

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0160

WASTE DISCHARGE REQUIREMENTS
FOR
CLAYTON REGENCY LLC
CLAYTON REGENCY MOBILE HOME PARK
CONTRA COSTA COUNTY

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

1. Clayton Regency LLC (hereafter Discharger) submitted a Report of Waste Discharge (RWD), dated 12 September 2003, for modifications to the existing domestic wastewater treatment facility at Clayton Regency Mobile Home Park in southeastern Contra Costa County. Additional information was submitted on 26 November 2003, and 9 April, 14 April, and 24 August 2004. The Discharger owns and operates the facility.
2. The facility is on Assessor's Parcel Numbers 007-191-004, -003, and -002 at 16711 Marsh Creek Road in Section 31, T1N, R2E, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference.
3. Waste Discharge Requirements Order No. 5-00-035, adopted by the Board on 26 January 2000, prescribes requirements for treatment and disposal of up to 57,000 gallons per day (gpd) of domestic wastewater generated at Clayton Regency Mobile Home Park. This Order is no longer adequate because the Discharger has constructed a new wastewater treatment and disposal system to comply with a Cleanup and Abatement Order issued by the Executive Officer.

Existing Facility

4. The Discharger leases or rents spaces to owners of mobile homes. The mobile home park comprises 192 spaces, but the occupancy rate is currently less than 70 percent of capacity and has been less than capacity for several years.
5. Prior to construction of the new wastewater treatment facility, wastewater was treated in two 20,000-gallon concrete septic tanks and disposed of in two leachfields, as shown on Attachment B, which is attached hereto and made part of this Order by reference.
6. The lower leachfield covers approximately one acre along the southwest bank of Marsh Creek, and was constructed in about 1965 and reconstructed in the 1980s. The leaching trenches extend to approximately 14 feet below the ground surface. During construction of the new wastewater treatment facility in 2005, the lower leachfield trenches were found to extend further southeast than expected. Concrete cutoff walls were constructed to restrict flows to the previously undocumented area, thus reducing the leachfield's disposal capacity.

7. The upper leachfield covers approximately 20,000 square feet, and was constructed in 1991 to provide additional disposal capacity because the lower leachfield began to fail. It is approximately 500 feet southwest of the creek and the trenches are shallower than those of the lower leachfield. Septic tank effluent is pumped to the upper leachfield by a lift station located near the septic tanks.
8. Current average daily septic tank influent flows are estimated to be approximately 30,000 gpd during dry weather.
9. Coarse bubble diffusers were installed in the septic tanks and lift station in September 2003. Based on wastewater monitoring performed since adoption of the previous Order, the RWD provided the following data to characterize the septic tank effluent prior to installation of the aeration system.

<u>Constituent/Parameter</u>	<u>Typical Concentration Range</u>
BOD	120 to 220 mg/L
TSS	18 to 150 mg/L
TDS	440 to 1,100 mg/L
PH	6.3 to 8.6
Total nitrogen	30 to 50 mg/L

Cleanup and Abatement Order

10. The septic system was first constructed in the 1960s with only one leachfield. Prior to adoption of the current WDRs, the facility had a history of recurring leachfield failures. The upper leachfield was constructed in 1991 to provide additional capacity because the original (lower) leachfield began to fail.
11. Due to a lack of local utilities, potable water was previously provided by on-site wells, which produced water from a saline aquifer. The Discharger operated a reverse osmosis (RO) water treatment system to comply with drinking water standards for salinity constituents. Initially, the RO reject brine was discharged to the septic system. However, due to consistent leachfield failures, the Discharger began discharging the RO brine to a series of dry wells along the banks of Marsh Creek.
12. Because of repeated leachfield failures, concerns about groundwater quality, and evidence of surface water impacts in Marsh Creek from the RO brine discharge, WDRs Order No. 5-01-035 contained a schedule for technical reports to ensure that the Discharger would construct facility improvements to protect water quality, including eliminating the discharge of RO brine.
13. After adoption of the revised WDRs, the Discharger failed to submit some reports, and several other technical and monitoring reports were deficient. The continued discharge of RO brine and

minimally treated wastewater to the leachfields caused degradation of groundwater and surface water quality as evidenced by the Discharger's self-monitoring reports.

14. In response to staff enforcement letters, the Discharger proposed to reconstruct the wastewater treatment system and obtain another water supply for the mobile home park to eliminate the need for the reverse osmosis system. Therefore, on 19 November 2002, the Executive Officer issued Cleanup and Abatement (C&A) Order No. R5-2002-0732 requiring the Discharger to comply with a schedule for the proposed improvements.
15. The Discharger has worked diligently to comply with the C&A Order and has ceased discharge of RO brine to the dry wells. Completion of the wastewater treatment system was delayed due to circumstances beyond the Discharger's control. As of the date of this Order, all tasks required under the C&A Order have been completed in a satisfactory and timely manner. Therefore, this Order rescinds C&A Order No. R5-2002-0732. The Discharger no longer uses the saline water supply well or the reverse osmosis unit.

