

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2008-0095

FOR

MARCON, INC.
RARE EARTH SUBDIVISION
WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL FACILITY
BUTTE COUNTY

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

REPORT OF WASTE DISCHARGE

1. The Russell Edward Glidewell Rev IV Trust submitted a Report of Waste Discharge on 6 September 2005, for a subdivision near Chico. The report of discharge was deemed incomplete due to inadequate site characterization for wastewater disposal: the submittal lacked both adequate soil profiles and groundwater monitoring data. Additional information was submitted on 15 November 2005, and the report of waste discharge was deemed complete on 29 December 2005. Marcon, Inc., (hereafter Discharger) purchased the subdivision property on 17 March 2006.
2. This residential subdivision will use a community wastewater treatment system and disposal area. The subdivision will consist of 12 single-family home lots of approximately one acre. A Homeowners Association will manage the wastewater collection, treatment, and disposal system.

GENERAL SITE AND TREATMENT INFORMATION

3. The report of waste discharge identified a 3/4-acre parcel in the subdivision to be used for the common wastewater treatment and disposal area. Disposal area soils had associated percolation rates ranging from 3.2 to 12.8 minutes per inch (only one measured rate, at 3.2 minutes per inch, was faster than five minutes per inch). Winter groundwater level monitoring indicated no groundwater within 112 inches of grade in the disposal area.
4. Concentrated application of wastewater from more than a few homes may cause the water table beneath a disposal area to rise, reducing separation between the groundwater table and the bottom of the disposal area, a phenomenon known as groundwater mounding. Calculations performed by the Discharger indicate that groundwater below the disposal field will not rise more than two feet due to wastewater application, leaving at least five feet of unsaturated soil below the bottom of the disposal field, complying with the Regional Water Board Guidelines.
5. Each home in the subdivision will have its own individual well for potable water supply.

6. Each home in the subdivision will be equipped with a 1500-gallon septic tank with a high head effluent pump and effluent screen. The effluent screen prevents large solid particles from being discharged to the treatment system, which could interfere with its operation. Discharge from the septic tanks to a pressure sewer is controlled by a float activated level detection system.
7. The Discharger has proposed the use of a proprietary fixed film biological treatment filter (filter) with a manufactured media. Bacterial growth and wastewater treatment occurs on the surface of the filter media in this treatment system. A number of these filters currently in service at other developments produce effluent with BOD and TSS less than 15 mg/L; an effluent limitation of 30 mg/L for both of these constituents should therefore be easily achievable by the Discharger. The filters will also provide limited nitrogen removal through biological denitrification. Nitrogen removal performance cannot be accurately predicted because denitrification depends upon wastewater alkalinity and other wastewater chemical characteristics, and the operating temperature of the filter. However, 50 percent nitrogen removal is a reasonable estimate. This Order requires the Discharger to optimize nitrogen removal in the filters by providing a design configuration that will promote high nitrogen removal, and also requires the Discharger to provide for alkalinity and or carbon addition, if necessary.

SITE SPECIFIC INFORMATION

8. The subdivision consists of approximately 14 acres in Section 32, T23N, R1E, MDB&M as shown in Attachment A, a part of this Order. Surface water in the area of the treatment and disposal facilities drains to Keefer Slough, which in turn discharges to Rock Creek, Pine Creek, and the Sacramento River.
9. The subdivision lies within the Red Bluff Hydrologic Unit Sub-area No. 504.20, as depicted on the interagency hydrologic maps prepared by the California Department of Water Resources (DWR) in August 1986.
10. Average annual rainfall in the area is approximately 26 inches as given by State of California Department of Water Resources weather station information. The 100-year return frequency rainfall season precipitation is approximately 50 inches.
11. The treatment facilities and disposal areas are outside of the 100-year flood plain as determined by Federal Emergency Management Agency flood maps.
12. Surrounding land uses consist of residential development and open space. Much of the surrounding land, if not already developed, is zoned for low-density residential development.

GROUNDWATER CONSIDERATIONS

13. Due to the proximity of the proposed disposal areas to individual onsite wells and potential nitrate and salt contamination of those wells, it is prudent for the Discharger to optimize nitrogen removal from the treatment unit and monitor groundwater quality in the vicinity of the disposal area. It is also appropriate, after sufficient data have been collected, to require a formal determination of background groundwater quality and the degree to which degradation has occurred. After this determination has been made, a salt minimization program may be required.
14. 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: California Well Standards Bulletin 74-90 (June 1991-draft) and Water Well Standards: State of California Bulletin 74-81 (December 1981).
15. 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 of the California Water Code (Title 27). While the wastewater treatment facility is considered to be exempt from Title 27 at this time, the data analysis methods of Title 27 are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.

COMPLIANCE WITH STATE BOARD RESOLUTION No. 68-16

16. State Water Resources Control Board (State Water Board) Resolution No. 68-16 (hereafter Resolution 68-16) requires the Regional Water Board, in regulating the discharge of waste, and where water is of a higher quality than that in the Basin Plan water quality objectives established for protection of beneficial uses, to maintain such high quality waters of the State unless it is demonstrated that any quality degradation will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, will not result in water quality less than that described in the Regional Water Board's policies (e.g., quality that exceeds water quality objectives), and requires the Discharger to implement the best practicable treatment and control (BPTC) of the discharge.
17. Some degradation of groundwater in the area of the wastewater treatment plant and disposal field is consistent with Resolution 68-16 provided that:

The degradation is confined within a specified boundary;

The Discharger minimizes the degradation by fully employing BPTC measures (through proper implementation, operation, and maintenance), including treatment of the wastewater that will produce effluent better than secondary quality and will remove a substantial portion of the nitrogen being discharged from the homes in the subdivision;

The degradation is limited to waste constituents typically encountered in municipal wastewater as specified in the Groundwater Limitations in this Order and;

The degradation does not result in water quality less than that prescribed in the Basin Plan.

