

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**WASTE DISCHARGE REQUIREMENTS
AND
WATER RECYCLING REQUIREMENTS
FOR
POINT DUME LIMITED
ORDER NO. R4-2005-0041
(Point Dume Club Wastewater Treatment Plant)
(File No. 68-071)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

SITE OWNER AND LOCATION

1. Point Dume Limited (hereinafter, Discharger), formerly know as the Marblehead Land Company, and initially as the Adamson Companies, owns and operates the Point Dume Club Mobilehome Park (Park) and the Point Dume Club Wastewater Treatment Plant (WWTP). The WWTP is located 1800 feet from the Pacific Ocean at 29500 Heathercliff Road, Malibu, California (Figure 1. Site Location Map). On February 11, 1999, the Regional Board adopted Order No. 99-019 specifying waste discharge requirements (WDRs) and water recycling requirements (WRRs) for the WWTP.

PURPOSE OF ORDER

2. The Discharger operates the WWTP that produces secondary and tertiary treated effluent, and uses the treated effluent for landscape irrigation at the Park under Order No. 99-019. However, material changes have occurred since Order No. 99-019 was adopted in 1999. The primary changes are an increase in WWTP capacity from 70,000 gallons per day (gpd) to 100,000 gpd, and complete elimination of a secondary level treated wastewater discharge through spray irrigation. In addition, Finding No. 3 of Order No. 99-019 reported an average dry weather flow of approximately 48,000 gpd. This Finding caused confusion because 48,000 gpd was only the tertiary treated effluent volume. In 1999, the total wastewater discharge volume should have included both secondary and tertiary level treated wastewater. For more than 20 years, the total wastewater flow has averaged between 60,000 and 70,000 gpd.
3. In 2002, the Discharger replaced the existing WWTP's filtration unit with a filtration system of greater capacity, allowing the WWTP to produce 100% tertiary level treated wastewater. In order to eliminate confusion on total average discharge volume, and update Order No. 99-019, the Discharger filed a report of waste discharge (RoWD) on December 1, 2004. Since 1983, when construction of Zuma Bay Villas (condominiums) was completed, neither the Park population of 880 persons, nor the volume of wastewater generated at the Park has increased.

April 27, 2005
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SITE DESCRIPTION

4. The Park includes 391 dwelling units, which consist of 297 mobile homes, 4 one-bedroom apartments, and 90 two-bedroom condominiums. The 90 condominiums called the Zuma Bay Villas were added to the Park in 1983. The Park property covers over 91.6 acres. Other facilities located in the Park with sanitary plumbing fixtures include two clubhouses, a laundry room and a pool house. The WWTP is located at Latitude 34° 02' 10" and Longitude 118° 49' 50".
5. The site is in an unsewered area in the City of Malibu (City). The City does not provide centralized wastewater collection and treatment utilities; rather, it relies upon subsurface disposal systems for domestic and commercial wastewater.

FACILITY AND TREATMENT PROCESS

6. Initial wastewater treatment at the WWTP consists of activated sludge processing, a primary aeration tank, a digester and a secondary settling tank. In addition, there are two equalization basins, one to equalize flow to the tertiary units, and the other for storage of the tertiary effluent used for landscape irrigation during daylight hours. The existing concrete lined 750,000-gallon storage pond is retained for emergencies and during periods of heavy rainfall.
7. Under Order No. 99-019, a portion of the wastewater was treated to secondary levels and another portion was treated to tertiary levels. Formerly, secondary-level treated wastewater stream went from a flow equalization basin to a chlorine contact chamber and then flowed to a sump pump. From the sump wastes were pumped to a series of clock operated sprinklers, disposing of the secondary treated effluent onto an 8.5-acre spray field area. The spray field disposal site is located in the southeast part of the Park in the NW ¼ of Section 7, T2S, R18W, S. B. B. & M.
8. The tertiary treated effluent went from the flow equalization basin to further processing by coagulation, flocculation, and filtration followed by disinfection. Tertiary treated effluent flows into a storage basin, and then is recycled for onsite landscape irrigation on a 13-acre area of the Park. The landscape area irrigated with tertiary treated effluent consists of 10 acres located along the outside boundary of the Park, a small area near lot No. 135, and a narrow strip of sloped area (approximately 3 acres in size) facing Zuma Beach along Sea Daisy Drive. The areas of reuse are located in the SW ¼ of Section 6, the NW ¼ of Section 7, T2S, R18W, and the NE ¼ of Section 12, T2S, R19W, S. B. B. & M., within the Zuma Canyon Hydrologic Subarea. (Figure 2 shows the areas of the Park which are irrigated with recycled water.)
9. Some components of the existing WWTP such as the digester, aeration basin and clarifier are approaching 30 years and replacement of aged components is necessary. The