Proposed Changes in the Discharge

16. The existing septic tanks will continue to be used for partial primary treatment of domestic wastewater and will also serve as flow equalization tanks. A new package treatment plant has been constructed to further treat the septic tank effluent using rotating biological contactors (RBCs), an intermediate clarifier, a denitrification chamber, a final clarifier, multimedia filtration, and ultraviolet (UV) disinfection. Treated, disinfected wastewater will be conveyed to a 1,500-gallon pumping tank for discharge to a new subsurface disposal system or the upper leachfield.
17. A new 5-foot diameter lift station has been constructed to convey septic tank effluent to the package plant using variable speed pumps. The lift station is equipped with level sensors and float switches, and is designed to maintain a constant liquid level within the septic tanks by increasing and decreasing the flow rate to the package plant as needed.
18. A licensed septage hauler will remove solids from the RBC's primary clarifier and septic tanks as necessary, typically every 60 to 90 days.
19. The Discharger will retain the services of a certified wastewater treatment plant operator to perform operation, maintenance, and monitoring of the system.
20. The RWD identified four possible system failure modes and automated system responses to prevent wastewater overflow:
 - a. Power outages will cause the system to cease operating. During periods of power failure, septic tank effluent will flow to the lift station, which has an emergency overflow outlet that discharges by gravity to the existing lower leachfield.
 - b. Influent flow rates greater than the design peak hourly flow rate will also trigger overflow to the lower leachfield.

- c. Failure of the package plant pumps or motors while the influent pumps are still in operation will trigger a high level alarm in the RBC tank and will automatically turn off the influent pumps. This will cause septic tank effluent to flow via the lift station wet well to the lower leachfield.
- d. Physical blockage of the package treatment system will automatically trigger the same sequence of events as pump/motor failure, resulting in temporary discharge of septic tank effluent to the lower leachfield.

All high water alarms will include an autodialer feature to alert the treatment plant operator of system failure.

- 21. The package plant is designed based on full occupancy, and is capable of treating average daily dry weather flows of 46,000 gpd and peak month average daily flows of 52,000 gpd. The system can accommodate peak hour flows of up to 110 gpm.
- 22. Based on influent quality and the treatment system design, the RWD states that treated effluent should exhibit the following characteristics.

<u>Constituent/Parameter</u>	<u>Design Effluent Concentration</u>
BOD	30 mg/L
TSS	30 mg/L
TDS	1,200 mg/L
Nitrate nitrogen	10 mg/L
pH	6.5 to 8.5
Total coliform organisms	240 cfu/100 mL

- 23. Treated and disinfected effluent will be discharged primarily to a new at-grade mound leaching system that has been constructed north of the mobile home park (Parcel A on Attachment B). The new mound system comprises approximately 50,000 square feet with 140-foot long, 10-foot wide mounds spaced 5 feet apart. The Parcel A mound system will be pressure dosed, and each zone will be allowed to rest between applications. The pressure-dosing system is automated and is designed to automatically switch the flow to the next dosing zone at a preset interval. The design disposal capacity of the Parcel A mound system is 40,000 gpd as an average daily dry weather flow. During peak flow months, the average daily discharge to this leachfield may be as high as 43,200 gpd.
- 24. The upper leachfield, which has a history of failure, was rehabilitated in 2002 with limited effect, and was rested in 2002 and part of 2003. The upper leachfield has been reconstructed as a pressure-dosed at-grade mound system covering 10,000 square feet with 1,000 lineal feet of mounds. The design capacity of the retrofitted upper leachfield mound system is 8,000 gpd as an

average daily dry weather flow. During peak flow months, the average daily discharge to this leachfield may be as high as 8,800 gpd.

25. The lower leachfield will be used only for emergency bypass conditions, as described above. If maintenance requires extended shutdown, septic tank effluent may also be temporarily diverted to the upper leachfield's subsurface trenches.
26. The effluent disposal capacity of the combined Parcel A and upper leachfields is adequate for an average daily flow of 48,000 gpd as an annual average. The RWD states that additional subsurface disposal capacity may be gained by rehabilitating the lower leachfield.

Site-Specific Conditions

27. Surrounding land uses are agricultural and parkland. The terrain is hilly, and Marsh Creek flows through a deeply incised channel approximately 20 feet below the level of the mobile home park.
28. Soils at the site generally consist of approximately 10 feet of clay or sandy clay underlain by 10 to 25 feet of coarse alluvium over sandstone bedrock.
29. The mean annual rainfall for the vicinity of the site is approximately 13.6 inches.
30. The reference evapotranspiration rate (ET_0) published by CIMIS for the closest weather station in Brentwood is 48 inches per year.
31. No part of the wastewater treatment and disposal facility lies within the 100-year floodplain.

Groundwater Considerations

32. Groundwater is typically encountered at 11 to 26 feet below ground surface, and generally flows towards Marsh Creek.
33. The facility has nine groundwater monitoring wells completed within the shallow saturated zone. Based on groundwater monitoring data for these wells since 2001, the existing leachfields have caused concentrations of ammonia, nitrate nitrogen, and coliform organisms to exceed the applicable water quality limits in groundwater.
34. Monitoring wells MW-7 through MW-9 were installed in early 2001 to provide baseline (pre-discharge) groundwater monitoring data for Parcel A. As such, all of the data obtained prior to effluent discharge at this area probably provide the best indication of background groundwater quality for the site. Pre-discharge analytical data for these wells is summarized below.