18. Some degradation of groundwater by some of the typical waste constituents released with discharge from a domestic wastewater treatment plant implementing BPTC is consistent with maximum benefit to the people of California as the development serves a need for housing. In addition, the method of wastewater collection, treatment and disposal significantly reduces the amount of pollutants that otherwise may be discharged to the subsurface from individual on-site septic systems.
19. Domestic wastewater has a reasonable potential to unreasonably impact the underlying groundwater. The proposed treatment and disposal methods consist of an advanced treatment system including nitrogen removal. However, even with the pretreatment proposed, the discharge will cause degradation of groundwater directly beneath and adjacent to the wastewater disposal area due to increased dissolved solids, nitrate, and other conservative pollutants.
20. The Discharger is using a technology that will remove a majority of the influent BOD and total suspended solids prior to discharge to disposal fields, and the technology will be optimized for nitrogen removal.
21. In accordance with the information above, the discharge is consistent with the antidegradation provisions of Resolution No. 68-16.

SANITARY SEWER SYSTEM

22. Sanitary sewer systems (sewers) in this subdivision consist of a network of force mains. Air relief and or vacuum valves have been installed at high points and dead end laterals.
23. A "sanitary sewer overflow (SSO)" is defined as a discharge to surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant and downstream of the homeowner's lateral connection to the collection system. Although a discharge of wastewater from the homeowner's property may create conditions of nuisance or represent a threat to public health, these types of discharges are dealt with separately from sanitary sewer system overflows. The Discharger's sanitary sewer system collects septic tank effluent using pressure piping, pumps, and/or other conveyance systems and directs this wastewater to the Plant. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered SSOs, provided that the waste is fully contained within these temporary storage/conveyance facilities.

24. Some of the causes of SSOs 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, and lack of capacity.
25. Wastewater from SSOs contains high levels of suspended solids, nutrients, and oxygen consuming organic compounds, and may contain high levels of pathogenic organisms, toxic pollutants, oil and grease, and other pollutants. SSOs are likely to cause temporary exceedances of applicable water quality objectives if the discharge reaches a surface water body, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area. SSOs represent a threat to public health due to potential public exposure to raw wastewater, whether or not a discharge to surface water occurs. This Order requires the submittal of a *Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Overflow Response Plan* (SSS Plan)

OTHER DISPOSAL CONSIDERATIONS

26. Hydraulic failure of the wastewater disposal system, such as surfacing of wastewater or backup of wastewater into homes, can occur when the disposal system cannot accept wastewater at the prescribed dose rates. One common problem with disposal fields is root intrusion. Roots can infiltrate the leach lines and trenches causing blockages in the lines and severely reducing pore spaces in the drainage rock. This Order requires that trees and other vegetation capable of damaging either the dosing tanks or leachfield be adequately controlled.
27. Over application or biological clogging within the soil column may also result in surfacing of wastewater. This Order requires that the site include adequate leachfield replacement area. The Order also requires the placement of piezometers in the disposal fields to measure wastewater depth over the bottom of the field to provide early warning of prematurely clogging disposal areas.

BIOSOLIDS MANAGEMENT

28. The United States Environmental Protection Agency (USEPA) has promulgated biosolids reuse regulations in 40 CFR 503, *Standards for the Use or Disposal of Sewage Sludge*, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.
29. The Regional Water Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Regional 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 with the USEPA.

STORM WATER REGULATIONS

30. On 19 August 1999, the State Board adopted the General Construction Activities Storm Water Permit 99-08-DWQ (NPDES CAS00002). The permit regulates discharges of storm water, which may contain pollutants, as required by the Clean Water Act (CWA). The Discharger is required to submit a Notice of Intent to comply with the terms of the General Permit, including a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices for preventing the discharge of pollutants, including sediment, to surface waters. The Discharger will also be required to develop and implement a monitoring program to demonstrate compliance with the CWA.
31. The State Board 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. The treatment and disposal facilities covered by this Order treat less than 1.0 million gallons per day (mgd) and no industrial storm water permit is therefore required for the facility.

CEQA COMPLIANCE AND BASIN PLAN BENEFICIAL USES

32. Butte County adopted a Mitigated Negative Declaration for the Rare Earth Subdivision, including the wastewater treatment facility in accordance with the California Environmental Quality Act (CEQA-Public Resources Code Section 21000, et seq.) on 10 May 2007. The County determined that the project would not have a significant effect on the environment with mitigations as approved. The Regional Water Board has considered the County's Mitigated Negative Declaration and concurs that the project will not result in a significant effect on the Environment with the approved mitigations.
33. The Regional Water 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 describes an implementation program and policies to achieve those objectives for all waters of the Basin. These requirements implement the Basin Plan.
34. The beneficial uses of Sacramento River (Shasta Dam to Colusa Basin Drain) are Municipal and Domestic Supply (MUN); Irrigation and Stock Watering (AGR); Industrial Service Supply (IND); Hydroelectric Power Generation (POW), Water Contact Recreation and Canoeing and Rafting (REC-1); Non-Contact Water Recreation (REC-2); Warm and Cold Fresh Water Habitat (WARM and COLD); Warm and Cold Migration (MIGR); Warm and Cold Water Spawning, Reproduction, and/or Early Development (SPWN); Wildlife Habitat (WILD); and Navigation (NAV). Designations in parenthesis are those used in the Basin Plan.
35. The beneficial uses of groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

36. The Basin Plan establishes numerical and narrative water quality objectives for surface and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Regional Water Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Regional Water Board will, on a case-by-case basis, adopt numerical limitations in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the state.
37. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
38. The Basin Plan contains narrative water quality objectives for chemical constituents, tastes and odors, and toxicity. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The tastes and odors objective requires that groundwater shall not contain tastes or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants or animals.
39. Section 13241 of the Water Code requires the Regional Water Board to consider various factors, including economics, when adopting water quality objectives into its Basin Plan. Water Code Section 13263 requires the Regional Water Board to address the factors in Section 13241 in adopting waste discharge requirements. The State Board, however, has held that a Regional Water Board need not specifically address the Section 13241 factors when implementing existing water quality objectives in waste discharge requirements because the factors were already considered in adopting water quality objectives. These waste discharge requirements implement adopted water quality objectives. Therefore, no additional analysis of Section 13241 factors is required.

