

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0025

WASTE DISCHARGE REQUIREMENTS
FOR
SHASTA COUNTY SERVICE AREA NO. 13
ALPINE MEADOWS AND WHISPERING WOODS ESTATES SUBDIVISIONS
SHASTA COUNTY

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

1. Waste Discharge Requirements Order No. 98-046, adopted by the Regional Board on 27 February 1998, prescribes requirements for discharges of primary treated domestic wastewater from Alpine Meadows and Whispering Woods Estates subdivisions to community leachfields. The facilities are in Shingletown, a small community in south central Shasta County. Shasta County Service Area No. 13, hereafter Discharger, is responsible for controlling, maintaining, and administering the wastewater treatment and disposal facilities. Lot 18 (originally APN 703-020-017) of Alpine Meadows is being split into four residential parcels. To accommodate increased design flow, 1,600 feet of leachline has been added to the existing wastewater disposal area (Lot 17). The Discharger submitted a Report of Waste Discharge (ROWD) for the changes on 2 August 1999. Additional information was requested and submitted, and the ROWD was determined to be complete on 11 April 2003. Order No. 98-046 is being revised to reflect the increase in design flow.
2. The Alpine Meadows subdivision proposes to discharge up to a maximum daily flow of 5,128 gallons per day (gpd) to two septic tank/leachfield systems, one for ten existing commercial lots (3,000 gpd) and the other for the four proposed residential lots (2,128 gpd). The two systems will operate independently.
3. The wastewater treatment system serving the ten commercial lots consists of a gravity sewer, common septic tank, pump station, force main and dual leachfield system to accommodate up to 3,000 gpd of wastewater flow. The wastewater treatment system has experienced excessive inflow and/or infiltration (I&I) during the winter months. An investigation performed by the Discharger determined that the cause of the excessive I&I was infiltration into the septic tank. However, the investigation was performed during the summer, when I&I is at a minimum. Therefore, these draft requirements require the Discharger to submit a plan (with a time schedule) to investigate and eliminate the excessive infiltration. The Discharger has installed piezometers to monitor groundwater elevations near the leachfield. The piezometers document elevated groundwater (possibly related to effluent mounding on groundwater) during periods of high infiltration.

4. The wastewater treatment facility for the four proposed residential lots in the Alpine Meadows subdivision will consist of individual septic tanks on each parcel, gravity sewers, lift station, force main and a common leachfield. The design capacity of the system is 2,128 gpd. Septic tank maintenance is the responsibility of the individual property owners, not the Discharger. To monitor groundwater depth, the Discharger will place piezometers in the new leachfield.
5. The Whispering Woods Estates subdivision was designed to discharge up to a maximum daily flow of 14,700 gpd from up to 42 single-family residences to a common septic tank, holding tank, force main, and leachfield. Percolation rates are in the disposal area range from 9 to 60 minutes/inch. The Discharger has installed piezometers throughout the leachfield to monitor groundwater depth.
6. The Alpine Meadows subdivision leachfield area (APN 703-020-016) is in Section 5, T30N, R1E, MDB&M. Whispering Woods Estates subdivision leachfield area (APN 096-300-037) is in Section 32, T31N, R1E, MDB&M. Both discharges are within the Inwood Hydrologic Subarea (No. 507.22) as depicted on interagency hydrologic maps prepared by the Department of Water Resources (DWR) in August 1986. Surface water drainage for Alpine Meadows and Whispering Woods Estates is to Ash Creek, Shingle Creek, and Woodridge Lake. Ash Creek is tributary to Woodridge Lake which discharges to Shingle Creek and Ash Creek. Ash Creek is tributary to the Sacramento River about 0.9 miles above Balls Ferry and Shingle Creek is tributary to Bear Creek, which is tributary to the Sacramento River about 1.4 miles above Balls Ferry.
7. The location of the Alpine Meadows and Whispering Woods Estates subdivisions and disposal areas are shown on Attachment A, which is attached hereto and made part of this Order by reference.
8. Average annual rainfall at the site is approximately 46 inches, according to data from Station No. Shingletown 2E, which is approximately 2 miles east-northeast of the site.
9. Soils in the vicinity of the disposal areas consist of well-drained Cohasset Series loams.
10. The treatment and disposal areas are outside the 100-year flood zone.
11. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin* (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for protecting waters of the basin, including plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference into the Basin Plan. These requirements implement the Basin Plan.