Constituent/Parameter	Concentration Range (mg/L except as noted) ¹		
	MW-7	MW-8	MW-9
pH, std. Units	6.9 to 8.0	7.0 to 7.9	6.5 to 8.1
TDS	510 to 3,000	930 to 1,300	800 to 1,200
Nitrate nitrogen	<0.1 to 1.0	<0.1 to 0.70	<0.1 to 4.4
Ammonia nitrogen	<0.1	<0.1 to 0.83	<0.1 to 0.019
Total coliform organisms ²	<2 to 2,400	<2 to >2,400	<2 to >2,400
Fecal coliform organisms ²	<2 to 2	<2 to 11	<2 to 8

¹ Based on 18 quarters of groundwater monitoring.

² Data obtained for the first year after well installation are not included. Levels were very high, presumably due to cross contamination during well installation.

35. Monitoring wells MW-4 through MW-6 monitor the existing upper leach field. MW-6 is at the upgradient edge of the leachfield and MW-4 and MW-5 are at the downgradient edge. Historical groundwater monitoring data for these wells are summarized below.

Constituent/Parameter	Concentration Range (mg/L except as noted) ¹		
	MW-4	MW-5	MW-6
pH, std. Units	6.8 to 7.6	6.9 to 7.6	6.7 to 7.8
TDS	720 to 1,100	290 to 840	560 to 910
Nitrate nitrogen	<0.1	<0.1	<0.1 to 0.15
Ammonia nitrogen	<0.1 to 5.6	9.2 to 45	5.7 to 57
Total coliform organisms ²	1 to 42,000	<2 to 10,000	<2 to 3,100
Fecal coliform organisms ²	<2 to 330	<2 to 490	<2 to >2,400

¹ Based on 18 quarters of groundwater monitoring.

² Data obtained for the first year after well installation are not included. Levels were very high, presumably due to cross contamination during well installation.

36. Monitoring wells MW-1 through MW-3 monitor the existing lower leach field. MW-3 is at the upgradient edge of the leachfield and MW-1 and MW-2 are at the downgradient edge. Historical groundwater monitoring data for these wells are summarized below.

Constituent/Parameter	Concentration Range (mg/L except as noted) ¹		
	MW-1	MW-2	MW-3
pH, std. Units	6.5 to 8.05	6.8 to 7.4	6.6 to 7.7
TDS	1,100 to 7,200	2,900 to 7,300	1,200 to 4,200
Nitrate nitrogen	4.7 to 22	19 to 68	<0.1 to 7.5

Constituent/Parameter	Concentration Range (mg/L except as noted) ¹		
	MW-1	MW-2	MW-3
Ammonia nitrogen	<0.1 to 10	<0.1	<0.1 to 15
Total coliform organisms ²	<2 to >2,400	<2 to 400	< 2 to >2,400
Fecal coliform organisms ²	<2	<2	<2 to 2

¹ Based on 18 quarters of groundwater monitoring.

² Data obtained for the first year after well installation are not included. Levels were very high, presumably due to cross contamination during well installation

Groundwater TDS concentrations beneath the lower leachfield are likely attributable to its former use for RO brine disposal. Since the brine discharge was ceased in 2000, TDS concentrations in all three wells have been decreasing.

Surface Water Considerations

37. The discharger has monitored surface water quality in Marsh Creek upstream and downstream of the existing leachfields for several years. Prior to 2001, electrical conductivity (EC) in the creek typically ranged from 500 to 2,500 umhos/cm with lower values observed during the early part of the rainy season. Upstream and downstream values were typically similar except that the downstream values would typically increase significantly during the dry months. These impacts were apparently due to the discharge of RO brine to the dry wells along the creek bank. Since the discharge of RO brine ceased in 2000, EC values in the creek have typically ranged from 460 to 660 umhos/cm, with no notable seasonal or spatial variation. Therefore, surface water monitoring in the creek is no longer necessary.

Basin Plan, Beneficial Uses, and Regulatory Considerations

38. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
39. Surface water drainage is to the Sacramento-San Joaquin Delta via Marsh Creek. The Basin Plan designates the beneficial uses of the Sacramento-San Joaquin Delta as municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat, and navigation.
40. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

41. State Board Resolution No. 68-16 prohibits degradation of groundwater quality unless it has been shown that:
 - a. The degradation is consistent with the maximum benefit to the people of the State;
 - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
 - c. The degradation does not cause exceedance of one or more water quality objectives; and
 - d. The discharger employs best practicable treatment and control to minimize degradation.

The Discharger has not provided the required demonstration pursuant to State Board Resolution No. 68-16 to be allowed to cause groundwater degradation, and therefore none is authorized.

