIONS

20. Shallow groundwater is encountered at depths ranging from 2 to 25 feet below ground surface (bgs) at the treatment plant and LAAs. The direction of groundwater flow is predominantly to the northeast at an approximate gradient of 0.0147 feet/foot.
21. The WWTF currently has six groundwater monitoring wells and one background well to monitor groundwater quality. The well locations are presented on Attachment C. In 2004, background well BK-1 and monitoring wells MW-1 to MW-4 were installed. In 2008, monitoring wells MW-5 and MW-6 were installed to provide baseline groundwater conditions prior to use of the additional LAAs and serve as downgradient wells.

An additional background well was proposed, however no groundwater was encountered during drilling operations. The Discharger states that more than 40 feet of clay act as an aquitard east of the recently expanded LAAs, therefore application of wastewater to the LAAs expansion is unlikely to impact groundwater quality.

22. Monitoring well construction details are summarized below:

<u>Well</u>	<u>Function/Location</u>	<u>Monitoring Well Depth, feet</u>	<u>Depth to Groundwater, feet</u>	<u>Groundwater Elevation, feet</u>
BK-1	Upgradient/reservoir	29.62	8.25 ¹	1459.39 ¹
MW-1	Downgradient/ponds	24.62	2.58 ¹	1370.40 ¹
MW-2	Downgradient/ponds	24.58	2.00 ¹	1357.57 ¹
MW-3	Downgradient/LAAs	29.60	14.42 ¹	1394.63 ¹
MW-4	Cross-gradient/LAAs	29.80	25.16 ¹	1377.07 ¹
MW-5	Downgradient/ new LAAs	35.30	26.30 ²	1391.01 ²
MW-6	Downgradient/ new LAAs	36.30	16.10 ²	1382.70 ²

¹ Data recorded on 12/15/2005.

² Data recorded on 7/2/2008.

23. The means of the analytical groundwater quality data obtained from background well BK-1 and monitoring wells MW-1 through MW-6 are presented in the table below.

Mean of Analytical Results, mg/L except as noted

Constituents	WQO ⁷	BK-1 ^{1,6}	MW-1 ^{1,6}	MW-2 ^{1,6}	MW-3 ^{1,6}	MW-4 ^{1,6}	MW-5 ^{2,6}	MW-6 ^{2,6}
Iron	0.30 ⁴	1	6	1	11	13	109	42
Manganese	0.05 ⁴	0.07	0.16	0.03	0.08	0.17	1	0.40
Chloride	250 ⁴	14	123	150	90	105	11	7
Sulfate (SO ₄)	250 ⁴	8	23	27	18	21	7	4
TDS	1,000 ⁵	232	658	578	294	397	176	179
Nitrate (as N)	10 ³	0.28	1.02	0.49	0.16	0.53	0.38	0.21
Total Coliform, MPN/100 mL	<2.2 ⁸	138	48	334	164	198	288	158

¹ Average of groundwater samples collected during 9/04-9/11.
² Average of groundwater samples collected during 6/08-9/11.
³ Primary Maximum Contaminant Level (MCL).
⁴ Secondary Maximum Contaminant Level (MCL).
⁵ Recommended upper level secondary MCL.
⁶ Non detect, mean of analytical results calculated using ½ the reporting limit.
⁷ WQO denotes Water Quality Objective
⁸ Basin Plan numeric objective

24. Analytical data indicates most constituents found in the downgradient monitoring wells were elevated compared to those found in background well BK-1; indicating some degradation by salinity, nutrients, total coliform organisms, and minerals has occurred.
- a. Elevated chloride and total dissolved solids (TDS) concentrations were found in downgradient wells MW-1 through MW-4, however, concentrations were below the secondary MCL of 1,000 mg/L. The highest concentrations of TDS were detected in downgradient wells MW-1 and MW-2; and exceeded the concentrations in the effluent, background, and other downgradient wells. This apparent degradation is likely due to the spray field discharge, which concentrates salts.
 - b. Nitrate (as N) concentrations found in downgradient wells MW-1, -2, -4 and -5 exceeded background concentrations, but have been consistently below the primary MCL of 10 mg/L.
 - c. Analytical data indicates total coliform organism concentrations greater than 2.2 MPN/100mL, which is the Basin Plan's numeric water quality objective, in all of the monitoring wells. Groundwater coliform detections are likely due to cross-contamination of the monitoring wells during construction and/or subsequent sampling.
 - d. Both iron and manganese concentrations in wells MW-1, -3, -4, -5, and -6 exceed background concentrations and the respective secondary MCL. It is unknown whether these samples were filtered prior to preservation and analysis, and therefore the elevated concentrations are suspect. In addition, groundwater samples from wells

MW-5 and MW-6 indicate high minerals concentrations downgradient of the new LAAs, which have been in use only since 2009. This, in combination with proximity to the Mount Konocti volcano, suggests that iron and manganese are naturally occurring.

BASIN PLAN, BENEFICIAL USES, AND REGULATORY CONSIDERATIONS

25. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to Section 13263(a) of the California Water Code (Water Code), waste discharge requirements must implement the Basin Plan.
26. Surface water drainage is to Clear Lake. The beneficial uses of Clear Lake are municipal and domestic supply; agricultural supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; spawning reproduction and/or early development; wildlife habitat; and commercial and sport fishing.
27. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
28. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
29. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22. The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCL to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
30. In summary, the narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.
31. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater. The applicability of this objective to groundwater designated as MUN has been affirmed by State Water Board Order WQO-2003-0014 and by a ruling of the Third District Court of Appeal. (*County of Sacramento v. State Water Resources Control Bd.* (2007) 153 Cal.App.4th 1579.)

ANTIDegradation ANALYSIS

32. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
 - a. The degradation is limited and will provide social and economic benefit to the people of the state;
 - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
 - c. The degradation is not expected to result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and
 - d. The Discharger employs best practicable treatment or control (BPTC) to minimize degradation.
33. Resolution 68-16 prohibits degradation of groundwater quality as it existed in 1968, or at any time thereafter that groundwater quality was better than in 1968, other than degradation that was previously authorized. An anti-degradation analysis is required for a new discharge location, and/or an increased volume of waste and/or an increased concentration of waste constituents.
34. Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater facility after best practicable source control, treatment, and control is consistent with maximum benefit to the people of California. The technology, energy, and waste management advantages of a municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on the water resource will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituents, the beneficial uses and most stringent water quality objective, source control measures, and waste constituent treatability).
35. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS and chloride), nutrients (nitrate as N), total coliform organisms, and minerals (specifically iron and manganese), and are discussed below:
 - a. Compared to background, chloride and TDS concentrations in the downgradient wells are elevated with the exception of wells MW-5 and MW-6. Although detections are

below secondary MCL, the higher concentrations detected in wells MW-1 and MW-2 indicate some salinity degradation has occurred. Therefore, it is appropriate to adopt a numerical groundwater limitation of 1,000 mg/L (recommended upper secondary MCL limit) for TDS to protect groundwater quality.

