

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

BOARD ORDER R7-2012-0002

**WASTE DISCHARGE REQUIREMENTS
FOR
UNITED STATES MARINE CORPS, OWNER/OPERATOR
MAINSIDE WASTEWATER TREATMENT FACILITY
Twentynine Palms – San Bernardino County**

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) finds that:

1. United States Marine Corps (hereinafter referred to as the Discharger), Natural Resources and Environmental Affairs (NREA) Division, Marine Air Ground Task Force Training Command (MAGTFTC) Marine Corps Air Ground Combat Center (MCAGCC), Box 788110, Twentynine Palms, CA 92278-8110, submitted an application to update its Waste Discharge Requirements (WDRs) for the Mainside Wastewater Treatment Facility (WWTF) and Wastewater Collection and Disposal Systems.
2. The Discharger owns a wastewater collection, treatment and disposal system (hereinafter referred to as the facility) and provides sewerage service to the main camp area, Camp Wilson area and the Expeditionary Air Field located at the MCAGCC. The WWTF, located at the MCAGCC, Twentynine Palms, California, has a design secondary treatment capacity of 1.75 million gallons-per-day (MGD) and presently discharges approximately 0.928 million gallons per day (MGD) of secondary treated effluent into four (4) evaporation/storage basins. Approximately 0.419 mgd of disinfected secondary-23 (as defined in Title 22 California Code of Regulations Section 60301.225) treated recycled water is used for golf course irrigation. The evaporation basins are located in the NW ¼ of Section 29, T2N, R9E, SBB&M. The golf course is located in NW ¼ of Section 19, T2N, R9E, and SBB&M.
3. MCAGCC is located in south-central San Bernardino County, approximately five (5) miles north of the City of Twentynine Palms as shown on the Location and Vicinity Map (Attachment A), incorporated herein and made part of this Board Order.
4. The discharge is currently regulated under Board Order R7-2002-0006, adopted March 13, 2002. The facility had been in violation of state odor standards and the discharger opted to re-construct the Wastewater Treatment Facility (WWTF) to address operational difficulties that contributed to the odor problem. The Regional Water Board is reissuing these WDRs due to design changes in the Wastewater Treatment Facility (WWTF).
5. The Discharger owned and operated a separate wastewater treatment package facility, collection, treatment and disposal system that provided sewerage service to Camp Wilson and the Expeditionary Air Field located at the MCAGCC. The facility was located in portions of the SE ¼ of Section 28 and NE ¼ of Section 33, T3N, R8E, SBB&M. The WWTF was designed to treat an average daily flow of 0.180 MGD and peak flow of 0.205 MGD. The package facility and disposal system, which were regulated under Board Order R7-2002-0002, were decommissioned in 2008. The facility has since been

removed and the collection system was connected to the Mainside WWTF for treatment. Board Order R7-2002-0002 was rescinded by Board Order R7-2008-0074, adopted by the Regional Water Board November 19, 2008.

6. Prior to renovation, Mainside WWTF consisted of uncovered headworks, which included a comminutor and aerated grit chamber, two circular primary clarifiers, sludge pumps, two anaerobic digesters and sludge drying beds. Secondary treatment units included a 13-acre aerated lagoon (Pond 1) and two 8-acre oxidation ponds (Ponds 2 and 3). In addition, the facility used four large storage ponds (Ponds A-D) that provided storage capacity and additional biological stabilization for secondary treated effluent. Two (2) other ponds (Ponds G and H) were used for storage. The storage basins range in size from approximately 20 to 28 acres. The tertiary treatment system has remained unchanged.

Wastewater Treatment Facility and Discharge

7. The Discharger renovated the WWTF in 2010. Construction of the new WWTF was completed November 4, 2011. The renovation project included installation of enclosed headworks with bar screen and addition of a soil bio-filter to remove odor causing gasses. A new 9-inch parshall flume was installed downstream of the headworks building for flow measurement. The facility was reconfigured as an Integrated Pond System with solids digestion in a fermentation pit excavated at the eastern end of the primary treatment pond. The fermentation pit, used for solids stabilization and storage, replaces the aerated grit chamber, primary clarifiers and sludge digestion processes. Modifications to the secondary treatment units include reconfiguring the inter-pond piping, flow controls and flow pattern, construction of 2 parallel wetlands and construction of a dedicated secondary treated effluent pump station and disinfection system. The tertiary treatment units remained unchanged and will continue to produce and distribute tertiary treated wastewater. There is no discharge to "waters of the United States."
8. Odor causing gases are collected in a negatively pressurized headworks building and treated in the soil bio-filter. The fermentation pit, with an operating depth of about 13 feet and a hydraulic residence time of three (3) days, treats solids in an anaerobic environment. Four mechanical aerators provide oxygen to the top layer of the Integrated Pond System to break down hydrogen sulfide gas produced in the fermentation pit. The remainder of the Integrated Pond System outside of the fermentation pit provides secondary biological treatment processes. Primary treated effluent from the fermentation pit area is spread across the width of Pond 1 via a flow distribution pipe. Effluent flows longitudinally in Pond 1 which provides 11 days of detention. Effluent from pond 1 is channeled to the Pond A flow control structure that controls the water level in Pond 1. From Pond A, effluent flows to oxidation Pond A, which provides approximately 18 days of hydraulic detention. Pond A is equipped with three (3) solar surface mixers that provide mixing and limited aeration and flow spreading pipes for an evenly distributed flow pattern. Pond B is to be used as overflow from Pond A when required. Ponds C and D are to be used as standby for additional storage capacity. Effluent from Pond A flows to the Pond A Wetlands Flow Control Structure which is then diverted to the parallel wetlands which were constructed in existing Ponds 2 and 3. The wetlands are configured as a series of open surface water and emergent vegetation zones to reduce the effects of evapotranspiration while providing enhanced treatment. The parallel wetlands ponds units provide approximately 6.5 days of detention time with a minimum of 2 days of hydraulic residence time in the emergent plateau region.