Discharger plans to upgrade the existing WWTP with two aeration tanks and two secondary clarifiers. A 100,000 gallon capacity dual media filter was installed in 2001. The old process tank will be converted into solids holding and aerobic digester. The proposed upgraded tertiary treatment plant will have a design capacity of 100,000 gpd. By June 2, 2007, the Discharger will be required to complete installation of a new chlorine disinfection chamber that will provide a modal contact time of 90 minutes. (Figure 3 shows the site plan layout of the new treatment system equipment.)

10. The Discharger indicated there are no domestic or municipal wells down-gradient of the WWTP. Domestic potable water consumers in the area receive only imported water from the Los Angeles County Waterworks District No. 29. The Los Angeles County Waterworks District No. 29 has received water from the Metropolitan Water District of Southern California via the West Basin Municipal Water District since 1961.

APPLICABLE LAWS, PLANS, POLICIES AND REGULATIONS

11. On June 13, 1994, the Regional Board adopted a revised *Water Quality Control Plan for Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan). Subsequently, amendments to the Basin Plan have been adopted by the Regional Board in 1997 (Resolution No. 97-02); 1998 (Resolution No. 1998-018); 1999 (Resolution No. 1999-013); 2000 (Resolution No. 2000-010); 2001 (Resolution Nos. 2001-013, 2001-014, 2001-018); 2002 (Resolution Nos. 2002-004, 2002-011, 2002-017, 2002-022); and 2003 (Resolution Nos. 2003-001, 2003-009, 2003-010, 2003-011, 2003-012, 2003-015). The Basin Plan (i) designates beneficial uses for surface waters and groundwater, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State antidegradation policy (*Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Resources Control Board (State Board) Resolution No. 68-16, October 28, 1968), and (iii) describes implementation programs to achieve and maintain water quality standards contained in the Basin Plan in order to protect all waters in the Region. In addition, the Basin Plan incorporates by reference applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. The Regional Board prepared the 1994 update of the Basin Plan to be consistent with previously adopted State and Regional Board plans and policies. This Order implements the plans, policies and provisions of the Regional Board's Basin Plan.
12. Groundwater (Point Dume Sub-Basin): The designated beneficial uses of the groundwater in the Point Dume Sub-Basin which underlays the Park are:

Existing: municipal and domestic water supply, and agricultural water supply.
Potential: industrial process water supply.
13. Section 13523 of the California Water Code (CWC) provides that the Regional Board, after consulting with and receiving the recommendations of the State Department of Health Services (DHS) and after any necessary hearing, shall, if it determines such action to be

necessary to protect the public health, safety, or welfare, prescribe water reclamation requirements for wastewater which is used or proposed to be used as reclaimed water. Section 13523 further provides that such requirements shall include, or be in conformance with, the statewide reclamation criteria.

14. DHS adopted revised Water Recycling Criteria that became effective on December 2, 2000. Applicable criteria to this recycling project are prescribed in this Order.
15. Pursuant to CWC section 13523, the Regional Board has consulted with DHS regarding the Discharger's plans to upgrade the existing WWTP equipment at the Park, to increase the plant treatment capacity to 100,000 gpd, and to treat 100% of the domestic wastewater generated at the Park to tertiary levels. No changes to the areas under irrigation will be made, with the exception that those areas irrigated by secondarily treated wastewater will be irrigated with tertiary treated wastewater. After review of the facility modification plans, DHS staff concluded in a letter dated April 30, 2004, that the Park had appropriate public safeguards in place, such as posted signs and limited public access; and therefore, DHS had no objections to the proposed use of the tertiary treated, recycled water.

CEQA and NOTIFICATION

16. This project involves the issuance of WDRs for an existing facility and, as such, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code section 21000 et seq.), in accordance with California Code of Regulations, title 14, section 15301.
17. The Regional Board has notified the Discharger and interested agencies and persons of the intent to issue WDRs and WRRs for this discharge, and has provided them with an opportunity to submit their views and recommendations for the requirements.
18. The Regional Board, in a public meeting, will heard and considered all comments pertaining to the discharge and to the tentative requirements.
19. Pursuant to California Water Code section 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be received by the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order.