- b. For nutrients such as nitrate, the potential for unreasonable degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the treatment plant to provide an environment conducive to nitrification and denitrification to convert the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table. Groundwater monitoring data indicates nitrate (as nitrogen) exceeds background. However, the concentrations are below the primary MCL. The data do not indicate unreasonable degradation due to nitrate and the amount of available land application area should remove most of the nitrogen in the applied wastewater. However, groundwater can be shallow at locations throughout the site, so there is some threat that the discharge could cause an exceedance of the MCL for nitrate. It is therefore appropriate to adopt a numeric groundwater limitation of 10 mg/L based on the primary MCL for nitrate (as nitrogen) to protect the municipal and domestic use of groundwater.
 - c. For total coliform organisms, the potential for exceedance of the Basin Plan's numeric water quality objective of 2.2 MPN/100mL depends on the ability of vadose zone soils below the treatment plant and saturated soils within the shallow water-bearing zone to provide adequate filtration. This Order requires that the Discharger continue to disinfect treated effluent. Disinfection reduces the potential threat, but the use of chlorine also increases the salinity of the effluent and creates trihalomethanes, neither of which is desirable. Additionally, disinfection does not prevent coliform impacts at the treatment plant site because treatment takes place in unlined ponds prior to disinfection.
 - d. Both the background and the downgradient wells indicate iron and manganese concentrations in exceedance of secondary MCLs. Elevated concentrations of these constituents may be attributed to the presence of volcanic rock within the area and changes in redox conditions or lack of filtration prior to sample preservation and/or analysis. It is therefore appropriate to prohibit degradation in excess of background groundwater quality for these constituents.
36. The WWTF provides treatment and control of the discharge that incorporates:
- a. Technology using physical and biological processes to reduce BOD and suspended solids;
 - b. Technology for disinfection of municipal wastewater;
 - c. Land application of treated wastewater at agronomic rates for nutrients;

- d. A tailwater system to collect and re-circulate irrigation runoff back into the WWTF and prevent the discharge of irrigation/storm water mixtures to surface waters; and
 - e. A diversion ditch bypass pipe to intercept surface runoff and divert it away from the tailwater recapture basins; therefore increasing storage capacity of the storage reservoir.
 - f. A backup generator for emergency power to the WWTF.
 - g. Alarms to alert power and equipment failure.
 - h. Certified operators to assure proper operation and maintenance.
37. This Order establishes groundwater limitations that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order requires effluent, groundwater, and water supply monitoring. If the results of monitoring reveal a previously undetected threat to water quality or indicate a change in waste character such that the threat to water quality is significantly increased, the Central Valley Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16.

OTHER REGULATORY CONSIDERATIONS

38. The State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order 2006-0003-DWQ (General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the Order. The Discharger's collection system exceeds one mile in length; therefore, the General Order is applicable.
39. The United States Environmental Protection Agency (U.S. EPA) has promulgated biosolids reuse regulations in 40 Code of Federal Regulation (CFR) 503, Standard for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, set application rates for heavy metals, and establishes stabilization and disinfection criteria.

The Central Valley Water Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Central Valley Water Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the U.S EPA.

40. The State Board adopted Water Quality Order 97-03-DWQ (NPDES General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all

affected industrial dischargers. The wastewater treatment plant has a design capacity less than 1.0 mgd, and therefore the Discharger is not required to obtain coverage under NPDES General Permit No. CAS000001.

41. Water Code section 13267(b) 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. 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."

The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2012-0025 are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

42. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells.
43. The expansion of the land application area was subject to the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.) ("CEQA"). Lake County is the CEQA Lead Agency for this project under the CEQA Guidelines.
44. The Draft Environmental Impact Report (DEIR) for the City of Lakeport Wastewater Treatment and Disposal Facilities Expansion Project was prepared in October 1989, followed by the Final Environmental Impact Report (FEIR) in January 1990. The DEIR and FEIR address the facility improvements described in the RWD. The following mitigation measures were identified in the FEIR that was approved by Lake County.
 - a. Irrigation should not occur during periods of rain runoff when the irrigation runoff collection and return system is operational to prevent surface water pollution.
 - b. The city should test the water from the monitoring well and its runoff-collection sump for nitrate and other constituents as directed by the Central Valley Water Board to prevent groundwater pollution from storage and irrigation practices.

- c. Sludge should be removed and disposed of in a manner approved by the Central Valley Water Board to prevent groundwater pollution from sludge disposal.

These mitigation measures are incorporated into this Order as discharge requirements to reduce water quality impacts to less than significant levels.

45. The action by the Central Valley Water Board to adopt waste discharge requirements for this existing facility is exempt from CEQA in accordance with California Code of Regulations, title 14, section 15301.
46. The discharge authorized herein and the treatment and storage facilities associated with the discharge are exempt from the requirements of Consolidated Regulation for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in California Code of Regulations, title 27, section 20005 et seq. (hereafter Title 27). The exemption, pursuant to section 20090(a) and 20090(b) is based on the following:
 - a. The aerated treatment ponds and storage reservoir are exempt based on section 20090(a) because discharges to the treatment ponds and storage reservoir are regulated by WDRs that are consistent with applicable water quality objectives and residual sludges will be discharged only in accordance with the applicable regulations.
 - b. The discharge of treated wastewater to the LAAs is exempt based on section 20090(b).
 - i. The Central Valley Water Board has issued waste discharge requirements.
 - ii. The discharge complies with the Basin Plan; and
 - iii. The wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.
47. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. While the WWTF is exempt from Title 27, the data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.
48. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

PUBLIC NOTICE

49. All of the above and details in the Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

- 50. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
- 51. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Order 98-207 is rescinded except for purposes of enforcement, and pursuant to Water Code sections 13263 and 13267, the City of Lakeport Municipal Sewer District, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]

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. Discharge of waste classified as "hazardous" under California Code of Regulations, title 23, chapter 15, section 2521, or "designated," as defined in Water Code section 13173 is prohibited.
- 4. Discharge of wastewater to locations or in a manner different from that described in the Findings is prohibited.
- 5. Discharge of toxic substances into the wastewater treatment system such that biological treatment mechanisms are disrupted is prohibited.
- 6. Effective **1 December 2013**, grazing of livestock within the LAAs is prohibited unless approved in writing by the Executive Officer subsequent to submittal of the report described in Provision H.1.e.

B. Discharge Specifications

- 1. Influent flows to the wastewater treatment ponds shall not exceed the following

<u>Flow Measurement</u>	<u>Flow Limit</u>
Total Annual Flow ¹	310 million gallons
Average Dry Weather Flow ²	0.53 million gallons per day
Maximum Average Daily Flow ³	1.39 million gallons per day

- ¹ As determined by the total flow for the calendar year.
 - ² As determined by the total flow for the months of August through October, inclusive, divided by 92 days.
 - ³ As determined by the total flow during the calendar divided by the number of days in that month.
2. Wastewater treatment, storage, and disposal shall not cause a nuisance or condition of pollution as defined by the Water Code, section 13050.
 3. The discharge shall not cause degradation of any water supply.
 4. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.
 5. Public contact with wastewater shall be precluded or controlled through such means as fences, signs, or acceptable alternatives.
 6. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.
 7. Objectionable odors originating at the facility shall not be perceivable beyond the limits of the property at an intensity that creates or threatens to create nuisance conditions.
 8. As a means of discerning compliance with Discharge Specification B.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within **10 days** and shall include a specific plan to resolve the low DO results within **30 days**.
 9. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
 10. All conveyance, treatment, storage, and disposal facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
 11. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment levees and prevent overtopping and/or structural failure.
 12. The operating freeboard in the treatment ponds shall never be less than two feet as measured vertically from the water surface to the lowest point of overflow. The operating freeboard in the effluent storage reservoir shall never be less than one foot as measured vertically from the water surface to the lowest point of overflow. As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that

clearly show the water level at design capacity and enable determination of available operational freeboard.