42. Based on a previous determination of groundwater degradation, the Discharger has constructed a new wastewater treatment and disposal system that incorporates several best practicable treatment and control systems to minimize the degradation. Those systems, coupled with the naturally saline groundwater beneath the site, should enable the Discharger to prevent degradation above background groundwater quality. However, because groundwater beneath the existing leachfields already exceeds water quality objectives for ammonia, nitrate nitrogen, and coliform organisms, it may be several years before the degradation is mitigated through dilution and dispersion.
43. If statistical analysis after an appropriate period following system startup demonstrates that degradation occurs beneath the new leachfield and/or is still occurring beneath the existing leachfields, it would be appropriate to require that the Discharger evaluate additional technology and source control measures to improve the quality of the waste to preclude the discharge from being a continuing source of degradation. If the Discharger is unable to modify its waste stream or disposal methods such that groundwater quality will not be impacted, then the Discharger shall submit either technical documentation that its treatment and control and resulting degradation are consistent with State Board Resolution No. 68-16 or a plan for full containment pursuant to Title 27 of the California Code of Regulations, Section 20005 et seq. (hereafter Title 27). In addition, the Discharger may be required to remediate any groundwater pollution in accordance with State Board Resolution No. 92-49.
44. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells, as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to CWC Section 13801, apply to all monitoring wells.
45. The State Board adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The Dischargers' facility is exempt from those requirements, and is therefore not required to obtain coverage under General Permit No. CAS000001.

46. Section 13267(b) of California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. 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 program required by this Order and the attached Monitoring and Reporting Program No. ___ are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

47. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. Although the Discharger’s facility is exempt from Title 27, the data analysis methods of Title 27 may be appropriate for determining whether the discharge complies with the groundwater protection requirements specified in this Order.
48. The mobile home park has been in operation since approximately 1955, and is therefore exempt from the provisions of the California Environmental Quality (CEQA). On 20 September 2004, the Contra Costa County Community Development Department certified a Mitigated Negative Declaration and issued a Land Use Permit for the construction of improvements to the wastewater treatment system and construction of a new subsurface effluent disposal area on a previously undeveloped parcel adjacent to the mobile home park.
49. The action to adopt revised waste discharge requirements for the facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with Title 14 CCR, Section 15301.
50. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (hereafter Title 27). The exemption pursuant to Section 20090(a), is based on the following:
- a. The waste consists primarily of domestic sewage;
 - b. The waste discharge requirements are consistent with water quality objectives, and
 - c. The treatment and storage facilities described herein are associated with a domestic wastewater treatment facility.

51. 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 Notice

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

IT IS HEREBY ORDERED that, pursuant to Sections 13263 and 13267 of the California Water Code, Waste Discharge Requirements Order No. 5-00-035 and Cleanup and Abatement Order No. R5-2002-0732 are rescinded and Clayton Regency LLC and 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:

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

A. Discharge Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated or partially treated waste is prohibited, except that untreated or partially treated septic tank effluent may be discharged to the lower leachfield and/or upper leachfield trenches under the emergency conditions described in Finding No. 20.
3. Neither the treatment nor the discharge shall cause a condition of nuisance or pollution as defined by the California Water Code, Section 13050.
4. The discharge shall not cause the degradation of any water supply.
5. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15) is prohibited.
6. Discharge of waste classified as 'designated', as defined in Section 13173 of the California Water Code, is prohibited.

7. Surfacing of wastewater from the subsurface effluent disposal areas is prohibited.
8. Overflow of wastewater from the conveyance and treatment systems is prohibited.
9. The discharge of any wastewater other than that from domestic sources is prohibited. Domestic sources shall include bathrooms, laundry rooms, kitchens used by staff and tenants, and non-hazardous wastewater generated during maintenance and testing of the wastewater conveyance and treatment systems.

B. Discharge Specifications:

1. The 30-day average daily dry weather flow to the wastewater treatment system shall not exceed 46,000 gpd.
2. The 30-day average daily peak month flow to the wastewater treatment system shall not exceed 52,000 gpd.
3. The average annual flow to the wastewater treatment system shall not exceed 48,000 gpd as a 365-day average.
4. The lower leachfield shall only be used when emergency conditions preclude full treatment of the wastewater prior to discharge. In such cases, all reasonable efforts shall be made to minimize the volume discharged to the lower leachfield.
5. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
6. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
7. The facility shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
8. The conveyance, treatment, and disposal systems shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with the historical rainfall patterns.

C. Effluent Limitations:

Effluent discharged to the upper leachfield and the Parcel A leachfield shall not exceed the following limits:

Constituent/Parameter	Units	Limitation (monthly average concentration except as noted)
BOD	mg/L	30
TSS	mg/L	30
Nitrate nitrogen	mg/L	10
Ammonia nitrogen	mg/L	10
Total Kjeldahl nitrogen	mg/L	20
Total coliform organisms	MPN/100 mL	240 maximum
PH	Std. units	6.5 minimum; 8.4 maximum

D. Solids Disposal Requirements:

1. The Discharger shall regularly remove accumulated scum, solids, debris, grit, and biosolids from the wastewater treatment system tanks to optimize the quality of the effluent.
2. Collected screenings, sludge, and other solids shall be disposed of in a manner approved by the Executive Officer, which is 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. On-site disposal of solids is prohibited.
3. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer at least 90 days in advance of the change.
4. Use and disposal of sewage sludge shall comply with existing Federal, State, and local laws and regulations, including applicable permitting requirements and technical standards included in 40 CFR 503.

E. Groundwater Limitations:

Release of waste constituents from any system component associated with the wastewater treatment facility shall not cause groundwater under and beyond that system component (as determined by an approved well monitoring network) to contain any constituents in concentrations greater than ambient background conditions, and shall not cause or contribute to the violation of any Basin Plan narrative or numeric water quality objective.

