



**California Regional Water Quality Control Board**  
**Lahontan Region**



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OCT 01 2008

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**CALIFORNIA WATER CODE SECTION 13267 ORDER TO SUBMIT TECHNICAL  
REPORTS, U.S. FOREST SERVICE - LASSEN NATIONAL FOREST, EAGLE LAKE  
WASTEWATER FACILITY, LASSEN COUNTY, WDID NO. 6A188505700**

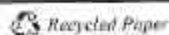
Pursuant to Water Code section 13267, this Order requires you to submit technical reports providing (1) background and design information regarding the Eagle Lake Wastewater Facility (Facility) and associated/adjacent facilities; (2) a work plan for and the results of investigating soil conditions and the groundwater quality in the immediate vicinity of the Facility; (3) a work plan for and the results of investigating the condition of the Facility's pond liners; and (4) a work plan for addressing all liner deficiencies identified during the investigation. California Regional Water Quality Control Board, Lahontan Region (Water Board) staff observations during recent Facility inspections and photographs provided by a local citizen confirm that the integrity of the Facility's wastewater pond liners has not been maintained. Staff has observed and the photographs show holes in the liners above the wastewater surface, and staff has observed conditions indicating leakage through the liners is likely occurring below the wastewater surface.

A soil and groundwater investigation is necessary to determine if groundwater quality and beneficial uses of groundwater have been adversely impacted by discharges as a result of the deteriorated condition of the pond liners. Additionally, the pond liners need to be investigated to determine the extent of the liner deterioration, and to identify appropriate corrective measures and an implementation schedule.

**A. VIOLATIONS AND THREATENED VIOLATIONS**

Board Order No. 6-94-94 prescribes waste discharge requirements for the U.S. Forest Service - Lassen National Forest's Eagle Lake Wastewater Facility. The Facility is located approximately one mile from the south shore of Eagle Lake. The Facility, in part, includes two lined primary wastewater ponds and three lined

*California Environmental Protection Agency*



evaporation ponds. The Facility receives up to 2.6 million gallons of wastewater during the operating season from a campground, picnic areas, marina and children's camp located on Eagle Lake's south shore.

Board Order No. 6-94-94 contains the following requirement, in pertinent part:

I.C.8. "The integrity of the pond liners shall be maintained throughout the life of the ponds...."

As discussed in the first paragraph of this letter, staff has observed significant pond liner deterioration during site inspections in 2007 and 2008. The conditions discussed in the first paragraph are evidence that the liners are not being adequately maintained for the life of the ponds in violation of Requirement No. I.C.8, above.

Board Order No. 6-94-94 also contains the following requirement:

I.C.5. "The discharge shall not cause a pollution as defined in Section 13050 of the California Water Code, or a threatened pollution."

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains the following waste discharge prohibition for the Eagle Drainage Hydrologic Area:

"6. The discharge of wastes containing nutrients from the wastewater treatment facility on lands administered by the U.S. Forest Service, Lassen National Forest, to surface waters or ground waters in the Eagle Lake basin is prohibited."

It is highly probable that the ponds, in their current condition, have discharged wastewater containing nutrients to the soil below the ponds. It is also possible that such discharges are continuing to occur and may be reaching groundwater and affecting groundwater quality. The increased potential, due to the current liner deterioration, of wastewater discharges from the ponds reaching the groundwater and adversely affecting the groundwater's beneficial uses constitutes threatened violations of the above-referenced waste discharge requirement (I.C.5) and Basin Plan prohibition.

## B. JUSTIFICATION

In pertinent part, pursuant to Water Code section 13267, subdivision (b):

"...the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region...or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires...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 are justified for the following reasons:

1. It is necessary to assess the current condition of all of the pond liners and to develop and implement the necessary corrective actions to return the Facility to compliance with Board Order No. 6-94-94.
2. It is necessary to determine if discharges from the ponds have adversely impacted groundwater quality and beneficial uses and, if so, the lateral and vertical extent of such impacts. This information is needed to evaluate the Facility's compliance with the Basin Plan waste discharge prohibition. If the investigation reveals adverse impacts to groundwater quality and beneficial uses, such information will be used to develop the necessary corrective actions to return the Facility to compliance with the Basin Plan.

#### C. ORDER FOR TECHNICAL REPORTS

Pursuant to Water Code section 13267, I am ordering the U.S. Forest Service-Lassen National Forest to submit the following technical reports prepared by or under the supervision of a California-licensed Professional Engineer or Professional Geologist by the specified due dates.

<u>Report<sup>1</sup></u>	<u>Due Date</u>
1. Wastewater Pond Inspection Work Plan	October 17, 2008
2. Facility and Well Design Report	October 24, 2008
3. Soil and Groundwater Investigation Work Plan	October 24, 2008
4. Wastewater Pond Inspection and Corrective Actions Report	December 5, 2008
5. Soil and Groundwater Investigation Report	January 2, 2009

<sup>1</sup> Report Nos. 1 and 4 must be prepared by or under the supervision of a California-licensed Professional Engineer. Report No. 2 may be prepared by any qualified U.S. Forest Service employee or consultant. Report Nos. 3 and 5 must be prepared by or under the supervision of either a California-licensed Professional Engineer or Professional Geologist. Report Nos. 1, 3, 4 and 5 must include the signature, stamp, and contact information for the California-licensed Professional Engineer and/or Professional Geologist acting in responsible charge for the content of the reports.

1. The **Wastewater Pond Inspection Work Plan** must, at a minimum, include the following information:

A description of methods to thoroughly investigate the integrity of the pond liners in all wastewater ponds for purposes of identifying all locations where the liners' integrity has been compromised. Additionally, justification for selecting the proposed investigation methods, and documentation that the proposed investigation methods meet current industry standards must be provided.