MISCELLANEOUS

40. Section 13267(b) of the California Water Code provides that: "In conducting an investigation specified in subdivision (a), the Regional Water 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 Regional Water 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 monitoring and reporting required in this Order is necessary for determination of compliance with the terms of the Order.

41. The treatment and disposal of wastewater regulated by this Order is exempt from the requirements of Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27). The exemption, pursuant to Section 20090(b), is based on the following:
 - a. The Regional Water Board is issuing waste discharge requirements,
 - b. The discharge complies with the Basin Plan, and
 - c. The wastewater does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.

42. Pursuant to California 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 NOTIFICATION AND PUBLIC PARTICIPATION

43. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written comments and recommendations.

44. The Regional Water Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is part of this Order.

45. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Marcon, Inc., their 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. The direct discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. The by-pass or overflow of untreated or partially treated waste from the collection, treatment, or disposal facilities is prohibited.
3. The discharge of any wastewater other than that from domestic sources or domestic equivalent is prohibited.
4. Discharge of waste classified as "hazardous" as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or "designated", as defined in Section 13173 of the California Water Code, is prohibited.
5. Discharge of wastewater to treatment units or disposal systems prior to issuance of a construction permit for them and approval of the construction by Butte County is prohibited.

B. Discharge Specifications

1. The weekly average dry-weather influent and effluent flow at the treatment and disposal facilities for the Discharger shall not exceed 4,500 gallons per day.
2. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
3. Discharges shall not, individually or collectively, cause unacceptable degradation of any water supply.
4. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the Discharger's treatment units and disposal fields.
5. Discharges to disposal areas shall remain underground at all times.
6. Wastewater, treated or untreated, shall remain within the individual property owner's septic tanks, and the Discharger's conveyance piping, treatment facilities, or disposal area at all times.
7. The treatment facilities and disposal areas shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

8. Public access to treatment facilities shall be controlled through the use of fences and signs.

C. Effluent Limitations:

1. Effluent discharge from the treatment system (filter) shall not exceed the following limits (the filters shall be designed and operated to include the addition of alkalinity and or carbon, if necessary, to meet the nitrogen effluent limitations):

Constituent	Unit	30-Day Average¹	Daily Maximum¹
BOD ₅	mg/L	30	30
Total Suspended Solids	mg/L	30	30
Total Nitrogen (TKN plus Nitrate)	mg/L	20	---
Electrical Conductivity	umho/cm	500umho/cm over supply water conductivity ²	

¹ The Discharger shall be allowed 120 days from the time discharge to the wastewater treatment plant is initiated to meet these effluent limitations.

² Based upon water obtained from the fire suppression well at the subdivision.

D. Sludge Disposal

1. Collected screenings, grit, sludge, 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, Division 2, Subdivision 1, Section 20005, et seq.
2. Storage, use, and disposal of sewage sludge shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. No sludge shall be disposed of on-site unless the Discharger obtains waste discharge requirements for such activity.
3. Sludge and other solids shall be removed from equipment as needed to ensure optimal plant operation and adequate hydraulic capacity. Drying operations shall take place such that leachate does not impact groundwater or surface water.
4. Sludge stored on-site between 15 October and 15 May shall be stored in a manner to prevent runoff of leachate.

5. Disposal of sludge at a permitted municipal solid waste landfill, at a permitted septage receiving facility, or at a permitted publicly owned treatment works is acceptable. The Discharger may also elect to dispose of its sludge at a facility permitted under Order No. 2000-10-DWQ or at a similar facility permitted under individual waste discharge requirements. Regardless of the disposal site, the Discharger must comply with all sampling and analytical requirements of the entity that accepts the waste.
6. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger shall comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.
7. Any proposed change in sludge use or disposal practice shall be reported to the Executive Officer for approval at least 90 days in advance of the change.
8. Septic tanks shall be inspected and/or pumped within five years of their installation. If a tank is not pumped when the first inspection is performed, the tank inspector shall recommend the date for the next inspection. In no case shall the next inspection be more than three years from the initial inspection. After a tank has been pumped, the inspection schedule shall revert to the original inspection schedule.

E. Ground Water Limitations:

Discharge of waste constituents from any wastewater treatment, disposal, or storage system component associated with the wastewater treatment and disposal facilities shall not cause groundwater under and beyond the facilities, as determined by an approved well monitoring network, to:

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

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Total Coliform Organisms	MPN/100 mL	2.2
Electrical Conductivity	umho/cm	700
Nitrate (as N)	mg/L	10

2. Impart taste, odor, toxicity, or color, or contain any chemical constituent that creates nuisance or impairs any beneficial use.

F. Provisions:

1. The Discharger may be required to submit technical reports as directed by the Executive Officer.
2. The Discharger shall comply with Monitoring and Reporting Program No. R5-2008-0095, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. 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 work plans, 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 required by this Order. Each technical report submitted by the Discharger shall contain a statement of qualifications of the responsible licensed professional(s) as well as the professional's signature and stamp.
4. Permits for construction of any wastewater conveyance, treatment, or disposal facilities must be obtained from Butte County prior to initiation of construction. The County must be notified at appropriate times, as determined by County Environmental Health Staff, so that construction inspections can be performed.
5. Prior to commencement of construction of any wastewater treatment system or disposal areas, the Discharger shall:
 - a. For Regional Water Board staff review, supply biddable plans and specifications. The plans shall demonstrate that the wastewater treatment system has been optimized to remove nitrogen from the wastewater.
 - b. Provide a construction inspection schedule to Regional Water Board staff and the Butte County Planning, Engineering, Building, and Environmental Health Departments.
6. Prior to the discharge of wastewater from any wastewater treatment facilities or to wastewater disposal areas, the Discharger shall submit:
 - a. A report prepared by a California Registered Engineer that describes potential scenarios of wastewater collection, treatment system, and/or disposal system failure, and the costs to remedy such failures. **Within 30 days** of acceptance of this report by Regional Water Board staff, the Discharger shall provide financial assurance, in the form of a bond, letter of credit, Certificate of Deposit, or other mechanism acceptable to the Board, in the amount to cover the failure

scenarios of this report. If the financial assurance is not needed within the first year after discharge to the wastewater treatment plant is initiated, the financial assurance may be terminated.