12. The beneficial uses of the Sacramento River are municipal and agricultural supply; industrial process supply; hydropower generation; water contact recreation; non-contact water recreation; warm and cold freshwater habitat; migration of aquatic organisms; spawning, reproduction and/or early development of fish; wildlife habitat; and navigation.
13. The beneficial uses of underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
14. A “sanitary sewer overflow” is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant (in this case, the leachfields). Temporary storage and conveyance facilities (such as wet wells, septic tanks, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.
15. Within this system, a sanitary sewer overflow consists of domestic and/or commercial sewage. Typical causes of sanitary sewer overflows include grease blockages, root blockages, debris blockages, sewer line flood damage, air relief/vacuum valve failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and contractor caused blockages.
16. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic wastes, nutrients, oxygen demanding organic compounds, oil and grease, and other wastes. Sanitary sewer overflows can cause temporary exceedances of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters.
17. State Water Resources Control Board Resolution No. 68-16 (*Policy with Respect to Maintaining High Quality Waters of the State*—hereafter Resolution 68-16) requires the Regional Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than as described in plans and policies. If a change in water quality is allowed, the discharge is required to meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and highest water quality consistent with maximum benefit to the people will be maintained.
18. The Regional Board finds that, due to the need for housing and commerce, some degradation of groundwater in the discharge area is consistent with Resolution 68-16 provided that:

- a. The degradation is confined to a reasonable area;
- b. The Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
- c. The degradation is limited to waste constituents typically encountered in domestic wastewater; and
- d. The degradation does not result in water quality less than that prescribed in the Basin Plan.

19. The discharge appears to meet BPTC because:

- a. Relatively large lot sizes and low unit density favor leachfield disposal;
- b. Wastewater flows are small;
- c. The four new residential lots are an incremental, in-kind expansion to an existing leachfield disposal area; and
- d. The several thousand residences, as well as businesses, in the Shingletown area rely solely on leachfields for wastewater disposal.

Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16. The Regional Board may reopen this Order to apply groundwater limitations and other requirements as needed to maintain compliance with Resolution 68-16.

20. Section 13267(b) of the California Water Code (CWC) states, in part, 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 having discharged or 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 having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of waters of the state within its region shall furnish under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs of these reports shall bear a reasonable relationship to the need for the 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 reports required by Monitoring and Reporting Program No. R5-2005-0025 is necessary to assure compliance with these waste discharge requirements. The Discharger operates facilities that discharge wastes subject to this Order.

21. Federal Regulations for storm water discharges were promulgated by United States Environmental Protection Agency (USEPA) on 16 November 1990 (Title 40 Code of Federal Regulations [CFR], Parts 122, 123, and 124) which require specific categories of

- facilities discharging storm water associated with industrial activity to obtain NPDES permits and to implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate industrial storm water pollution.
22. The SWRCB adopted Order No. 97-03-DWQ (General Permit No. CAS000001), on 17 April 1997, specifying waste discharge requirements for discharge of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent (NOI) by industries covered under the permit. These facilities are not subject to the General Permit because the discharge is less than 1.0 mgd.
 23. Shasta County adopted a Mitigated Negative Declaration for the project on 6 April 2000 in accordance with CEQA. As a responsible agency, the Regional Board finds that the project as approved by Shasta County will not have a significant effect on water quality.
 24. The discharge authorized herein and the treatment and storage facilities associated with the discharge, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27 of the California Code of Regulations (CCR). The exemption, pursuant to Title 27 CCR, Section 20090(a), is based on the following:
 - a. The waste consists primarily of domestic sewage and treated effluent;
 - b. The waste discharge requirements are consistent with water quality objectives; and
 - c. The treatment and storage facilities described herein are comparable in function to a municipal wastewater treatment plant.
 25. The DWR has established standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards). These standards are described in two DWR publications: *Water Well Standards: State of California*, Bulletin 74-81 (December 1981) and *California Well Standards*, Bulletin 74-90 (June 1991—supplement to Bulletin 74-81).
 26. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
 27. The Discharger and interested agencies and persons were notified of the intent to prescribe waste discharge requirements for this discharge, and provided an opportunity to submit written views and recommendations and to be heard in a public meeting.
 28. In a public meeting, all comments pertaining to the discharge were heard and considered.

IT IS HEREBY ORDERED that Order No. 98-046 is rescinded and Shasta County Service Area No. 13, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. By-pass or overflow of untreated or partially treated waste is prohibited.
3. Discharge of waste classified as “hazardous,” as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or “designated,” as defined in Section 13173 of the CWC, is prohibited.

B. Discharge Specifications

1. The discharge to leachfields shall remain underground at all times.
2. The maximum daily discharge flow from the Alpine Meadows commercial subdivision (excluding the four new residential lots) shall not exceed 3,000 gpd.
3. The maximum daily discharge flow from the Alpine Meadows subdivision four new residential lots shall not exceed 2,128 gpd.
4. The maximum daily discharge flow from the Whispering Woods Estates subdivision shall not exceed 14,700 gpd.
5. Depth of soil below the bottom of the leaching trenches to the highest anticipated groundwater, fractured rock, or impervious soil layer shall not be less than 5 feet.