IT IS HEREBY ORDERED that Point Dume Limited shall comply with the following requirements in all operations and activities at the Park:

A. INFLUENT LIMITATIONS

1. Waste received by the WWTP shall be limited to domestic wastewater only. The Discharger shall not allow water softener regeneration brines, or commercial or industrial wastes to be discharged to the WWTP.
2. The daily flow to the onsite collection system shall not exceed the maximum design flow of 100,000 gpd for the wastewater treatment system. This flow limitation also applies to reclaimed wastewater used for irrigation.
3. No volatile organic compounds are to be discharged into the WWTP.

B. EFFLUENT LIMITATIONS

1. Wastewater discharged or recycled water shall not contain heavy metals, arsenic, or cyanide, or other pollutants designated Priority pollutants by the United States Environmental Protection Agency (USEPA) in concentrations exceeding the limits contained in the State Department of Health Services Drinking Water Standards.
2. The pH in the discharged effluent shall at all times be between 6.5 to 8.5 pH units.
3. Radioactivity shall not exceed the limits specified in the California Code of Regulations, title 22, CCR, section 64441 et seq., or subsequent revisions.
4. Any wastes that do not meet the foregoing limitations shall be held in impervious containers, and discharged at a legal point of disposal.
5. Waste discharged or recycled water shall not contain constituents in excess of the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>7-Day Average</u>
Total Dissolved Solids	mg/L	1000	
Sulfate	mg/L	250	
Chloride	mg/L	250	
Boron	mg/L	1.0	
Total Nitrogen (a)	mg/L	10	
BOD ₅ 20°C	mg/L	30	45
Oil and Grease	mg/L	15	
Suspended Solids	mg/L	30	45
Total organic carbon	mg/L	20	

(a) Total nitrogen to include Nitrate-N, Nitrite-N, Ammonia-N and Organic Nitrogen.

C. RECYCLED WATER LIMITATIONS FOR LANDSCAPE IRRIGATION

1. In addition to meeting all effluent limitations in the above Section B, recycled water used for irrigation shall be limited to disinfected tertiary recycled water only, as proposed. A disinfected tertiary recycled water is wastewater that has been filtered and subsequently disinfected that meets the following criteria:

- a. The filtered wastewater has been disinfected by either:

- i. A chlorine disinfection process that provides a concentration-time (CT) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow. The CT is the product of total chlorine residual and modal contact time measured at the same period. The modal contact time is the amount of time that elapsed between the time that a tracer, such as salt or dye, is injected into the influent at the entrance of the chlorination chamber and the time that the highest concentration of the tracer is observed in the effluent from the chamber. The peak dry weather design flow is the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as periods of little or no rainfall. The Discharger shall complete installation of the chlorine disinfection chamber that provides a modal contact time of 90 minutes by June 2, 2007.

For purposes of calculating and demonstrating compliance with the CT requirement, within 30 days after complete construction of the proposed upgrade, the Discharger shall complete tracer studies under four different flow rates (the maximum, the minimum, and two points in between) to determine the respective modal contact time at the chlorine contact basin. The studies shall follow the protocol outlined in *Tracer Studies in Water Treatment Facilities: A Protocol and Case Studies* published by the American Water Works Association Research Foundation. A curve of flow rate vs. modal contact time, based on the study results, shall be used for estimating the modal contact time at a given flow rate, which is essential for the CT calculation. A final report on the tracer studies shall be submitted to the State DHS and the Regional Board within 30 days after the completion of the studies.

In the interim period before the completion of tracer studies, the theoretical retention time based on the volume of the chlorine contact

basin and the design flow rate shall be used as the modal contact time in the calculation of CT.

- ii. A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

F-specific bacteriophage MS-2 means a strain of a specific type of virus that infects coliform bacteria that is traceable to the American Type Culture Collection (ATCC 15597B1) and is grown on lawns of *E. coli* (ATCC 15597).