- b. A report by a California Registered Engineer that estimates the annual funds necessary to accrue capital for replacement of the treatment and disposal system at the end of the system's useful life. **By 30 January** of each year the Discharger shall deposit that amount to the existing fund and notify the Regional Board of the current value of the fund.
- c. An operating budget for the operation, maintenance, monitoring, and repair of the wastewater treatment system and disposal field.
- d. A work plan for characterization of groundwater quality adjacent to the wastewater disposal fields. The work plan shall:
 - i. Describe the installation of monitoring wells to allow evaluation of the groundwater quality up gradient and down gradient of the disposal fields.
 - ii. Require the use of a drilling contractor with a C-57 license.
 - iii. Require that the wells be logged during drilling by or under the direct supervision of a California registered engineer or registered engineering geologist.
 - iv. Provide for each disposal field or group of disposal fields, at least three new wells around the field perimeter. Wells shall be placed a minimum of 100 feet from the disposal field perimeter if possible. If a 100-foot setback is not possible, then the monitoring well setback shall be maximized to the extent possible.
 - v. Provide that at least one well be down gradient of the disposal fields and one well up gradient of the disposal fields. If, after well installation, this requirement is not satisfied, additional wells shall be placed to satisfy the requirement.
 - vi. Provide that each monitoring well shall be designed to yield representative samples from the uppermost aquifer underlying the disposal fields.
 - vii. Be consistent with, and include the items listed in, the first section of Attachment B, "Items to be Included in a Monitoring Well Installation Work plan and a Monitoring Well Installation Report of Results."
 - viii. Require that well construction comply with applicable County Codes and DWR Bulletins 74-86 and 74-90.

- e. A Monitoring Well Installation Report that describes the installation of groundwater monitoring wells in conformance with the above work plan and contains the items found in the second section of Attachment B.
- f. Submit an operation and maintenance manual (O&M Manual) for the wastewater treatment plant and disposal system. The O&M Manual shall instruct field personnel on the overall operation of the collection, treatment, and disposal facilities, and managing the treatment and disposal facility operations to comply with this Order and to make field adjustments, as necessary, to preclude nuisance conditions or violations of the Order. The O&M Manual shall include a site plan with description of the treatment components, including operating procedures for each component and a troubleshooting flowchart, and a description of alarm response and notification requirements. The O&M Manual shall also include a discussion of maintenance and inspection procedures, with maintenance frequency of all equipment, and sample maintenance forms or checklists. Operating personnel shall keep a copy of the O&M Manual at the facility for reference. Key personnel shall be familiar with its contents. The O&M Manual shall include the following documents as report appendices:
 - i. A vegetation control plan that describes how vegetation will be controlled and managed in the disposal fields to prevent root intrusion and damage.
 - ii. A Septic Tank Inspection Plan which describes the procedures for testing septic tanks to determine if the septic tank requires the collected scum/sludge to be removed and description of the inspection procedures for checking the integrity of the septic tank.
 - iii. Catalog cuts of each piece of equipment.
 - iv. A process and instrumentation diagram (PID).
 - v. A schematic process diagram (this may be combined with the PID).
 - vi. Maintenance and calibration schedules for each component of the system.
 - vii. A list of emergency contacts to be notified in the event of a treatment system failure
- g. Provide the name and grade of the primary operator(s) of the treatment and disposal system. **Fifteen days prior** to any change in the Operations and Maintenance Manual (O&M Manual) or primary Plant operator, the Discharger shall notify the Regional Water Board of these changes. The Discharger shall certify that the new operator has been adequately trained regarding the O&M Manual and this Order within **fifteen days** of the change of primary plant operator.

- h. Submit the following reports and implement the associated measures required by the reports, as necessary:
 - i. A signed contract for the operation, maintenance, and monitoring of the wastewater treatment facilities. The contractor performing these functions must be a California registered engineer, Grade II California Certified Operator, or be approved by the Executive Officer. Any modifications to the contract, or transfer of the contract to another person or agency shall be subject to approval of the executive officer.
 - ii. A report by a California Registered Civil Engineer that describes the proposed operation of the waste treatment units to maximize nitrogen removal. Upon acceptance of this plan by Regional Water Board staff, the Discharger shall operate the treatment facility in accordance with the plan.
- i. Submit a *Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Overflow Response Plan* (SSS Plan) that describes management and maintenance activities designed to prevent or minimize the potential for sanitary sewer overflows. The Discharger shall amend the SSS Plan as necessary. The Discharger shall ensure that an up-to-date SSS Plan available for all appropriate personnel at all times and that personnel are familiar with the plan. A copy of the plan shall be readily available at the treatment facilities, and at the office of the Discharger.

At a minimum, the Operation and Maintenance portion of each SSS Plan shall contain or describe the following:

- i. Plans of the sewer system, identifying sewer mains, manholes if present, cleanouts, any air relief or vacuum valves, and any other critical equipment or infrastructure;
- ii. A listing of equipment and elements to be inspected, a description of inspection procedures, and sample inspection forms;
- iii. A schedule for routine inspection and testing of all pipelines, lift stations, valves, and other key system components. The inspection/testing program shall be designed to reveal and prevent problems that may lead to accidental spills and ensure that preventive maintenance is completed;
- iv. Provisions for repair or replacement of defective equipment;
- v. Provisions to minimize the need for manual operation of critical systems and provide spill alarms or other "fail safe" mechanisms;
- vi. The ability to properly manage, operate and maintain, at all times, all parts of the collection system;

- vii. The ability to provide adequate capacity to convey base flows and peak flows for all parts of the collection system; and
- viii. All reasonable and feasible steps the discharger must take to stop or mitigate the impact of sanitary sewer overflows.