C. Sludge Disposal

1. Collected screenings, grit, sludges, and other solids removed from liquid wastes shall be disposed of in a manner that is approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Any proposed change in sludge use or disposal practice should be reported to the Executive Officer for approval at least 90 days in advance of the change.

D. Groundwater Limitations

1. The discharge shall not cause groundwater under and beyond the disposal area, to:

- a. Contain any of the following constituents in concentration greater than as listed or greater than natural background quality, whichever is greater:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Total Coliform Organisms	MPN/100 mL	2.2
Total Dissolved Solids	mg/L	500
Nitrate (as N)	mg/L	10

- b. Impart taste, odor, or toxicity that creates nuisance or impairs any beneficial use.

E. Provisions

1. The Discharger may be required to submit technical reports, pursuant to CWC Section 13267, as directed by the Executive Officer.
2. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0025, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. **Within 60 days of adoption of this Order**, the Discharger shall submit to the Executive Officer, a plan with a time schedule to investigate and eliminate excessive I&I to the wastewater treatment system for the Alpine Meadows commercial lots. The time schedule shall reflect the shortest timeframe necessary to correct the problem.
4. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are incorporated herein and made part of this Order. This attachment and its individual paragraphs are commonly referenced as Standard Provision(s).
5. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
6. The Discharger shall use the best practicable treatment and control techniques, including proper operation and maintenance, to assure compliance with terms of this Order.

7. In event of overflow from the collection system, the Discharger shall take all necessary remedial action to control and limit the volume of wastewater discharged, and terminate the overflow as rapidly as possible. Necessary remedial actions may include, but are not limited to, the following:
 - a. Interception and rerouting of sewage flows around the collection line failure.
 - b. Vacuum truck recovery to the extent practical of sanitary sewer overflows and wash down water.
 - c. Cleanup of sewage-related debris at the overflow site.
 - d. Disinfection and posting of the area.
8. The Discharger shall not allow waste-free wastewater to be discharged into the wastewater collection, treatment, and disposal system. Waste-free wastewater means rainfall (roof gutters, yard drainage), groundwater, cooling waters, and condensates that are essentially free of wastes.
9. In the event of any change in control or ownership of land or waste discharge facilities described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation 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 Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the proposed owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC. Transfer shall be approved or disapproved by the Executive Officer.
10. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
11. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
12. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

13. The Regional Board will review this Order periodically and will revise requirements when necessary.

I, THOMAS R. PINKOS, 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 27 January 2005.

THOMAS R. PINKOS, Executive Officer

RB: sae
2/4/05

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0025
FOR
SHASTA COUNTY SERVICE AREA NO. 13
ALPINE MEADOWS AND WHISPERING WOODS ESTATES SUBDIVISIONS
SHASTA COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring the wastewater effluent, septic tanks, leachfields, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised MRP.

EFFLUENT MONITORING

The Discharger shall report monthly effluent flow from each septic tank/leachfield system as total gallons.

LEACHFIELD MONITORING

The Discharger shall inspect the leachfields and note the presence or absence of saturated soils, standing liquid or nuisance conditions. The leachfields shall be inspected monthly.

SLUDGE MONITORING

The Discharger shall inspect annually all septic and holding tanks which are under their control. When the tanks, which are under their control, require pumping, the Discharger shall report the date each tank is pumped.

GROUNDWATER MONITORING

Each piezometer shall be monitored for the following:

Alpine Meadows Subdivision (both disposal areas):

<u>Parameter</u>	<u>Unit</u>	<u>Sampling Frequency</u>
Depth to Groundwater	Feet	Monthly, April through December
Depth to Groundwater	Feet	Weekly, January through March ¹

¹May be reduced to monthly, by the Executive Officer, after elimination of excessive inflow/infiltration

Whispering Woods Estates:

<u>Parameter</u>	<u>Unit</u>	<u>Sampling Frequency</u>
Depth to Groundwater	Feet	Monthly

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type, and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board by the **1st day** of the second month following sampling (e.g., the January Report is due by **1 March**). At a minimum the reports shall include:

1. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format.
2. If requested by staff, copies of laboratory analytical report(s).

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

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

(Date)

RB: sae
2/4/05

INFORMATION SHEET

ORDER NO. R5-2005-0025

SHASTA COUNTY SERVICE AREA NO. 13

ALPINE MEADOWS AND WHISPERING WOODS ESTATES SUBDIVISIONS

SHASTA COUNTY

Shasta County Service Area No. 13 owns and operates three wastewater treatment collection, treatment, and disposal systems serving Alpine Meadows and Whispering Woods Estates subdivisions in Shingletown. Two separate systems serve the Alpine Meadows subdivision, one for the ten commercial lots and one for the four proposed residential lots. The waste discharge requirements are being revised to address the increase in design wastewater flow from the addition of four residential lots.