2. The **Facility and Well Design Report** must, at a minimum, include the following information:

- a. A Facility history identifying/describing (1) when and how each pond was constructed; (2) when and what maintenance activities have been conducted for each pond; and (3) any pond design modifications (e.g., liner extension) for each pond.
- b. A copy of any geotechnical reports that have been completed for the Facility site, if such reports have been prepared.
- c. As-built drawings for all wastewater ponds at the Facility including information on the pond sub-grade and pond liners. Provide design plans if as-built drawings were not created.
- d. As-built drawings for any and all modifications to the wastewater ponds at the Facility. Provide design plans if as-built drawings were not created.
- e. As-built drawings for all lysimeters and underground drains associated with the wastewater ponds.
- f. A description of any and all wells located within one mile of the Facility with a map of appropriate scale showing the location of each well.
- g. A boring log for each well, which includes a detailed description of all soils and/or bedrock encountered during drilling, drilling method, as well as the total depth of drilling.
- h. A construction log for each well, which details the length, location, and type of: casing, screen, riser, sandpack, seals, and grout.
- i. Any available groundwater elevation measurements and groundwater sampling results from any wells within one mile of the Facility.

The purpose of this report is to better understand the Facility's wastewater system, monitoring facilities, and the nearby geology/hydrogeology.



3. The **Soil and Groundwater Investigation Work Plan** must, at a minimum, include the following information:
    - a. A description of plans to collect data necessary to adequately describe the stratigraphy of soil surrounding the Facility, and any soils or other geological features which may affect groundwater movement and aquifer location(s).
    - b. Proposed locations for soil investigation points (e.g., borings), with justification for each location.
    - c. A description of plans to collect data necessary to determine the concentrations of the constituents of concern in first-encountered groundwater up-gradient and down-gradient of the Facility. Constituents of concern include nitrate-nitrogen, total Kjeldahl nitrogen, total nitrogen, pH, total dissolved solids, chlorides, total coliform, and fecal coliform.
    - d. A description of plans necessary to determine groundwater elevations, groundwater gradient, and groundwater flow direction.
    - e. A sampling and analysis plan that includes the quality assurance and quality control procedures necessary to ensure valid and representative data is obtained and reported. The sampling and analysis plan must also include procedures/methods that provide data that satisfies the enclosed reporting limits for the constituents of concern (Enclosure 1).
    - f. Proposed locations and designs for groundwater monitoring wells with justification for each location.
    - g. A schedule for implementing the work plan that results in submittal of the Soil, and Groundwater Investigation Report by **January 2, 2009**.
  4. The **Wastewater Pond Inspection and Corrective Actions Report** must, at a minimum, include the following information:
    - a. The results of the wastewater pond inspection, including tabulated presentation of inspection data and a description of the integrity of the wastewater pond liners. Additionally, include photographs with accompanying descriptions of liner conditions that provide examples (e.g., holes, splits, tears) and a scale (e.g., inches, feet) of the liner wherever conditions indicate the liner integrity has been compromised.
    - b. Facility site plan of appropriate scale illustrating/depicting all areas where the integrity of the wastewater pond liners has been compromised, and the nature of the deterioration/damage.
    - c. An analysis of the data that provides an estimated leakage rate for each pond that has a compromised pond liner. This analysis must take into consideration the varying wastewater surface elevations within each pond throughout the year.
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Therefore, it may be appropriate to provide a range of leakage rates, and an average annual leakage rate.

- d. Proposed corrective actions addressing the pond liners that are identified as being damaged or having deteriorated. The proposed corrective actions should include a combination of short-term (e.g., intended to immediately reduce leakage rates) and long-term (e.g., intended to eliminate leaks) actions. Additionally, a schedule for implementing the proposed corrective actions must be included.
5. The **Soil and Groundwater Investigation Report** must, at a minimum, include the following information:
- a. The results of the soil investigation including tabulated and graphical presentation of the subsurface stratigraphy, borehole logs, and maps of appropriate scale illustrating/depicting boring and well locations.
  - b. An analysis of the Facility's hydrogeologic conditions at and immediately surrounding the Facility, based upon the data collected during the investigation and data/information gathered during prior geotechnical investigations. The analysis must also include an estimated percolation rate for the soils surrounding the ponds.
  - c. The results of groundwater sampling, including tabulated presentation of analytical data, laboratory reports, and quality assurance/quality control documentation.
  - d. A description of groundwater quality up-gradient and down-gradient of the Facility with maps of appropriate scale illustrating/depicting the analytical results for each constituent of concern, groundwater elevations, and the direction of groundwater flow beneath the Facility.
  - e. An analysis of the Facility's impacts upon groundwater quality, based upon the data collected during the investigation, and any other data/information collected during previous investigations. The analysis must also include recommendations for additional investigation activities necessary to determine the full extent of the Facility's impacts on groundwater quality.

This Order is being issued pursuant to Water Code section 13267. Enclosed with this Order is a Fact Sheet (Enclosure 2) that contains information regarding the submittal of technical reports pursuant to Water Code section 13267.


Any person aggrieved by this action of the Regional 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

Please contact Scott Ferguson at (530) 542-5432 or Taylor Zentner at (530) 542-5469 if you have any questions regarding this Order.



HAROLD J. SINGER  
EXECUTIVE OFFICER

Enclosures: 1. Constituents of Concern Reporting Limits  
2. Water Code Section 13267 Fact Sheet

cc: Terri Frolli/Lassen National Forest, Eagle Lake Ranger District  
John Allison/Lassen County Environmental Health  
Val Aubry

TBZ/clht; Lassen NF Eagle Lake Wastewater Facility-13267 Order.doc  
File Under: USFS Lassen National Forest, Eagle Lake Recreational Area (WDID No. 6A188505700)