F. Provisions:

1. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision F.2:

- a. By **30 October 2005**, the Discharger shall submit documentation demonstrating that a certified wastewater treatment plant operator has been retained to perform all operation, maintenance, and routine monitoring of the wastewater treatment system.
 - b. By **30 December 2005**, the Discharger shall submit a *Wastewater Treatment System Completion Report* certifying that construction, startup testing, and operator training are complete, and that the wastewater system is fully operational. The report shall document and justify any design modifications and verify full compliance with Discharge Prohibition A.2.
 - c. By **30 January 2006**, the Discharger shall submit an *Operation and Maintenance (O&M) Manual* for the wastewater treatment facility. The O&M Manual shall include complete descriptions, manufacturer's specifications, and recommended operation and maintenance procedures for all equipment, including pumps, motors, meters, valves, electrical controls and systems, filters, and any system component which requires inspection, testing, and/or maintenance to ensure compliance with this Order. The manual shall include specific inspection and maintenance procedures, recommended inspection and maintenance frequencies, system testing and troubleshooting procedures, and detailed operational procedures. It shall also include a copy of this Order, the Standard Provisions and Reporting Requirements, and monitoring/reporting procedures to ensure compliance with the Monitoring and Reporting Program. A copy of the O&M Manual shall be kept at the facility for reference by operating personnel. Key personnel shall be familiar with its contents.
 - d. By **30 March 2006**, the Discharger shall submit a *Background Groundwater Quality Report* for the Parcel A leachfield. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of all monitoring data and calculation of the concentration in the background monitoring well(s). Determination of background groundwater quality shall be made using all pre-discharge monitoring data for wells MW-7, MW-8, and MW-9 using the methods described in Title 27, Section 20415(e)(10). For each monitoring parameter/constituent, the report shall compare the measured concentration in each compliance monitoring well with the proposed background concentration.
 - e. By **30 March 2011**, the Discharger shall submit a *Groundwater Degradation Re-Assessment Report* for the upper and lower leachfields. The purpose of the report is to evaluate whether the existing groundwater pollution is resolving. For each monitoring parameter/constituent identified in the MRP, the report shall present a statistically based evaluation of the temporal trends in each well and comparison to the background concentration. The trend analysis shall be used to determine whether additional treatment and/or control is needed to ensure compliance with the Groundwater Limitations of this Order.
2. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geological 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 section 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.

3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0160, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
4. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
5. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23 CCR, Division 3, Chapter 26.
6. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving the land application areas that is used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Regional Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
7. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.
8. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
9. In the event of any change in control or ownership of the facility or land application areas, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. 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.

10. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
11. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel at the facility shall be familiar with its contents.
12. 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 21 October 2005.

THOMAS R. PINKOS, Executive Officer

ALO:10/21/2005

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0160

FOR
CLAYTON REGENCY LLC
CLAYTON REGENCY MOBILE HOME PARK
CONTRA COSTA COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring treated wastewater, subsurface disposal areas, groundwater, and biosolids. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

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

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

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

WASTEWATER MONITORING

Wastewater samples shall be obtained from the wastewater treatment system effluent pump tank or a sampling port in the pipeline connecting the wastewater treatment system to the subsurface disposal areas. At a minimum, the Discharger shall perform wastewater monitoring as follows:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Meter reading	Continuous	Monthly
BOD	mg/L	Grab	Weekly	Monthly
TSS	mg/L	Grab	Weekly	Monthly
TDS	mg/L	Grab	Weekly	Monthly
Total coliform organisms ¹	MPN/100mL	Grab	Weekly	Monthly
Nitrate nitrogen	mg/L	Grab	Monthly	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Ammonia nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Monthly	Monthly
pH	Std. units	Grab	Monthly	Monthly

¹ Samples shall be analyzed using a minimum of 15 tubes or three dilutions.

SUBSURFACE DISPOSAL AREA MONITORING

The Discharger shall conduct a **weekly** visual inspection of all three leachfields. Evidence of surfacing wastewater, erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids. In addition to the visual inspections, monitoring of the leachfields shall include the following:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Effluent depth ¹	Inches	Measurement Meter	Quarterly	Quarterly ²
Flow to each leachfield ³	gpd	Observation	Daily	Monthly

¹ Measure the depth to any ponded wastewater in each inspection riser. The Discharger shall provide the depth of the ponded wastewater for each at-grade mound and leaching trench (when used).

² Results shall be reported in the monthly monitoring report for month during which monitoring occurs.

³ Pumped flow to Parcel A and Upper Leachfield mound systems.

GROUNDWATER MONITORING

Beginning upon adoption of this Order, the Discharger shall establish a quarterly groundwater sampling schedule with samples obtained approximately every three months. All wells shall be sampled and analyzed according to the schedule below.