At a minimum, the Overflow Prevention and Response portion of the SSS Plan shall contain or describe the following:

- i. Response procedures for sanitary sewer overflows. Procedures shall minimize the volume of sewage that may enter surface waters, and minimize the adverse effects of sewer overflows on water quality and public health. Procedures shall also ensure that all overflows are timely identified, responded to, and reported. Spills in excess of 100 gallons, any spills that reach a surface water, or any spills smaller than 100 gallons that, in the opinion of the Discharger, result in potential impact to public health, shall be reported to the Butte County Environmental Health Department and the Regional Water Board.
- ii. Upon the reduction, loss, or failure of any wastewater collection system resulting in a sanitary sewer overflow, the Discharger shall take any necessary remedial action to (a) control or limit the volume of sewage discharged, (b) terminate the sewage discharge as rapidly as possible, and (c) recover as much as possible of the sewage discharged (including wash down water) for proper disposal. The Discharger shall implement all applicable remedial actions including, but not limited to, the following:
 - (a). Interception and rerouting of sewage flows around the sewage line failure;
 - (b). Vacuum truck recovery of sanitary sewer overflows and wash down water;
 - (c). Use of portable aerators where complete recovery of the sanitary sewer overflows are not practicable and where severe oxygen depletion is a possibility.
 - (d). Cleanup of sewage-related debris at the overflow site.
 - (e). A plan to notify the Discharger and the Butte County Environmental Health Department, as well as a public notification plan, in which any posting of areas contaminated with sewage is performed at the direction of the Butte County Environmental Health Department. All parties with a reasonable potential for exposure to an overflow event shall be notified. Any spill in excess of 1,000 (one thousand) gallons to surface water must also be immediately reported to the State of California Office of Emergency Services (OES). Failure to report such

a spill to the OES is a misdemeanor punishable by fine and imprisonment.

- j. Destroy, in accordance with the required procedures of Butte County, all wells and piezometers in the subdivision previously used for groundwater level monitoring, and not built to Butte County or DWR standards.
- k. Submit a plan to restrict access to the wastewater treatment and disposal systems.
- l. Submit as-built drawings for the wastewater treatment and disposal facilities. Treatment plant and disposal facilities shall be designed with the following automated features and alarms, at minimum (which must be indicated on the as-builts):
 - i. Daily influent and effluent flow totalizers, with instantaneous readout and daily recording of total flow;
 - ii. Pump run time meters for all pumps;
 - iii. Read out for display of recirculating pump on/off schedule;
 - iv. Alarm for loss of any pump;
 - v. High water level alarm in any tank or combination of tanks;
 - vi. Low water level alarm in any tank or combination of tanks;
 - vii. High water level in treatment system alarm;

Each of the alarms above must provide remote notification and auto-dial the operator on duty during times when the treatment plant is not staffed.
- m. Provide an engineer's report documenting that the collection system, treatment plant, disposal area, and all items auxiliary to these systems have been constructed in substantial conformance with the plans and specifications. The report shall include:
 - i. An inspection log verifying an inspector was present for all critical phases of construction as given in the inspection schedule required by Provision 5.b. above, as appropriate.
 - ii. All leak testing information, including all piping and tanks,
 - iii. Logs of pump testing, filter testing, and testing of any other mechanical equipment,
 - iv. Testing of disposal area for even distribution of wastewater,