13. The treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
14. On or about **1 October** of each year, available pond storage shall at least equal the volume necessary to comply with Discharge Specifications B.12 and B.13.
15. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
16. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
17. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.
18. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every five years beginning in **2012**, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir exceeds five percent of the permitted reservoir capacity, the Discharge shall complete sludge cleanout within **12 months** after the date of the estimate.

C. Land Application Area Specifications

1. Irrigation with treated wastewater shall be managed to minimize erosion, runoff, and movement of aerosols from the land application area.
2. Application of treated wastewater shall comply with the following setback requirements:

<u>Setback Definition</u>	<u>Minimum Irrigation Setback (feet)</u>
Edge of LAAs ¹ to domestic well	50
Edge of LAAs ¹ to any surface water drainage course ²	50
Edge of LAAs ¹ to a residence or place where public exposure could be similar to that of a park, playground, or school yard.	100

¹ As defined by the wetted area produced during irrigation.

² Excluding ditches used exclusively for tailwater return.

3. The volume of treated wastewater applied to the LAAs on any single day shall not exceed reasonable agronomic rates based on the vegetation grown, pre-discharge soil moisture conditions, and weather conditions.
4. The discharge of treated wastewater to the LAAs shall be at reasonable agronomic rates designed to maximize uptake and breakdown of plant nutrients in the root zone and minimize the percolation of waste constituents below the root zone.
5. Irrigation of treated wastewater shall not be performed within 24 hours of a forecasted storm, during a storm, and within 24 hours after any measurable precipitation event, or when the ground is saturated.
6. All applied irrigation water must infiltrate before the next irrigation event. No irrigation shall be performed if the LAAs is saturated, or if there is evidence of pooling or ponding.
7. Spray irrigation of treated wastewater is prohibited during periods when wind velocities exceed 30 miles per hour.
8. From **1 October to 31 May**, the recapture basin valves shall remain in the closed position during and immediately following irrigation to contain all tailwater. Tailwater shall be pumped and drained from the recapture basins prior to opening the valve to allow release of subsequent storm water runoff via the tailwater collection system.
9. Areas irrigated with treated wastewater shall be managed to prevent breeding of mosquitoes. More specifically,
 - a. Tailwater must be returned and all applied irrigation water must infiltrate completely within a 48-hour period.

- b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal and floating vegetation.
- c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store reclaimed water.

D. Water Recycling Specifications

1. Effective **1 December 2013**, the specifications of this section apply in addition to the Land Application Area Specifications.
2. The use of reclaimed water shall be limited to pasture.
3. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to California Code of Regulations, title 22, section 60323 and approved by the California Department of Public Health.
4. Recycled water shall be used in compliance with California Code of Regulations title 22, section 60304. Specifically, uses of recycled water shall be limited to those set forth in section(s) 60304(a), 60304(b), 60304(c), and 60304(d).
5. Use areas shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.
6. Use areas and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements.

<u>Setback Definition</u>	<u>Minimum Irrigation Setback (feet)</u>
Edge of use area to property boundary.	25
Edge of use area to public road right of way	30
Edge of use area to natural surface water drainage course.	50
Edge of use area to domestic water supply well.	100
Toe of recycled water impoundment berm to domestic water supply well.	100
Edge of use area to residence.	100
Edge of use area using spray irrigation to public park, playground, school yard, or similar place of potential public exposure.	100

7. Spray irrigation with recycled water is prohibited when wind speed (including gusts) exceeds 30 mph.
8. Sprinkler heads shall be of the type approved for recycled water and shall create a minimum amount of mist.

9. Direct or windblown spray shall be confined to the designated reclamation area and prevented from contacting drinking water facilities.
10. Public contact with reclaimed water shall be precluded through such means as fences, signs, and irrigation management practices. Fences and sign requirements, including signs with proper wording of sufficient size and its location, shall be in accordance with CDPH requirements.
11. Use areas that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in Attachment D, which is attached and forms part of this Order, and shall include the following wording:

“RECYLED WATER – DO NOT DRINK”
“AGUA DE DESPERDICIO RECLAMADA – NO TOME”

12. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. All recycled water distribution system piping shall be purple pipe or adequately wrapped with purple tape.
13. Recycled water controllers, valves, and similar appurtenances shall be affixed with reclaimed water warning signs as required by CDPH. The wastewater reclamation system shall be secured in a manner that permits operation by authorized personnel only and prevents operations that would cause a violation of this Order.
14. Quick couplers, if used, shall be different than those used in potable water systems.
15. Hose bibs and unlocked valves, if used, shall not be used in areas accessible to the public.
16. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.
17. There shall be at least a ten-foot horizontal and a one-foot vertical separation between all pipelines transporting recycled water and those transporting domestic supply, and the domestic supply pipeline shall be located above the recycled water pipeline.
18. No physical connection shall be made or allowed to exist between any recycled water system and any separate conveying potable water or auxiliary water source system.

19. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations title 17, sections 7602(a) and 7603(a).
20. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with California Health and Safety Code Section 4049.54.
21. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance with California Code of Regulations title 17 section 7605.

E. Solids/Sludge Disposal Specifications

1. Sludge means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the facility. Biosolids refers to sludge that has undergone sufficient treatment and testing to qualify for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land recycling.
2. Sludge and solid waste shall be removed from screens, sumps, and ponds as needed to ensure optimal plant operation and adequate hydraulic capacity.
3. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property, and shall be conducted in a manner that precludes infiltration of waste constituents into soils in a mass or at a concentration that will violate the Groundwater Limitations of this Order.
4. Any storage of residual sludge, solid waste, and biosolids at the facility shall be temporary, and the waste shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.
5. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
6. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water quality control board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality

Order 2000-10-DWQ, *General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*). For a biosolids use project to be covered by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

- Use and disposal of biosolids shall comply with the self-implementing federal regulations of Title 40, Code of Federal Regulations (CFR), Part 503, which are subject to enforcement by the U.S. EPA, not the regional water quality board. If during the life of this Order, the State accepts primacy for implementation of 40 CFR 503, then the regional water quality board may also initiate enforcement where appropriate.

F. Effluent Limitations

- Effectively immediately**, prior to discharge to the land application areas, effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Monthly Maximum</u>
BOD ₅ ¹	mg/L	40	80
Nitrate (as N)	mg/L	10	-

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

- Effectively immediately** as interim limits, prior to discharge to the land application areas and after full chlorine contact has been achieved, effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
Total Coliform Organisms	MPN/100 mL ²	23	500

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

² Most probable number per 100 mL.