- b. The median concentration of total coliform bacteria measured in the disinfected wastewater does not exceed a most probable number (MPN) of 2.2 per 100 milliliters based on the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
- c. A filtered wastewater shall be an oxidized wastewater that has been coagulated and passed through natural undisturbed soil or a bed of filter media under the following conditions:
 - i. At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in a traveling bridge automatic backwash filter; and,
 - ii. The turbidity of the filtered wastewater does not exceed any of the following:
 - An average of 2 NTU within a 24-hour period;
 - 5 NTU more than 5 percent of the time within a 24-hour period; and
 - 10 NTU at any time.

"NTU" (Nephelometric Turbidity Unit) is a turbidity measurement determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light as measured by Method 2130 B. in *Standard Methods for the Examination of Water and Wastewater*, 20th

Edition; Eaton, A. D., Clesceri, L. S., and Greenberg, A. E., Eds;
American Public Health Association, Washington, D.C., 1998; p2-8.

- d. A coagulated wastewater shall be an oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.
 - e. An oxidized wastewater shall be wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.
2. Recycled water shall not be directly used for purposes other than those defined above until requirements for other uses have been established by this Regional Board, in accordance with the CWC section 13523, unless the Regional Board finds that the above cited standards are applicable to other uses.
 3. No irrigation areas with disinfected tertiary recycled water shall be located within 50 feet of any domestic water supply well unless all of the following conditions have been met:
 - a. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from and the ground surface;
 - b. The well contains an annular seal that extends from the surface into the aquitard;
 - c. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities;
 - d. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well; and,
 - e. The owner of the well approves of the elimination of the buffer zone requirement.
 4. There shall be no storage or impoundment of disinfected tertiary recycled water within 100 feet of any domestic water supply well.
 5. No irrigation shall take place within 50 feet of any reservoir or stream used as a source of domestic water.
 6. Use of recycled water shall comply with the following:

- a. Recycled water shall be applied at such a rate and volume as not to exceed vegetative demand and soil moisture conditions. Special precautions must be taken to: prevent clogging of spray nozzles, prevent over-watering, and minimize the production of run-off. Pipelines shall be maintained so as to prevent leakage;
 - b. Any irrigation runoff shall be confined to the recycled water use area and shall not be allowed to escape as surface flow, unless the runoff does not pose a public health threat and is authorized under a National Pollutant Discharge Elimination System (NPDES) permit issued by this Regional Board. For the purpose of this requirement, however, minor amounts of irrigation return water from peripheral areas shall not be considered a violation of this Order;
 - c. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities, and shall not contact any drinking water fountain; and,
 - d. Recycled water shall not be used for irrigation during periods of rainfall and/or run-off.
7. All recycled water use areas that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER - DO NOT DRINK". Each sign shall display an international symbol similar to that shown in Figure 5. An alternative signage and wording may be used provided they are approved by the State DHS.
 8. No physical connection shall be made or allowed to exist between any recycled water piping and any piping conveying potable water, except as allowed under section 7604 of title 17, California Code of Regulations.
 9. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs (a faucet or similar device to which a common garden hose can be readily attached). Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.
 10. Recycled water use shall not result in earth movement in geologically unstable areas.

D. GENERAL REQUIREMENTS

1. Standby or emergency power facilities and/or sufficient capacity shall be provided for recycled water storage during rainfall or in the event of plant upsets

or outages, and at times when irrigation cannot be practice. The Discharger's emergency plan consists of a 750,000-gallon storage pond.

2. Adequate facilities shall be provided to protect the sewage treatment and recycling facilities from damage by storm flows and runoff.
3. Adequate freeboard shall be maintained in the wastewater storage pond to ensure that direct rainfall will not cause overtopping.
4. The Discharger shall have a one year grace period from the time regulations are promulgated under Title 23, CCR, section 3680 or subsequent revisions, for the Supervisors and operators of this WWTP to obtain a certificate of appropriate grade as specified in the above regulations.
5. Recycled water shall not be used for direct human consumption or for the processing of food or drink intended for human consumption.