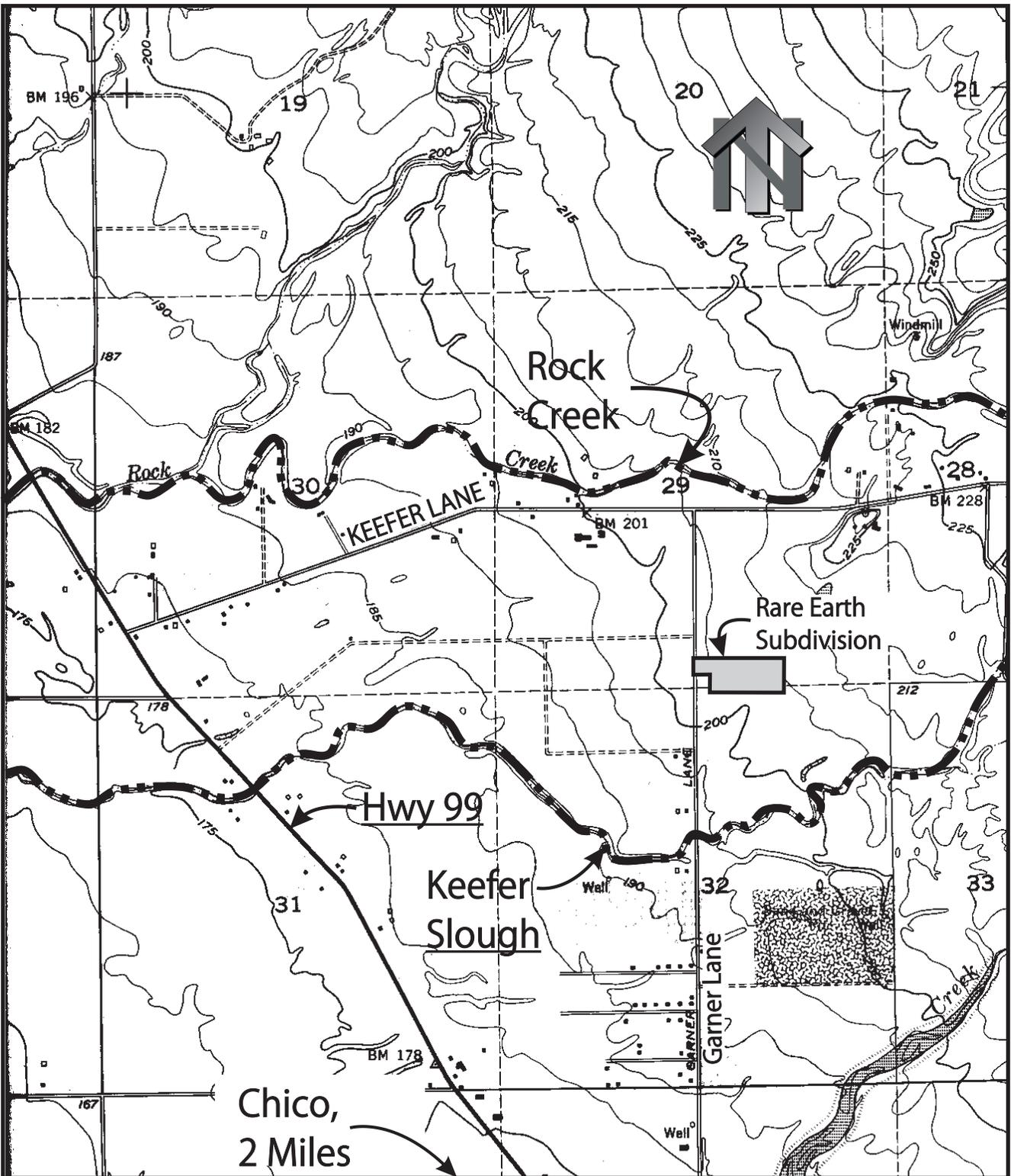
- v. Certification that all construction complies with County Codes.
 - vi. Certification that the entire system has been tested, including controls, and is ready to be put in service
8. If, after the first two annual samples of water have been obtained, the increase in electrical conductivity in treatment plant effluent is more than 500 umho/cm conductivity above water drawn from the fire well on site, the Discharger shall submit a *Salinity Evaluation and Minimization Plan* to address sources of salinity to the wastewater treatment system. At a minimum, the plan shall meet the following requirements outlined in CWC Section 13263.3(d)(3) Pollution Prevention Plans:
 - a. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of salinity in the treatment plant influent including water supply, water softeners, and other residential salinity sources, if any.
 - b. An analysis of the methods that could be used to prevent the discharge of salinity into the facility, including public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the facility. The analysis shall also identify sources, or potential sources, not within the ability or authority of the Discharger to control.
 - c. An estimate of salinity load reductions that may be identified through the methods identified in subparagraph ii.
 - d. A plan for monitoring the results of the salinity pollution prevention program.
 9. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated **1 March 1991**, which are attached hereto and by reference a part of this Order.
 10. The Discharger is ultimately responsible for the effectiveness of its treatment and control measures in assuring compliance with groundwater limitations, and liable for remediation of any impact on groundwater not authorized herein. Degradation of water quality beneath the facility beyond the limits indicated in Groundwater Limitations shall be grounds to rescind this Order, reclassify the waste as designated, and require compliance with Title 27 prescribed waste containment standards, or to initiate enforcement, as appropriate.
 11. The Discharger shall implement best practicable treatment and control measures, including proper operation and maintenance of facilities, to comply with this Order.
 12. The Discharger shall report promptly to the Regional Water Board any material change or proposed change in the character, location, or volume of the discharge.
 13. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

14. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office. 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 Water 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 California Water Code. Transfer shall be approved or disapproved by the Executive Officer.
15. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed herein or by the Executive Officer pursuant to Section 13267 of the CWC. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
16. 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.
17. The Regional Water Board will review this Order periodically and will revise requirements when necessary.

I, Pamela C. Creedon, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 12 June 2008.

PAMELA C. CREEDON,
Executive Officer

RSD: sae



Chico,
2 Miles

MARCON, INC.,
RARE EARTH SUBDIVISION
WASTEWATER TREATMENT
AND DISPOSAL SYSTEM

Attachment A
Order No. R5-2008-0095

Scale:
1"=2000'

Section 32, T23N, R1E,
MDB&M
USGS 7.5' Nord Quad

**ATTACHMENT B
STANDARD MONITORING WELL PROVISIONS
FOR
MARCON INC., RARE EARTH SUBDIVISION
ORDER NO. R5-2008-0095**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing at least the information specified in this document. Wells may be installed after the executive officer's approval of the workplan. Upon installation of the monitoring wells, the Discharger shall submit a report of results, as described below. A registered geologist, certified engineering geologist, or civil engineer registered or certified by the State of California must sign all workplans and reports.

Monitoring Well Installation Workplan

A. General Information:

- Monitoring well locations and rationale
- Survey details
- Equipment decontamination procedures
- Health and safety plan
- Topographic map showing any existing monitoring wells, proposed wells, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details: describe drilling and logging methods

C. Monitoring Well Design:

- Casing diameter
- Borehole diameter
- Depth of surface seal
- Well construction materials
- Diagram of well construction
- Type of well cap
- Size of perforations and rationale
- Grain size of sand pack and rationale
- Thickness and position of bentonite seal and sand pack
- Depth of well, length and position of perforated interval

D. Well Development:

- Method of development to be used
- Method of determining when development is complete
- Method of development water disposal

E. Surveying Details: discuss how each well will be surveyed to a common reference point

F. Soil Sampling (if applicable):

- Cuttings disposal method
- Analyses to be run and methods
- Sample collection and preservation method
- Intervals at which soil samples are to be collected

Number of soil samples to be analyzed and rationale
Location of soil samples and rationale
QA/QC procedures

G. Well Sampling:

Minimum time after development before sampling (48 hours)
Well purging method and amount of purge water
Sample collection and preservation method
QA/QC procedures

H. Water Level Measurement:

The elevation reference point at each monitoring well shall be within 0.01 foot.
Ground surface elevation at each monitoring well shall be within 0.1 foot. Method and time of water level measurement shall be specified.

I. Proposed time schedule for work.

Monitoring Well Installation Report of Results

A. Well Construction:

Number and depth of wells drilled
Date(s) wells drilled
Description of drilling and construction
Approximate locations relative to facility site(s)
A well construction diagram for each well must be included in the report, and should contain the following details:

Total depth drilled
Depth of open hole (same as total depth drilled if no caving occurs)
Footage of hole collapsed
Length of slotted casing installed
Depth of bottom of casing
Depth to top of sand pack
Thickness of sand pack
Depth to top of bentonite seal
Thickness of bentonite seal
Thickness of concrete grout
Boring diameter
Casing diameter
Casing material
Size of perforations
Number of bags of sand
Well elevation at top of casing
Depth to ground water
Date of water level measurement
Monitoring well number
Date drilled

Location

B. Well Development:

- Date(s) of development of each well
- Method of development
- Volume of water purged from well
- How well development completion was determined
- Method of effluent disposal
- Field notes from well development should be included in report.