- Effective 1 March 2014**, prior to discharge to the land application areas and after full chlorine contact has been achieved, effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>7-day Median</u>	<u>Daily Maximum</u>
Total Coliform Organisms	MPN/100 mL ²	23 ³	240

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

² Most probable number per 100 mL.

³ Compliance shall be determined based on a 7-day median Sunday through Saturday, where sampling is performed daily Monday through Friday.

- No wastewater contained in any pond shall have a pH less than 6.5 or greater than 10.0.

G. Groundwater Limitations

1. Release of waste constituents from any portion of the WWTF and LAAs shall not cause groundwater to contain any of the following constituents at a concentration greater than that listed below:

<u>Constituent</u>	<u>Units</u>	<u>Limitations</u>
pH	Std units	6.5 – 8.5 ¹
Total Coliform Organisms	MPN/100 mL	2.2 ²
TDS	mg/L	1,000
Nitrate (as N)	mg/L	10

¹ pH shall not be less than 6.5 or greater than 8.5

² Effective on 1 October 2012

Compliance with this requirement shall be based on an intra-well analysis. Historical data shall be analyzed and the statistic (e.g., intra-well upper tolerance limit) shall be compared to the numeric limit.

2. For boron, chloride, iron, manganese, sodium and sulfate, release of waste constituents from any portion of the WWTF and LAAs shall not cause a statistically significant increase above the current concentration in each monitoring well. Compliance with this requirement shall be determined based on an annual intra-well statistical analysis.

H. Provisions

1. All of the following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision H.2.
 - a. By **1 January 2013**, the Discharger shall submit a *Groundwater Monitoring Well Disinfection Workplan* and *Sampling and Analysis Plan*. The *Groundwater Monitoring Well Disinfection Workplan* shall provide detailed procedures for well disinfection, and include a schedule to complete the work by **1 May 2013**. The *Sampling and Analysis Plan* shall identify and evaluate the effluent sampling location; and evaluate current sampling procedures. In addition, the plan shall propose effluent and groundwater sampling techniques designed to minimize cross-contamination of the monitoring wells and groundwater samples with coliform organisms.
 - b. By **1 May 2013**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods that will be used to evaluate compliance with the Groundwater Limitations of this Order for the constituents listed in the Monitoring and Reporting Program. Statistical analyses shall use methods prescribed in Title 27, Section 20415(e)(10) to evaluate compliance.

- c. By **1 June 2013**, the Discharger shall submit a *Disinfection System Evaluation Report*. The report shall evaluate the operation and maintenance of the effluent disinfection system and describe any facility and operations improvements necessary to comply with the effluent limitations of this Order. If facility improvements are necessary to ensure consistent compliance with the effluent limits, by **1 June 2014**, a *Disinfection Improvements Completion Report* shall be submitted. This report shall document any facility improvements and operational changes implemented to comply with the WDRs. Analytical data for total coliform organisms shall be included to document compliance with the effluent limitations.
- d. By **1 July 2013**, the Discharger shall submit a report documenting completion of the monitoring well disinfection in accordance with the approved *Groundwater Monitoring Well Disinfection Workplan* and implementation of the approved *Sampling and Analysis Plan*.
- e. By **1 December 2013**, the Discharger shall submit proof of CDPH approval of a Title 22 Engineering Report for approval by the Executive Officer, and certify that all facility improvements required to comply with Wastewater Reclamation Specifications Section D and any supplemental requirements imposed by CDPH have been completed and fully operational.
- f. **At least 180 days prior** to any sludge removal and disposal, the Discharger shall submit a *Sludge Cleanout Plan*. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolation from the sludge as it is drying, and include a schedule that shows how all dried sludge will be removed from the site prior to the onset of the rainy season (1 October). If the Discharger proposes to land apply biosolids at the effluent recycling site, the report shall include a Report of Waste Discharge and filing fee to apply for separate waste discharge requirements.
- g. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, within **120 days** of the request of the Executive Officer, the Discharger shall submit a *BPTC Evaluation Workplan*. The workplan shall set forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent listed in the Groundwater Limitations. The workplan shall contain a preliminary evaluation of each component of the WWTF and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

- h. A Discharger whose waste flow has been increasing, or it projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three year's average dry weather flows, peak wet weather flows, and total annual flows, as appropriate. When any projection shows that capacities of any part of the facilities may be exceeded in four years, the Discharger shall notify the Central Valley Water Board by **31 January**.
2. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
3. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
4. The Discharger shall comply with Monitoring and Reporting Program R5-2012-0025, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of the Discharger's self-monitoring reports shall be no later than the submittal date specified in the MRP.
5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
6. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

7. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
8. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.
9. The Discharger shall provide certified wastewater treatment plant operators in accordance with California Code of Regulations title 23 division 3, chapter 26.
10. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
11. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within **15 days** of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
12. The Discharger shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2008-0002-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2008-0002-EXEC require the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.
13. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
14. In the event of any change in control or ownership of the facility or wastewater disposal areas, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the

persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. If approved by the executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

15. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
16. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order or with the WDRs may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

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 30 March 2012.

Original signed by

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2012-0025
FOR
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring the influent flow, effluent, treatment pond and storage reservoir, land application areas, groundwater, water supply, and sludge. 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 sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test pH and electrical conductivity) 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 FLOW MONITORING

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

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

EFFLUENT MONITORING

Effluent samples shall be representative of the treated wastewater prior to discharge to the land application areas after full chlorine contact has been achieved. The time of collection of grab samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sample Frequency</u>	<u>Reporting Frequency</u>
Flow to the Storage Reservoir	mgd	Continuous	Daily	Monthly
pH	std units	Grab	Weekly	Monthly
BOD ₅ ¹	mg/L	Grab	Weekly	Monthly
Total Coliform Organisms ²	MPN/100 mL	Grab	Daily ³	Monthly
TDS	mg/L	Grab	Monthly	Monthly
Nitrate (as N)	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Standard Minerals ⁴	mg/L	Grab	Annually	Annually

¹ 5-day biochemical oxygen demand @ 20 degrees C.

² Most probable number (MPN) per 100 mL.

³ Samples shall be obtained daily Monday through Friday.

⁴ Standard minerals shall include, at a minimum, the following: boron, chloride, iron, magnesium, sodium, and sulfate. Samples shall be filtered with a 0.45 micron filter prior to digestion, preservation, and analysis

TREATMENT POND AND STORAGE RESERVOIR MONITORING

Samples shall be collected from an established sampling station located in an area that will provide a sample representative of the wastewater in each aerated pond and the effluent storage reservoir. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of both treatment ponds and the storage reservoir 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>
Dissolved Oxygen	mg/L	Grab	Weekly	Monthly
pH	mg/L	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Berm Seepage ¹	--	Observation	Weekly	Monthly
Sludge Depth	inches	Measurement	Annually	Annually

¹ Containment berms shall be observed for signs of seepage or surfacing water along the exterior toe of the berms.