Prior to construction of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Board for review and approval. 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, the groundwater elevation shall be measured in each well, and the wells shall be purged of at least three casing volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Depth to groundwater	0.01 feet	Measurement	Quarterly	Quarterly
Groundwater elevation ¹	0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient direction	Degrees	Calculated	Quarterly	Quarterly
Total dissolved solids	mg/L	Grab	Quarterly	Quarterly
Electrical conductivity	umhos/cm	Grab	Quarterly	Quarterly
Nitrate nitrogen	mg/L	Grab	Quarterly	Quarterly
Ammonia nitrogen	mg/L	Grab	Quarterly	Quarterly
pH	standard	Grab	Quarterly	Quarterly
Total coliform organisms	MPN/100 ml	Grab	Quarterly	Quarterly
Standard minerals ²	mg/L	Grab	Annually	Annually

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

² Standard Minerals shall include, at a minimum, the following elements/compounds: boron, calcium, chloride, iron, magnesium, manganese, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness. Analytical methods shall be selected to provide reporting limits below the Water Quality Limit for each constituent.

BIOSOLIDS MONITORING

When sludge (biosolids) is removed from the treatment system for disposal, sampling and analysis shall be performed as required to comply with the requirements of the US EPA and the disposal facility. Sludge sampling and analysis records shall be retained for a minimum of five years. Records of sludge quantities generated, and all handling and disposal activities shall be included in the Annual Monitoring Reports.

REPORTING

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

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed and stamped by the registered professional.

A. Monthly Monitoring Reports

All daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of wastewater and subsurface disposal area monitoring;
2. A comparison of monitoring data to the discharge specifications and effluent limitations and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. Copies of all laboratory analytical report(s); and
4. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

B. Quarterly Monitoring Reports

Quarterly monitoring reports shall be submitted to the Regional Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring for all groundwater sampling activities during the quarter;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date(s) of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;

6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;
8. Copies of laboratory analytical report(s) for groundwater monitoring.

C. Annual Report

Beginning in **February 2006**, an Annual Report shall be prepared and submitted to the Regional Board by **1 February** each year. The Annual Report shall include all monitoring data required in the monthly/quarterly schedule. In addition, the Annual Report shall include the following:

1. The contents of the regular groundwater monitoring report for the last quarter of the year;
2. Tabular and graphical summaries of all groundwater monitoring data collected during the year and quarterly groundwater elevation contour maps;
3. An intrawell statistical analysis of each groundwater monitoring parameter for each well; time versus concentration plots for each constituent for each well, and comparison to the established background groundwater concentrations;
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
6. The results for analyses that are performed annually (as set forth above);
7. A summary of information on the management and disposal of biosolids;
8. The results from any analytical testing performed to characterize the biosolids prior to off-site disposal;
9. A forecast of influent flows for the coming year, as described in Standard Provision No. E.4; and
10. The name and contact information for the certified wastewater operator responsible for operation, maintenance, and system monitoring.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will

be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

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

Ordered by:

THOMAS R. PINKOS, Executive Officer

21 October 2005

(Date)

ALO:10/21/2005

INFORMATION SHEET

ORDER NO. R5-2005-0160
CLAYTON REGENCY LLC
CLAYTON REGENCY MOBILE HOME PARK
CONTRA COSTA COUNTY

The Clayton Regency Mobile Home Park is located west of the town of Brentwood on Marsh Creek Road. The mobile home park has spaces for 192 tenants, but occupancy in recent years has been less than capacity. The on-site wastewater treatment system previously consisted of two septic tanks and leachfields.

The Discharger has constructed major improvements to the wastewater treatment system to protect water quality. The improvements include a package treatment plant to provide secondary treatment, denitrification and disinfection, and new pressure-dosed at grade mound systems for effluent disposal. The existing septic tanks will continue to be used for primary treatment of domestic wastewater and will also serve as flow equalization tanks. Treated, disinfected wastewater will be conveyed to a pumping tank for discharge to the subsurface disposal system. The package plant is designed to treat average daily dry weather flows of 46,000 gpd and peak month average daily flows of 52,000 gpd.

Treated and disinfected effluent will be discharged primarily to a new at-grade mound leaching system. The new 50,000 square foot mound system will be pressure dosed, and each zone will be allowed to rest between applications. The pressure-dosing system is automated and is designed to automatically switch the flow to the next dosing zone at a preset interval. The upper leachfield has been reconstructed as a pressure-dosed at-grade mound system covering 10,000 square feet. The lower leachfield will be used only for emergency bypass conditions. The combined average daily dry weather disposal capacity of the new leach field and the reconstructed upper leachfield is 48,000 gpd.

Groundwater is typically encountered at 11 to 26 feet below ground surface, and generally flows towards Marsh Creek. The facility has nine groundwater monitoring wells completed within the shallow saturated zone. Based on groundwater monitoring data for these wells since 2001, the existing leachfields and brine disposal wells have caused concentrations of ammonia, nitrate nitrogen, dissolved solids, and coliform organisms to exceed the applicable water quality limits. Groundwater TDS concentrations beneath the lower leachfield are likely attributable to its former use for RO brine disposal. Since the brine discharge was ceased, TDS concentrations in all three wells have been decreasing.

The derivation of key specifications and provisions in the proposed Order is discussed below.

Effluent Limitations and Effluent Monitoring

Because of the proximity of the water table, the discharge may pose a threat to groundwater quality. Therefore, it is appropriate to require frequent treatment system and effluent monitoring to ensure that best practicable treatment and control (BPTC) and the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

The limitations are based on the design proposed in the Report of Waste Discharge and should be easily achievable with proper system operation and maintenance.