C. Well Surveying: provide reference elevations for each well and surveyor's notes

D. Water Sampling:

- Date(s) of sampling
- How well was purged
- How many well volumes purged
- Levels of temperature, EC, and pH at stabilization
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Water level elevation(s)
- Groundwater contour map

E. Soil Sampling (if applicable):

- Date(s) of sampling
- Sample collection, handling, and preservation method
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-0095

FOR
MARCON, INC., RARE EARTH SUBDIVISION
WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL FACILITIES
BUTTE COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring domestic wastewater, treated effluent, wastewater disposal field performance, septic tanks, solids disposal, and groundwater. This MRP is issued pursuant to Water Code Section 13267. Regional Board staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples shall be representative of the volume and nature of the discharge or material sampled. The time, date, and location of each sample shall be recorded on a chain of custody form for the sample.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated in accordance with the manufacturer's recommendations, and the method has been accepted by Regional Board Staff;
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.

FLOW MONITORING

The following shall constitute the flow monitoring program to the disposal fields:

<u>Parameter</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow	Gallons/Day	Continuous	Daily

SEPTIC TANK MONITORING AND SYSTEM MAINTENANCE AND INSPECTIONS

Each individual homeowner shall authorize the homeowner's association access to the septic tank for the purpose of conducting inspections, and shall follow the homeowner's association recommendations for pumping the tank(s). The Discharger shall monitor the septic tanks and report this information in the annual reports. Septic tanks shall be inspected **every five years** as described below and pumped as necessary.

<u>Parameter</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Sludge depth and scum thickness in each compartment of each septic tank	Inches	Staff Gauge	Every five years
Distance between bottom of scum layer and bottom of outlet device	Inches	Staff Gauge	Every five years
Distance between top of sludge layer and bottom of outlet device	Inches	Staff Gauge	Every five years

Septic tanks shall be pumped when any one of the following conditions exist or may occur before the next inspection:

- a. The combined thickness of sludge and scum exceeds one-third of the tank depth of the first compartment; or,
- b. The scum layer is within three inches of the outlet device; or,
- c. The sludge layer is within eight inches of the outlet device.

The annual report shall indicate the number and locations of tanks that were inspected or pumped the previous year.

EFFLUENT MONITORING

The Discharger shall conduct monitoring of the wastewater discharging to each disposal field. Wastewater samples shall be collected between the disposal fields and discharge of the treatment unit. Effluent monitoring shall include, at a minimum, the following constituents:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gallons	Meter	Continuous	Monthly
Nitrate as Nitrogen	mg/l	Grab ¹	Monthly ^{2,3}	Monthly
Total Kjeldahl Nitrogen	mg/l	Grab ¹	Monthly ^{2,3}	Monthly
Total Dissolved Solids	mg/L	Grab ¹	Every two months	Monthly
BOD ₅ ⁴	mg/l	Grab ¹	Every two months	Monthly
Total Suspended Solids/EC	mg/L or umh/cm	Grab ¹	Every two months	Monthly
Nitrite	mg/L	Four point composite ⁵	Annually ⁶	Annually
Boron	mg/L	Four point composite ⁵	Annually	Annually
Chloride	mg/L	Four point composite ⁵	Annually	Annually
Iron	mg/L	Four point composite ⁵	Annually	Annually
Manganese	mg/L	Four point	Annually	Annually

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u> composite	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
¹ . Two of the monthly samples shall consist of four point composites (see note 5). Four point composites shall be taken approximately six months apart. After 3 years of data are gathered following 75% buildout of the subdivision, the executive office may waive the requirement for compositing if it is found there is no substantial difference between composite and grab sample analytical results. ² . Until project buildout reaches 50%, sampling frequency may be reduced to one half that designated. ³ . If the previous three samples have demonstrated compliance with effluent limitations, frequency may be reduced to once every two months. ⁴ . BOD ₅ denotes five-day, 20° Celsius Biochemical Oxygen Demand. ⁵ . A four point composite shall consist of four discrete samples of equal volume obtained between 0800 and 2000, and blended prior to analysis. Samples shall be obtained at approximately 0900, 1200, 1500 and 1900 hours and be at least 3 hours apart. ⁶ . Annually during the month of January or February (buildup of nitrite is most likely to occur during cold weather).				

DISPOSAL FIELD MONITORING

The Discharger shall conduct a visual inspection of the disposal fields every month and the inspection results shall be included in the monthly monitoring report. Evidence of surfacing wastewater, erosion, field saturation, or the presence of nuisance conditions shall be noted in the report. If any standing liquid is found in the disposal field area, then a sample shall be collected and tested for pH, total coliform organisms, fecal coliform organisms, and total dissolved solids. In addition to the visual inspections, monitoring of the leachfields shall include the monthly inspection of each of the leachline monitoring ports to determine depth of wastewater in each disposal field. Disposal field piezometers shall be checked monthly from December through June, and the depth to groundwater determined for each piezometer.

GROUNDWATER MONITORING

The Discharger shall conduct the following groundwater monitoring program. Prior to construction of any groundwater monitoring wells, the Discharger shall submit well plans and specifications to the Regional Board for review and approval in accordance with the provisions. Once installed, all new wells shall be added to the MRP, and shall be sampled and analyzed according to the schedule below.