E. PROHIBITIONS

1. Bypass, discharge, or delivery to the use area of inadequately treated wastewater, at any time, is prohibited.
2. There shall be no sanitary sewer overflows or discharge, of partially treated wastes from the wastewater treatment plant to waters of the State (including storm drains) at any time.
3. Wastes shall not be disposed of in geologically unstable areas or so as to cause earth movement.
4. Wastes discharged shall not impart tastes, odors, color, foaming or other objectionable characteristics to the receiving water.
5. There shall be no onsite disposal of sludge. Any offsite disposal of sewage or sludge shall be made only to a legal point of disposal. For purposes of this Order, a legal disposal site is one for which requirements have been established by a California Regional Water Quality Control Board, and which is in full compliance therewith. Any sewage or sludge handling shall be in such a manner as to prevent its reaching surface waters or watercourses.
6. The wastewater treatment system, including the collection system, that is part of the wastewater treatment system and the disposal system shall be maintained in such a manner that prevents sewage from surfacing or overflowing at any location.
7. Sewage odors shall not be detectable.

8. Wastes discharged shall at no time contain any substance in concentrations toxic to human, animal, plant, or aquatic life.
9. The discharge of waste shall not create a condition of pollution, contamination, or nuisance. No new connections may be made without notification to the Regional Board.
10. The direct or indirect discharge of any wastewater to surface waters or surface water drainage courses is prohibited.

E. PROVISIONS

1. The Discharger shall file, with the Regional Board, technical reports on self-monitoring work performed according to the detailed specifications contained in Monitoring and Reporting Program No. CI-6618 attached hereto and incorporated by reference, as directed by the Executive Officer. The results of any monitoring done more frequently than required at the location and/or times specified in the Monitoring and Reporting Program (MRP) shall be reported to the Regional Board.
2. The Discharger shall comply with all applicable requirements of chapter 4.5 (commencing with section 13290) of division 7 of the California Water Code.
3. The Regional Board is currently developing the Total Maximum Daily Load (TMDL) for nutrients and pathogens in the Santa Monica Bay Beaches. When the study is completed, nutrient and pathogen loading rates will be assigned to dischargers. The Discharger shall comply with waste load allocations developed and approved pursuant to the process for the designation of TMDL for the area. The Regional Board may require that the Discharger meet nutrient and pathogen discharge limits stricter than those imposed in this Order.
4. The Discharger shall notify the Regional Board and the State DHS within 24 hours, by telephone, of any bypassing or surfacing of wastes. Written confirmation shall follow within one week and shall include information relative to the location(s), estimated volume, date and time, duration, cause, and remedial measures taken to effect cleanup and measures taken to prevent any recurrence. This information shall be confirmed in the next monitoring report; in addition, the report shall also include the reason for the violations or adverse conditions, the steps taken to correct the problem (including dates thereof), and the steps being taken to prevent a recurrence of the problem.
5. In accordance with section 13522.5 of the California Water Code, and title 22, section 60323 of the California Code of Regulations, the Discharger shall file an engineering report, prepared by a properly qualified engineer registered in

California, of any material change or proposed change in character, location or volume of the recycled water or its uses to the Regional Board and with the State DHS.

6. This Order does not alleviate the responsibility of the Discharger to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.
7. Any discharge of wastewater from the wastewater treatment system (including wastewater collection system) at any point other than specifically described in this Order is prohibited, and constitutes a violation of the Order.
8. After notice and opportunity for a hearing, this Order may be terminated or modified for cause including, but not limited, to:
 - a) Violation of any term or condition contained in this Order;
 - b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - c) A change in any condition, or the discovery of any information, that requires either a temporary or permanent reduction or elimination of the authorized discharge.
9. The Discharger shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Discharger shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.
10. This Order includes the attached *Standard Provisions Applicable to Waste Discharge Requirements* which are incorporated herein by reference. If there is any conflict between provisions stated herein and the *Standard Provisions Applicable to Waste Discharge Requirements*, the provisions stated herein will prevail.
11. The WDRs contained in this Order will remain in effect for a period of (5) years. Should the Discharger wish to continue discharging to groundwater for a period of time in excess of five years, the Discharger must file an updated Report of Waste Discharge with the Regional Board, no later than 180 days in advance of the fifth-year anniversary date of the Order, for consideration of issuance of new or revised WDRs. Any discharge of waste five years after the date of issuance, without obtaining new WDRs from the Regional Board is a violation of California Water

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Code section 13264. The Regional Board is authorized to take appropriate enforcement.

12. In accordance with California Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into the waters of the State are privileges, not rights.

E. RESCISSION

Order No. 99-019 adopted by this Board on February 11, 1999, is hereby rescinded.

I, Jonathan S. Bishop, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 2, 2005.


Jonathan S. Bishop
Executive Officer

Date: June 2, 2005