Groundwater Limitations, Groundwater Monitoring, and Provisions F.1.d and F.1.e

As stated above, shallow groundwater beneath the existing leachfields has been degraded. The new wastewater treatment system should be able to mitigate some, if not all, of the degradation over time. The Discharger has not provided any documentation showing that it should be allowed to degrade groundwater consistent with State Board Resolution No. 68-16, and therefore no groundwater degradation is allowed. This Order requires quarterly groundwater monitoring to determine whether the degradation is decreasing. If degradation continues unabated, then the Discharger must either show that it complies with Resolution No. 68-16 or propose facility improvements to prevent such degradation.

The Discharger is required to complete a statistical determination of background groundwater quality (Provision F.1.d), perform an annual assessment of groundwater degradation, and re-evaluate groundwater pollution beneath the existing leachfields in five years (Provision F.1.e).

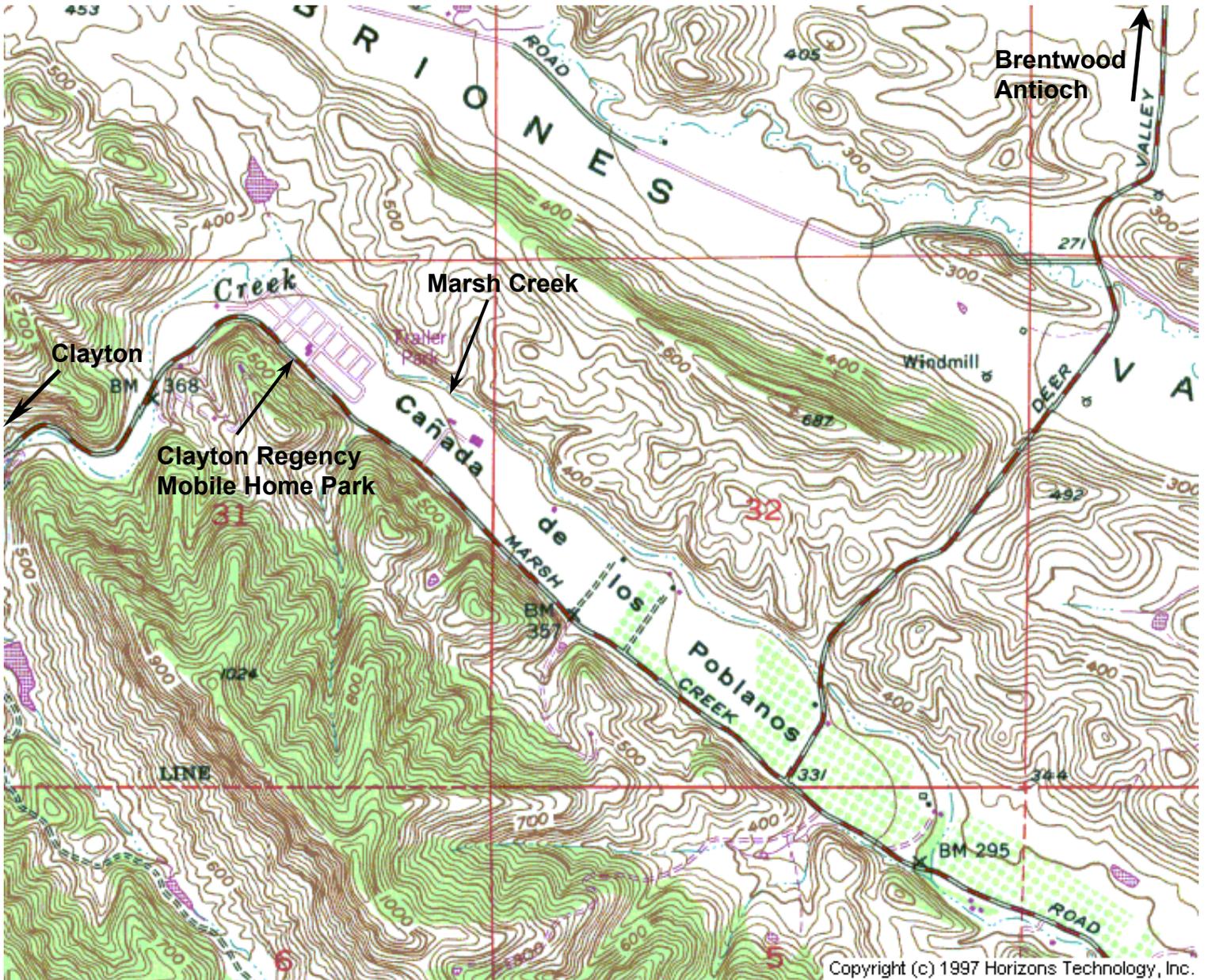
Provision F.1.a

The wastewater treatment system is mechanically complex and relies on diligent attention to inspection, monitoring, and maintenance to ensure compliance with the Effluent and Groundwater Limitations of this Order. The Report of Waste Discharge states that the Discharger will retain a certified wastewater treatment plant operator. Therefore, Provision F.1.a requires that the Discharger submit documentation demonstrating that a certified wastewater treatment plant operator has been retained to perform all operation, maintenance, and routine monitoring of the wastewater treatment system.