LAND APPLICATION AREA MONITORING

Monitoring of the land application areas (LAAs) shall be conducted **daily during operation** when the disposal areas are used, and the results shall be included in the monthly monitoring reports. If irrigation does not occur during a reporting period, the monitoring report shall so state. Monitoring of the land application areas shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Effluent Flow to each LAA	gallons	Continuous	Daily	Monthly
Rainfall ¹	inches	Measurement	Daily	Monthly
Acreage Applied ²	acres	Calculated	Daily	Monthly
Water Application Rate	inches/day	Calculated	Daily	Monthly
Nitrogen Loading Rate ³	lbs/ac/month	Calculated	Monthly	Monthly
TDS Loading Rate	lbs/ac/month	Calculated	Monthly	Monthly

¹ Rainfall data collected from the weather station that is nearest to the LAA or a properly maintained onsite rain gauge.

² Specific LAAs shall be identified.

³ Including contributions from applied fertilizer.

The nitrogen loading rate shall be determined using the following formula:

$$M = \frac{C \times V \times (8.345)}{A} + \frac{M_{fertilizer}}{A}$$

Where M = total nitrogen mass in pounds per acre per month (lb/ac/month);

C = average of total nitrogen monitoring results for calendar month in mg/L;

V = total effluent discharged to the field during calendar month in MG;

A = area of the field irrigated in acres,

M_{fertilizer} = total monthly mass from any other source in pounds; and

Total nitrogen = (nitrate as nitrogen + TKN) in mg/L.

The TDS loading rate shall be determined using the following:

$$M = \frac{C \times V \times (8.345)}{A}$$

Where M = total TDS mass in pounds per acre per month (lb/ac/month);

C = total TDS monitoring results for calendar month in mg/L;

V = total effluent discharged to the field during calendar month in MG; and

A = area of the field irrigated in acres.

At least **once per week** when treated wastewater is being applied to the LAAs, the entire application area shall be inspected and observations from those inspections shall be documented for inclusion in the monthly monitoring reports. If no irrigation with wastewater takes place during a given month, then the monthly monitoring report shall so state and the monitoring below is not necessary. The following items shall be documented:

1. Evidence of erosion;
2. Containment berm condition;
3. Soil saturation;
4. Ponding;
5. Potential runoff to off-site areas;
6. Potential and actual discharge to surface waters; and
7. Odors that have the potential to be objectionable at or beyond the property boundary.

GROUNDWATER MONITORING

The Discharger shall establish a semi-annual and annual sampling schedule for groundwater monitoring. This monitoring program applies to all existing monitoring wells. Prior to construction and/or sampling of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network and shall be sampled and analyzed according to the schedule below.

All samples shall be collected and analyzed using approved EPA methods, the latest edition of *Standard Methods*, or as approved by the Executive Officer. Depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated to determine groundwater gradient and direction of flow. Groundwater monitoring 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>
Depth to Groundwater	±0.01 feet	Measurement	Semi-annually	Semi-annually
Groundwater Elevation	±0.01 feet	Calculated	Semi-annually	Semi-annually
Gradient	feet/feet	Calculated	Semi-annually	Semi-annually
Gradient Direction	degrees	Calculated	Semi-annually	Semi-annually
pH	pH units	Grab	Semi-annually	Semi-annually
Total Coliform Organisms ¹	MPN/ 100 mL	Grab	Semi-annually	Semi-annually
Nitrate (as N)	mg/L	Grab	Semi-annually	Semi-annually
TDS	mg/L	Grab	Semi-annually	Semi-annually
Standard Minerals ²	mg/L	Grab	Annually	Annually

¹ Coliform limits are effective on 1 October 2012.

² Standard minerals shall include, at a minimum, the following: boron, chloride, iron, manganese, sodium, and sulfate. Samples shall be filtered with a 0.45 micron filter prior to digestion, preservation, and analysis.

WATER SUPPLY MONITORING

The Discharger shall monitor the community water supply well as required by the California Department of Public Health, and shall report the following minimum monitoring data for each water supply well to the Central Valley Water Board.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Volume pumped to community distribution system	MG	--	--	Annually
TDS	mg/L	Grab	Annually	Annually
Electrical Conductivity	umhos/cm	Grab	Annually	Annually
Nitrate (as N)	mg/L	Grab	Annually	Annually
Standard minerals ¹	mg/L	Grab	Annually	Annually
Metals ²	ug/L	Grab	Annually	Annually

¹ Standard Minerals shall include, at a minimum, the following: boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness as CaCO₃.

² Metals shall include, at a minimum, the following: arsenic, copper, lead, iron, manganese, nickel, and zinc.

SLUDGE MONITORING

The Discharger shall keep records regarding sludge generated by the treatment processes, including any analytical test results; the quantity of sludge removed for disposal; the quantity of sludge removed from the ponds and temporarily stored on site; and steps taken to prevent nuisance conditions. Records shall be stored onsite and available for review during inspections. If sludge is transported off-site for disposal, then the Discharger shall submit records identifying the hauling company, the amount sludge transported, the date removed from the facility, the disposal facility name and address, and copies of all analytical data required by the entity accepting the waste. These records shall be submitted as part of the Annual Monitoring Report.

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 Central Valley Water 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 professional engineer or geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Central Valley Water 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 monthly monitoring reports shall include:

1. Results of the influent flow, effluent, treatment ponds and effluent storage reservoir, and land application area monitoring, including calculated values for the weekly 7-day median effluent total coliform organism result and land application area TDS and nitrogen loading rates.
2. A comparison of monitoring data to the discharge specifications and effluent limitations, disclosure of any violations of the WDRs, and an explanation of any violation of those requirements. Data shall be presented in tabular format.
3. Copies of laboratory analytical report(s).
4. Copies of current calibration logs for all field test instruments.

B. Semi-Annual Monitoring Report

The Discharger shall establish a semi-annual sampling schedule for groundwater monitoring such that samples are obtained approximately every six months. Semi-annual Monitoring Reports shall be submitted to the Central Valley Water Board by the **1st day of the second month after the semi-annual event** (i.e., the January-June Semi-Annual Report is due by 1 August each year). The Semi-annual Monitoring Reports shall include the following:

1. Results of the semi-annual monitoring 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, determination 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 trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of the monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables and graphs 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; and
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Monitoring Report

An annual report shall be prepared. The Annual Monitoring Report shall be submitted to the Central Valley Water Board by **1 February each year**. The Annual Monitoring Report shall include the following:

1. Calculated values for the total annual influent flow and average dry weather influent flow.
2. A statement of whether cattle were grazed on the land applications areas during the year.
3. Analytical results from the annual monitoring of the groundwater.
4. Analytical results from the annual water supply monitoring. The Discharger's Consumer Confidence Report (or Annual Water Quality Report) may be submitted to comply with this requirement.
5. Sludge monitoring results, if sludge was removed during the year.
6. **Effective 2012**, and every five years thereafter, an evaluation of sludge depth and sludge removal plans pursuant to Discharge Specification B.18.
7. Tabular and graphical summaries of all data collected during the year.
8. An annual intra-well analysis to determine compliance with the groundwater limitations prepared in accordance with the approved plan submitted pursuant to Provision H.1.e. For constituents where no further degradation is allowed, a statistical analysis of temporal trends within each well is required. For constituents with a numeric

groundwater limit, historical data shall be analyzed and the statistic shall be compared to the numeric value.