9. Effluent from the wetlands flows to the Wetland Outlet Control Structure, then to either the tertiary treatment units or the new secondary effluent pump station. Secondary treated reclaimed water is pumped to two (2) ponds (Ocotillo Ponds) with a 10 MG capacity for storage and reuse at the golf course. Disinfection is provided at the chlorine injection port. The pressure main from the chlorine injection port to the Ocotillo Ponds provide 60 minutes of chlorine contact time. A chlorine residual monitor at the discharge point to Ocotillo Ponds is integrated into the WWTF SCADA system. The tertiary treatment system has a design treatment capacity of 1.25 MGD and consists of a rapid mix chamber (coagulation and flocculation), two (2) lamella plate separators (clarifier), traveling bridge filter (filtration), a US filter tank, chlorination system (disinfection) and a covered one million gallon (MG) storage reservoir. Secondary treated effluent not treated for tertiary reuse is channeled to the secondary effluent pump station.
10. The Discharger proposes to use up to 2.5 MGD of secondary and up to 1.0 MGD tertiary treated recycled water during peak use periods. During periods when wastewater influent exceeds recycled water demand, wastewater will be discharged to Ponds C and D for storage, reuse or evaporation.
11. Back-up power is available for all collection system pump stations. All pump stations have both duty and standby pumps. In the event of a long-term service interruption, portable pumps will be used to transfer partially treated effluent to Ponds C and D for temporary storage.
12. The WWTF ponds and wetlands are designed with the following characteristics:

	Fermentation Pit	Integrated Pond System (Pond 1)	Oxidation Pond A	Wetlands (A and B)
Function	Primary Treatment	Primary/Secondary Treatment	Secondary Treatment	Effluent Polishing
Surface Area (acres)	2.5	13.1	19.8	8.3
Typical Depth (ft)	13	5	5	1.5 to 5
Volume (MG)	5.7	20.3	31.2	5.6
Detention Time (days)	3.25	11.6	17.81	6.5
Interior Slope (H ft : V ft)	3:1	3:1	3:1	3:1
Berm Materials	Earthen	Earthen/ Concrete	Earthen/ Concrete	Earthen/ Concrete

Ponds G and H have been reserved for storage of algae sludge or wastewater when additional storage capacity is required.

13. The WWTF is designed for the following parameters:

Design Average Daily Flow	1.75 MGD
Design Peak Daily Flow	3.0 MGD
Influent Biochemical oxygen Demand (BOD)	200 mg/L
Influent Total Suspended Solids (TSS)	250 mg/L

14. The Dischargers Self-Monitoring Reports (SMR) from December 2004 through January 2012 characterize the WWTF as follows:

Influent				
<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Flow	mgd	0.928	1.257	0.455
Biochemical Oxygen Demand (BOD)	mg/L	271	690	119
Total Suspended Solids (TSS)	mg/L	203	675	34

Effluent				
<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Biochemical Oxygen Demand (BOD)	mg/L	17.2	83.5	2.0
Total Suspended Solids (TSS)	mg/L	30.9	160	3.0
pH	pH Units	6.9	8.0	2.7
Total Dissolved Solids	mg/L	691	1600	390
Nitrate as N	mg/L	3.53	90	0.20
Nitrite as N	mg/L	1.65	18	0.01
Total Nitrogen	mg/L	19.31	100	2.20

Secondary-23 Recycled Water

Flow	mgd	0.419	1.104	0
Coliforms	MPN/100m L	8.7	41	<2

15. The Discharger's ROWD states that there are 22 industrial sites within the Mainside wastewater collection system that discharge to the WWTF. In July of 2007, an Industrial Wastewater Characterization study was completed for those sites summarizing the results of wastewater samples. Three types of facilities were sampled in the 2006 sampling event; 1) Oil and Water Separators, 2) vehicle maintenance facilities, and 3) sanitary sewer lines in the vicinity of industrial users and the WWTF. Samples were analyzed for various constituents including: oil and grease, volatile and semi-volatile organic compounds, total petroleum hydrocarbons, PCBs, pesticides, herbicides, metals (CAM17 and hexavalent chromium), biological and chemical oxygen demand and suspended and dissolved solids. The purpose of the study was to determine if the industrial wastewater discharges were causing or potentially could cause impacts to the WWTF. The results of the study were that none of the samples collected had high levels of contaminants that might cause operational problems or biological upsets at the WWTF.
16. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, Regional Water Board files and special studies.