Provisions F.1.c

The wastewater treatment and disposal system is complex and will be constructed from equipment obtained from more than one manufacturer. Therefore, Provision F.1.c requires that the Discharger submit a detailed Operation and Maintenance Manual to ensure that the operator understands the appropriate inspection, monitoring, and maintenance protocols.

ATTACHMENT A

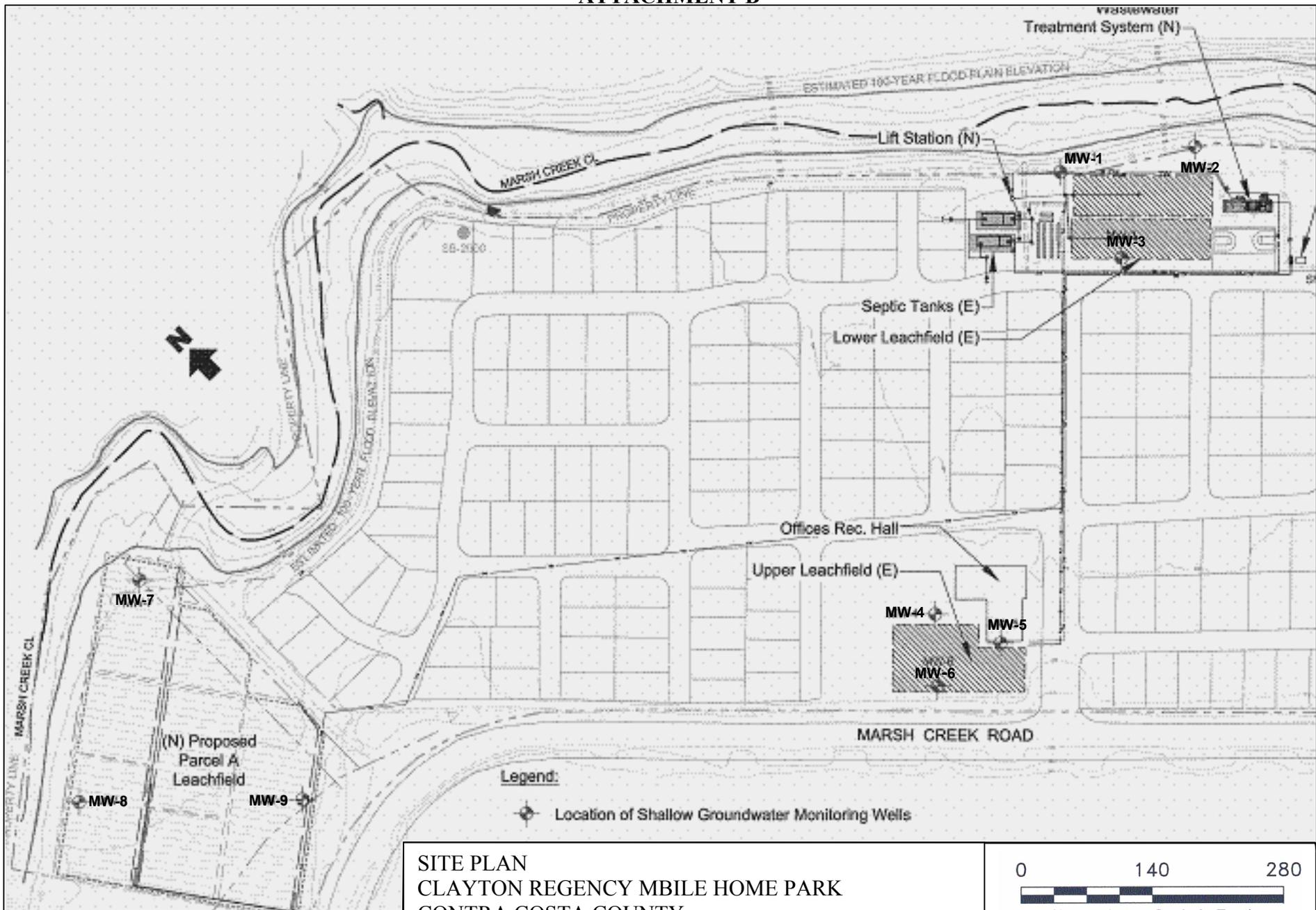


Drawing Reference:
USGS Topographic
Map
7.5-Minute
Quadrangle
Antioch South

VICINITY MAP
 CLAYTON REGENCY LLC
 CLAYTON REGENCY MOBILE HOME PARK
 CONTRA COSTA COUNTY
 ORDER NO. R5-2005-0160

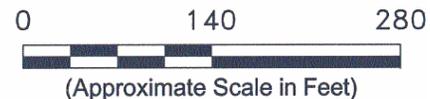

 Approx. Scale: 1" = 1,300'

ATTACHMENT B



SITE PLAN
 CLAYTON REGENCY MBILE HOME PARK
 CONTRA COSTA COUNTY

ORDER NO. R5-2005-0160



Reference: Report of Waste Discharge,
 Erler and Kalinowski, Inc.,
 September 2003