Alpine Meadows

Alpine Meadows subdivision is an 11-lot commercial/residential subdivision on the south side of State Route (S.R.) 44 in central Shingletown. Lot 18 is in the process of being split into four residential lots. A zone amendment (ZA 99-23) and tentative parcel map (PM 99-21) were approved on 6 April 2000. The parcel map is not yet final. The developer was given a timeline extension, until 21 January 2006, for recording the final map. Alpine Meadows subdivision is comprised of two noncontiguous parts: an eastern part mostly east of Wilson Hill Road and a western part approximately ¼-mile west of Wilson Hill Road and on the north side of Woodridge Lake (reservoir). The approximate location of the Alpine Meadows subdivision and disposal area is shown on Attachment A.

The wastewater treatment system serving the ten commercial lots consists of a gravity sewer, common septic tank, pump station, force main and dual leachfield system to accommodate up to 3,000 gpd of wastewater flow.

The wastewater treatment system for the new residential lots will consist of individual septic tanks, gravity sewer, lift station, force main and a community leachfield system. The maintenance of the individual septic tanks will be the responsibility of the property owners. Both leachfield systems (commercial and residential) are on Lot 17 (APN 703-020-016) which has been set aside for wastewater disposal.

The residential leachfield has been designed to address slow percolation rates that average 50 minutes per inch (mpi). Lot 17 has sufficient land area to accommodate replacement leachfields for the commercial and the residential developments. The combined wastewater disposal capacity is 5,128 gallons per day (gpd). The Discharger has installed piezometers in the commercial leachfield and is periodically required to monitor groundwater depth. Piezometers are also planned for the residential leach field.

The controlling element in the wastewater treatment system is the disposal field capacity. Each buildable lot in the commercial portion of the subdivision was allocated a portion of the 3,000 gpd design capacity. The Declaration of Restriction for the subdivision states "If a lot use

required a larger amount of effluents ..., then at the lot owner's expense new leach lines may be installed under the control and approval of the Shasta County Service Area No. 13."

The existing wastewater treatment system (commercial lots) has experienced excessive inflow and/or infiltration (I&I) during winter months. Leachfield piezometer data document elevated groundwater during periods of high inflow and/or infiltration. Excessive I&I can lead to surface failures and groundwater contamination. The Discharger performed an investigation in the summer of 2000 to determine the cause of excessive I&I. No significant I&I into the gravity sewer was observed. Based on this information the Discharger concluded that the excessive I&I was caused by cracks in the septic tank. However, the investigation was conducted during the summer, when infiltration would likely be at a minimum. Therefore, these draft requirements require the Discharger to submit a plan (with a time schedule) to investigate and eliminate the excessive infiltration and/or inflow.

Surface water from the eastern half of the subdivision drains to Ash Creek a tributary of Woodridge Lake. Woodridge Lake drains to Shingle Creek (a tributary of Bear Creek and the Sacramento River) and to Ash Creek (a tributary of the Sacramento River). The wastewater disposal area (i.e., Lot 17), which is in the western half of Alpine Meadows subdivision, drains directly to the following: Woodridge Lake, Ash Creek below Woodridge Lake, and Shingle Creek. Ash Creek enters and leaves Woodridge Lake; Shingle Creek leaves Woodridge Lake. Ash Creek enters the Sacramento River less than a mile upstream of Balls Ferry, while Shingle Creek flows to Bear Creek which enters the Sacramento River approximately ½-mile upstream of the mouth of Ash Creek.

Whispering Woods Estates

Whispering Woods Estates is comprised of 42 residential lots and a remainder lot (APN 096-300-037) which is used for sewage disposal. The subdivision is north of S.R. 44, just north and east of the Shingletown Store. It lies across S.R. 44 from the eastern half of Alpine Woods subdivision. The approximate location of Whispering Woods Estates and the disposal area is shown on Attachment A.

The wastewater disposal system has a maximum daily flow of 14,700 gpd. Domestic wastewater from individual lots flows by gravity sewer to a 58,700 gallon concrete septic/holding tank. The tank is partitioned into a 44,000 gallon septic tank and 14,700 gallon holding tank. Effluent is pumped from the holding tank to a 3-inch PVC force main to the leachfield (4,900 lineal feet of leachline). Measured percolation rates were 9 to 60 mpi. The Discharger has installed 12 piezometers in the leachfield and is periodically required to monitor groundwater depth.

Surface water drains to Ash Creek, a tributary of Woodridge Lake. Woodridge Lake discharges to two creeks: Ash Creek, tributary to the Sacramento River, and Shingle Creek, tributary to Bear Creek, tributary to the Sacramento River.