9. An evaluation of the performance of the WWTP which demonstrates the facility's ability to consistently meet treatment standards for recycled water use as specified in Division 4 of Title 22 of the California Code of Regulations.
10. An evaluation of the performance of the WWTP, including discussion of capacity issues, infiltration and inflow rates, pond sludge layer thickness, nuisance conditions, and a forecast anticipated in the next year.
11. An evaluation of the groundwater quality beneath the wastewater treatment facility and the land application area.
12. Summary of information on the disposal of sludge as described in the "Sludge Monitoring" section. If applicable, describe the volume of sludge removed during the year and means of off-site disposal.
13. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
14. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. The 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 agents, 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.

Original signed by

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

30 March 2012
(Date)

INFORMATION SHEET

ORDER R5-2012-0025
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY

Background

The City of Lakeport Municipal Sewer District (CLMSD) owns and operates the City of Lakeport Wastewater Treatment Facility (WWTF) located in Lake County. The WWTF services approximately 2,600 residential units. Domestic wastewater is treated in two unlined aeration basins, chlorine disinfected, then stored in a storage reservoir prior to land application to approximately 242 acres with native vegetation. The WWTF is regulated under Waste Discharge Requirements (WDRs) Order 98-207. A Cease and Desist Order (CDO) R5-2007-0010 was issued to the Discharger due to numerous violations related to sanitary sewer overflows, spills, storage capacity, land application area, and groundwater. CDO Task 16 required the Discharger to submit a Report of Waste Discharge (RWD) to reflect the proposed upgrades in the Sewer System Master Plan and demonstrate that the proposed improvements are compliant with State Water Resources Control Board Resolution 68-16 (The Antidegradation Policy). The following changes were completed as part of the 2007 Effluent Irrigation System Expansion:

- Irrigation spray fields were increased from 242 acres to 332 acres.
- Two new tail-water pump stations were constructed to capture and return runoff from the new spray fields.
- Diversion ditch bypass pipe installed to intercept storm water runoff and divert runoff away from the WWTF's recapture basin, thus increasing storage capacity of the effluent storage reservoir.

The derivation of selected terms and conditions of the Order is discussed below.

Order Terms and Conditions

The antidegradation directives of State Water Board Resolution 68-16 require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Waters can be of high quality for some constituents or beneficial uses and not others. Policies and procedures for complying with this directive are set forth in the Basin Plan (including by reference State Water Board Resolution 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," or "Antidegradation" Policy).

Resolution 68-16 is applied on a case-by-case, constituent-by-constituent basis in determining whether a certain degree of degradation can be justified. It is incumbent upon the Discharger to provide technical information for the Central Valley Water Board to evaluate that fully characterizes:

- All waste constituents to be discharged;

- The background quality of the uppermost layer of the uppermost aquifer;
- The background quality of other waters that may be affected;
- The underlying hydrogeologic conditions;
- Waste treatment and control measures;
- How treatment and control measures are justified as best practicable treatment and control;
- The extent the discharge will impact the quality of each aquifer; and
- The expected degree of degradation.

In allowing a discharge, the Central Valley Water Board must comply with California Water Code (Water Code) section 13263 in setting appropriate conditions. The Central Valley Water Board is required to implement the Basin Plan and consider the beneficial uses to be protected along with the water quality objectives essential for that purpose. The Central Valley Water Board need not authorize the full utilization of the waste assimilation capacity of the groundwater (Water Code section 13263(b)) and must consider other waste discharges and factors that affect that capacity.

Some degradation of the groundwater for certain constituents is consistent with maximum benefit to the people of California because the technology, energy, and waste management advantages of municipal utility service far outweigh the environmental impact of a community that would otherwise be reliant on numerous individual wastewater systems, and the impact on the water resource will be substantially less. The Order authorizes some degradation consistent with the maximum benefit to the people of the State.

The following treatment and controls will be implemented at the WWTF:

- Technology using physical and biological processes to reduce the suspended solids and BOD;
- Technology for disinfection of municipal wastewater;
- Land application of treated wastewater at agronomic rates for nutrients;
- A tailwater system to collect and re-circulate irrigation runoff back into the WWTF and prevent the discharge of irrigation/storm water mixtures into surface waters; and
- A diversion ditch bypass to intercept storm water runoff and divert runoff from the tailwater recapture basins; therefore increasing storage capacity of the reservoir.
- A backup generator for emergency power to the WWTF.
- Alarms to alert power and equipment failure.
- Certified operators to assure proper operation and maintenance.

At this time, there is no reason to believe that additional measures are needed to protect groundwater quality. This Order establishes effluent and groundwater limitations; discharge specifications; land application area requirements; and monitoring requirements to assure protection of the beneficial uses of groundwater.

Groundwater Limitations

With the exception of salts (primary TDS), nutrients (nitrate as N), and total coliform organisms, the WDRs will set narrative groundwater limits not to exceed current groundwater quality.

- High TDS concentrations detected in wells MW-1 and MW-2, indicate some salinity degradation has occurred. Therefore, the WDRs include a numeric groundwater limitation of 1,000 mg/L for TDS to protect groundwater quality.
- Groundwater can be shallow at locations throughout the site. Therefore, the WDRs includes a numeric groundwater limitations of 10 mg/L for nitrate (as N) to protect the municipal and domestic use of groundwater.
- The Basin Plan's numeric water quality objective for total coliform organism is 2.2 MPN/100mL.

Discharge Specification B.1

The Division of Safety of Dams regulates the storage reservoir and the concrete spillway is set at 4.75 feet below the dam crest. The current WDRs require two feet of freeboard below the top of the spillway, which drains to a surface water drainage course. The Discharger wants to reduce the reservoir freeboard. Any minimal wave action could cause a spill with a zero freeboard, and therefore a violation of the WDRs. Based on the rainfall data from three Lakeport weather stations (Department of Water Resources), a spill would unlikely occur (at a one foot freeboard) during a 100-year rainfall, 24-hour precipitation event. The reservoir is located in an area such that trees and surrounding mountains provide some protection, and therefore substantial wave action is unlikely to occur. Therefore, the monthly average dry weather flow and annual flow to the reservoir was based on a one foot freeboard.

Wastewater Reclamation Specifications

The WDRs include Title 22 requirements for reclaimed water use areas if the Discharger chooses to graze cattle in the land application areas.

Effluent Limitations F.2, F.3 and Provision H.1.c

A monthly average coliform limit of 23 MPN/100 mL and a daily maximum coliform limit of 240 MPN/100 mL (in accordance with Title 22 requirements) appear to be an appropriate discharge requirement for the type of waste being discharged. However, based on recent effluent monitoring data, it appears that the Discharger may not be able to immediately comply. Therefore, the WDRs will require interim limits to allow the Discharger to evaluate the disinfection system, sampling procedures, and facility operations; and determine whether facility and/or operational improvements are necessary to protect groundwater quality. Final

effluent limitations will become effective 1 March 2014, following completion of any facility and operational improvements.