Prior to sampling, groundwater elevations shall be measured to the nearest 0.01 feet. The wells shall then be purged of at least three well volumes, and then until pH and electrical conductivity have stabilized (depth measurement shall be performed prior to purging). Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected using approved USEPA methods. Groundwater monitoring shall include, at a minimum, analysis for each well for the following parameters:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Groundwater elevation	0.01 Feet	Measurement	Quarterly ²
Groundwater Flow Direction	Degrees	Calculation	Quarterly ²
Groundwater Gradient	Ft/ft	Calculation	Quarterly ²
pH	pH units.	Grab	Quarterly ²

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Total Dissolved Solids	mg/L	Grab	Quarterly ²
Nitrate as Nitrogen	mg/L	Grab	Quarterly ²
Total Coliform Organisms ¹	MPN/100 mL	Grab	Quarterly ²
Chloride	mg/L	Grab	Annually ²
Boron	mg/L	Grab	Annually
Iron	mg/L	Grab	Annually
Manganese	mg/L	Grab	Annually

¹ Using a minimum of 15 tubes or three dilutions, or other approved EPA method.

² If groundwater flow direction does not change substantially during the year, frequency may be reduced to twice per year by the executive officer.

BIOSOLIDS MONITORING

The Discharger shall keep records regarding the quantity of biosolids generated by the treatment processes; any sampling and analytical data; the quantity of biosolids temporarily stored on site; and the quantity removed for disposal. The records shall also indicate steps taken to reduce odor and other nuisance conditions, if necessary. Records shall be stored onsite and available for review during inspections.

When biosolids are transported off-site for disposal, then the Discharger shall submit records identifying the hauling company, the amount of biosolids transported, the date biosolids were removed from the facility, the location of disposal, and copies of all analytical data required by the facility accepting the waste. If biosolids are disposed of onsite, then the Discharger shall submit the annual report information as contained in the Statewide General Order for the Discharge of Biosolids (Water Quality Order No. 2000-10-DWQ or any subsequent document which replaces Order No. 2000-10-DWQ).

All biosolids records shall be submitted as part of the Annual Monitoring Report.

FINANCIAL ASSURANCE

By 30 January, the Discharger shall provide financial assurance that the Homeowners association has accrued adequate funds in accordance with provision 6.b. of the Order.

REPORTING

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly the compliance with waste discharge requirements.

Monitoring reports shall be submitted to the Regional Water Board the first day of the month following the monitoring period (monthly, quarterly, annual), i.e. March and 1st quarter monitoring is due 1 May.

The Discharger shall submit an annual report by **30 January of each year**. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with the waste discharge requirements.

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

Ordered by:

PAMELA C. CREEDON, Executive Officer

12 June 2008

(Date)

RSD: sae

INFORMATION SHEET

ORDER NO. R5-2008-0095
MARCON, INC., RARE EARTH SUBDIVISION
WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL FACILITY
BUTTE COUNTY

Marcon, Inc. owner and operator of the wastewater treatment facility for this 12 unit residential development on 13.8 acres. A homeowners association is planned to take over operations from Marcon, Inc. The subdivision is in Section 32, T23N, R1E, MDB&M, approximately 5 miles north of the City of Chico and consists of 12 single-family lots. Surface water drainage in the area of the treatment and disposal facilities for the development is to Keefer Slough, which in turn discharges to Rock Creek, Pine Creek, and the Sacramento River. Annual average precipitation at the site is approximately 26 inches.

Sewage treatment and disposal is by means of a community leachfield system with a design flow of 4,500 gallons per day. Each of the homes in the subdivision will have its own septic tank and effluent screen, and each tank will be equipped with a high head effluent pump. The effluent pumping system delivers the septic tank effluent from each home to a proprietary, centralized aerobic fixed film treatment system for reduction of influent BOD and total suspended solids. Total nitrogen and Total Coliform concentrations are also reduced to a degree by the treatment system. Nitrogen reduction is necessary to protect other nearby potable wells from excessive nitrogen contamination. The disposal field, containing 1500 feet of leach line, is on the same lot as the treatment system. There is one piezometer in the center of the disposal fields to check for high groundwater below the fields. There is also room for a replacement leachfield on this same lot, and the entire lot is estimated to have a usable wastewater disposal area of approximately 0.75 acre.

The Basin Plan specifies criteria for septic tanks and leaching systems. The depth of soil, percolation and percolation rates at the disposal site satisfy the minimum criteria for septic tanks and leachfield systems specified in the Basin Plan. Soils at the disposal area demonstrated percolation rates ranging from 3.2 to 12.8 minutes per inch (only the single value of 3.2 minutes per inch was faster than five minutes per inch). Winter groundwater level monitoring indicated no groundwater within 112 inches of grade in the disposal area.

Water at the site will be supplied by individual domestic wells. Wells in the subdivision within 200 feet of the community disposal field will be provided with 50 foot sanitary seals.

The wastewater treatment and disposal system lies within the Red Bluff Hydrologic Unit Sub-area No. 504.20 as depicted on hydrologic maps prepared by the Department of Water Resources in August 1986.

This development lies within the area addressed by the North Chico Specific Plan approved by the Butte County Board of Supervisors March 25, 1995. The Specific Plan calls for this area to generally be served by septic systems for wastewater treatment. However, in case city sewer is eventually extended to the area, this subdivision will install "dry" sewers for connection to that sewer if and when it is available.

A homeowners association will oversee management of the wastewater collection, treatment, and disposal system. However, at this time Butte County is rewriting its onsite ordinance, and is considering the possibility of a countywide public entity for the management of such systems

This Order contains the standard prohibitions for discharge of wastes to surface waters and surface water drainage courses, by-pass of untreated or partially treated waste, and discharge of hazardous or designated waste. The flow limitation of 4,500 gallons per day was based on the design capacity of the primary leachfield.

ANTIDEGRADATION

The Board has considered anti-degradation pursuant to Resolution No. 68-16 and finds that not enough data exists to determine if this discharge is consistent with those provisions. Specifically, monitoring wells have not been installed adjacent to the groundwater disposal area and several adjacent properties have individual drinking water wells that may be downgradient of the leachfield and disposal area. Therefore, the Monitoring and Reporting Program included within this Order incorporates the installation of monitoring wells to collect data for determining whether the discharge will cause unacceptable groundwater degradation

RSD: sae
4/14/2008