Provision H.1.f

The RWD indicates significant sludge accumulation in the existing treatment ponds. The Discharger envisions the sludge to be dried onsite prior to offsite disposal or onsite land application as a soil conditioner and fertilizer supplement. The RWD did not provide the information necessary to develop appropriate sludge discharge requirements. Therefore, prior to any sludge removal and disposal, the Discharger shall submit a *Sludge Cleanout Plan*.

The use and disposal of biosolids is subject to comply with Title 40, Code of Federal Regulations, Part 503 and valid waste discharge requirements, such as the General Biosolids Order (State Water Resources Control Board Water Quality Order 2009-10-DWQ, *General Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities*). If the Discharger proposes to land apply biosolids at the effluent recycling site, the *Sludge Cleanout Plan* shall include a RWD and filing fee to apply for separate waste discharge requirements.

Provisions H.1.e

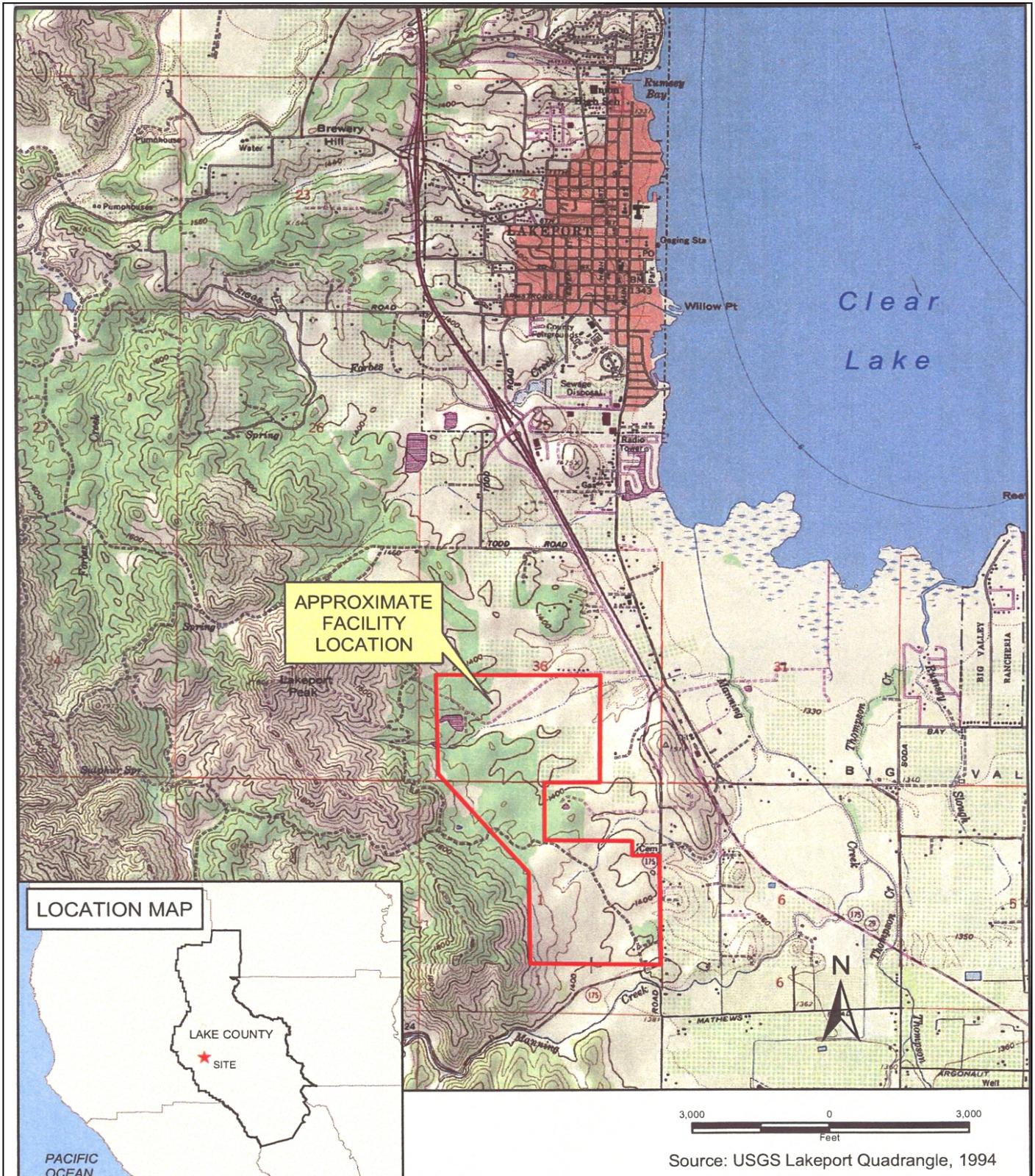
Effective 1 December 2013, the grazing of non-milk producing animals on pasture irrigated with treated wastewater is prohibited unless the Discharger submits proof of CDPH approval of Title 22 Engineering Report and obtains approval by the Executive Officer.

Monitoring Requirements

The Order requires monitoring of the wastewater influent, effluent, groundwater, and water supply. Effluent and groundwater limitations are necessary to protect the municipal and domestic use of groundwater. If results of monitoring reveal a previously undetected threat to water quality or indicate a change in waste character such that the threat to water quality is significantly increase, the Central Valley Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

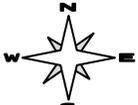
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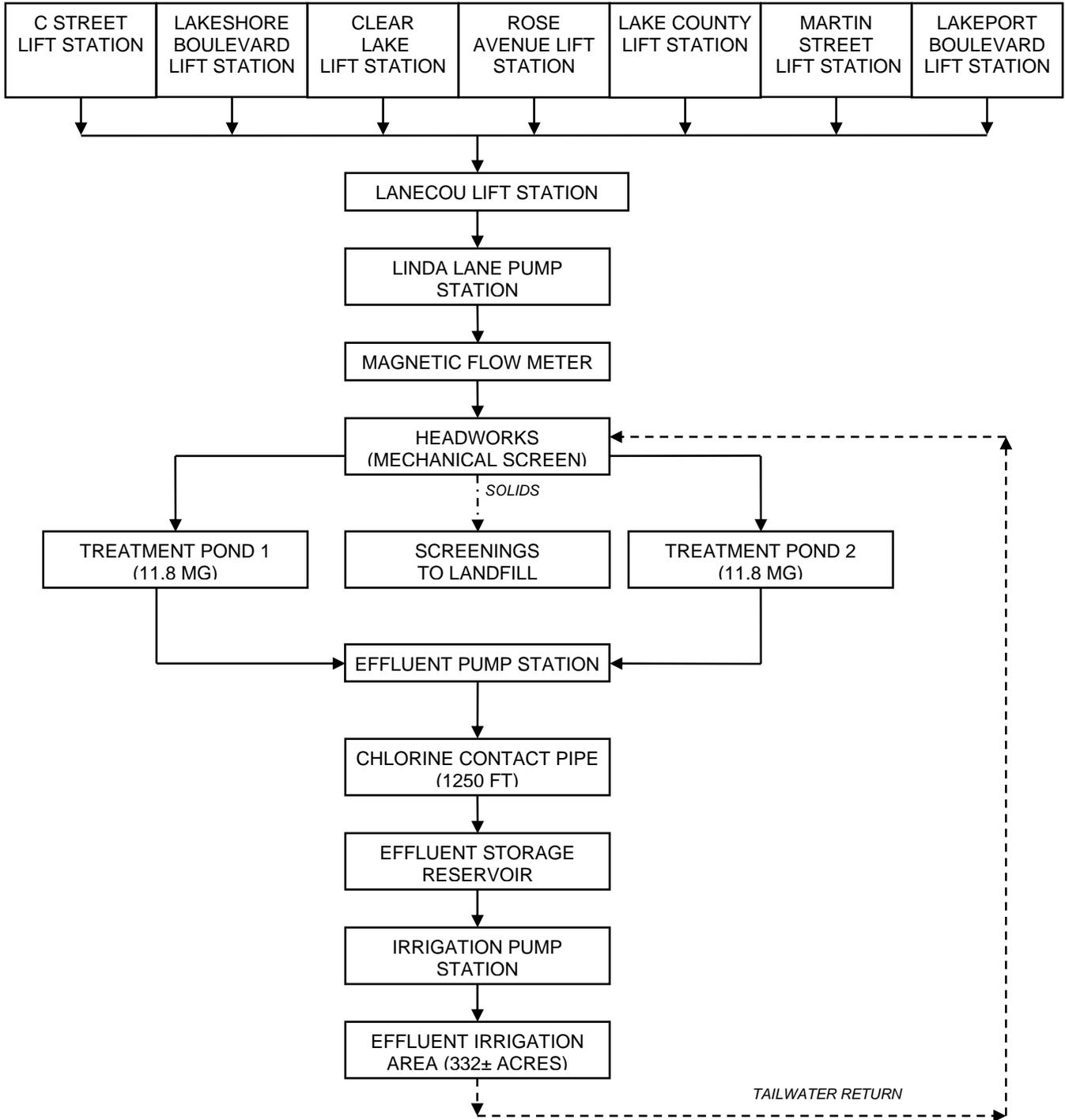
The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. If the information obtained from the monitoring activities indicate a significantly increased threat to water quality, it may be appropriate to reopen the Order to address compliance with the Basin Plan.



Drawing Reference:
 U.S.G.S
 Highland Springs
 TOPOGRAPHIC MAP
 7.5 MINUTE QUAD

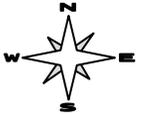
SITE LOCATION MAP
 CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
 LAKEPORT WASTEWATER TREATMENT FACILITY
 LAKE COUNTY

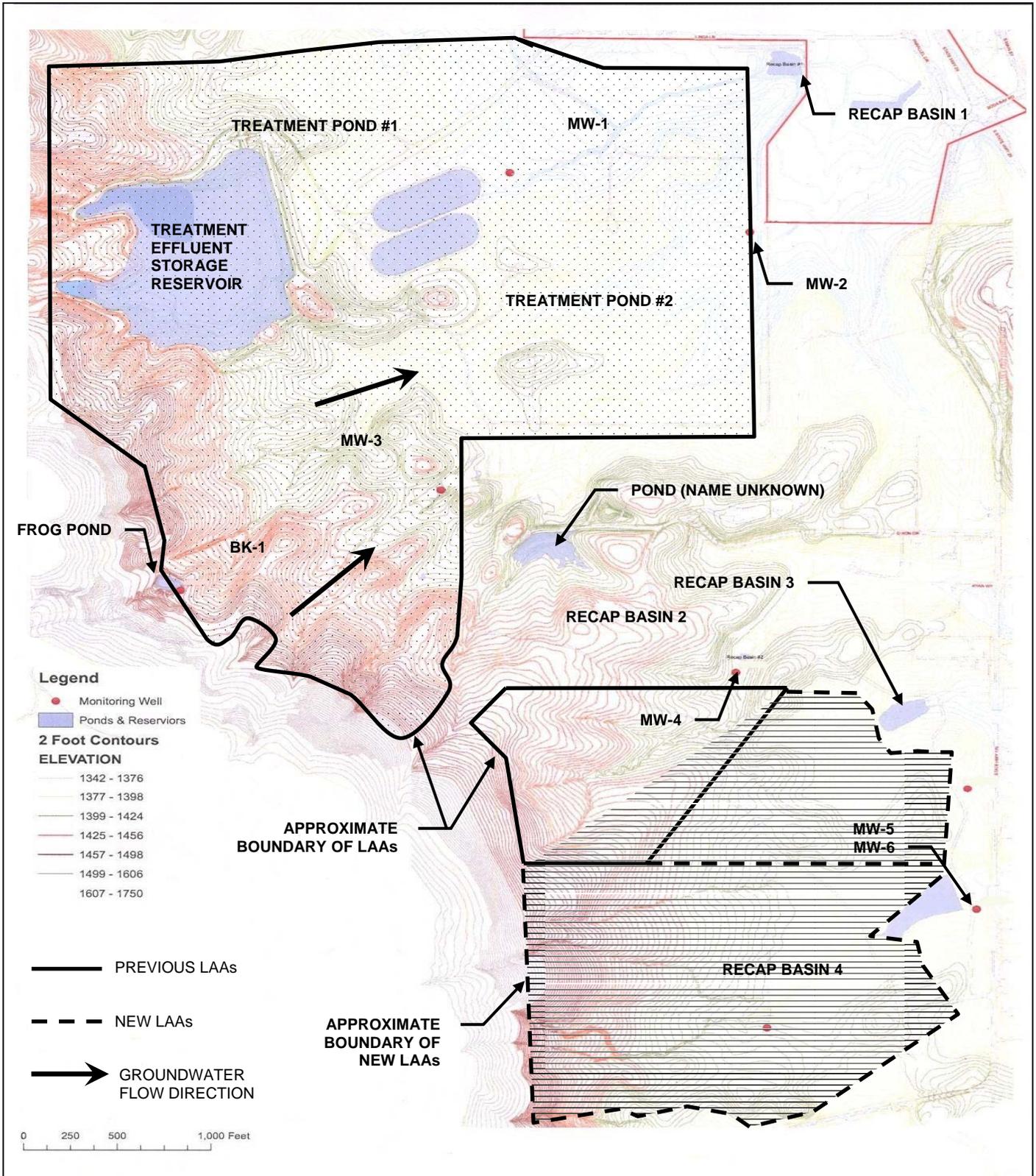

 approx. scale
 1 in. = 3000 ft.



Drawing Reference:
PACE CIVIL, INC.

PROCESS FLOW DIAGRAM
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY


 NO SCALE



Drawing Reference:
 City of Lakeport
 Utilities Department

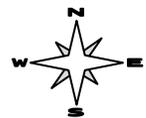
**MONITORING WELL AND
 LAND APPLICATION AREA MAP**
 CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
 LAKEPORT WASTEWATER TREATMENT PLANT
 LAKE COUNTY

1 in = 800 ft



Drawing Reference:
TITLE 22 ,
CALIFORNIA CODE
OF REGULATIONS

RECYCLE WATER SYMBOL
CITY OF LAKEPORT MUNICIPAL SEWER DISTRICT
LAKEPORT WASTEWATER TREATMENT FACILITY
LAKE COUNTY



NO SCALE