Hydrogeologic Conditions

17. Annual precipitation averages about 4.5 inches.
18. There are no domestic wells within 500 feet of the WWTF.
19. Water supply to the community is from 11 groundwater production wells located in the Surprise Springs subbasin located 10 miles northwest of the MCAGCC. Total Dissolved Solids (TDS) for the water supply ranges from 150 to 245 mg/L with an average 188 mg/L.
20. A United States Geological Survey for Mesquite and Mainside Sub-basin, which underlies the facility, notes total dissolved solids concentrations ranging from 900 to 15,926 mg/L. Groundwater in the Mesquite Lake and Mainside Subbasins contain elevated concentrations of fluorides and sulfates.
21. A Hydrogeologic Study submitted by the discharger, dated February 2001, presented the following conclusions:
 - a. A thick impermeable clayey soil underlies the bottom surface of the treatment facility ponds. This clayey soil is greater than 25 feet in thickness and continuous beneath the ponds within the treatment facility.

- b. The clay underlying the treatment ponds has measured permeabilities ranging from between 8.2×10^{-10} and 8.77×10^{-8} cm/sec. The rate of wastewater flow through these upper clayey materials has been calculated to range from approximately 0.026 to 2.5 cm/year, or 0.01 to one (1) inch per year.
 - c. Based on the data collected from this and previous investigations, the clay layer underlying the treatment facility is an extremely effective barrier against the migration of wastewater from the ponds and into the aquifer underlying the treatment facility.
 - d. There is no evidence collected during this or past investigations that suggests that wastewater from the treatment ponds has migrated, or has the potential to migrate through the clayey soils underlying the ponds.
 - e. Clayey soil layers separated by silts, silty fine sands, and fine sands are present between 25 and one hundred (100) feet below ground surface (bgs). The clays within these deeper layers have measured permeabilities ranging from 9.61×10^{-10} to 3.51×10^{-9} . These clayey layers would assist in reducing potential wastewater migration from the surface and into the underlying aquifer. Note, however, that it is not known if these lower clays are laterally continuous beneath the ponds.
 - f. The main aquifer underlying the treatment facility is reportedly located at approximately 215 feet bgs. Two (2) perched aquifers were reported in a well (MS-1) adjacent to the ponds at 75 and 188 feet bgs. Indications of the perched aquifer at 75 feet were not encountered during the consultant's field investigation. Based on data collected during this investigation, the perched groundwater at 188 bgs is the closest groundwater located beneath the treatment ponds.
 - g. In case of disruption, such as from faulting or fault creep, the clay underlying the treatment facility would be self-healing. Faulting of the underlying clay would not likely jeopardize its effectiveness in preventing the downward migration of wastewater.
22. Regional groundwater flow in the Mainside Subbasin's unconfined deeper primary aquifer is to the southeast along the base of the Bullion Mountains. Approximately one (1) mile southeast of the WWTF, there is a southwestward component of flow away from the Bullion Mountains toward the Mesquite Lake Fault. Groundwater beneath the WWTF flows to the southeast.
23. The site is located in a seismically active desert region, bounded on the east by the Bullion Mountain Fault and on the west by the Mesquite Lake Fault.

Basin Plan, Beneficial Uses, and Regulatory Considerations

24. The Basin Plan designates beneficial uses and establishes water quality objectives for ground and surface waters in the Region, and contains implementation programs and policies to achieve objectives. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

25. The proposed discharge is within the Dale Hydrologic Unit. Beneficial uses for groundwater in the Dale Hydrologic Unit include:
 - a. Municipal supply (MUN),
 - b. Industrial supply (IND), and
 - c. Agricultural supply (AGR)
26. Section 13267 of the CWC authorizes the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements.
27. This Order establishes Waste Discharge Requirements (WDRs) pursuant to Division 7, Chapter 4, Article 4, of the California Water Code (CWC) for discharges that are not subject to regulation under Clean Water Act (CWA) Section 402 (33 U.S.C. Section 1342).
28. WDRs implement narrative and numeric water quality objectives for ground and surface waters established by the Basin Plan. The numeric objectives for groundwater designated for municipal and domestic supply are the maximum contaminant levels (MCLs), and bacteriological limits specified in Section 64421 et seq. of Title 22, California Code of Regulations (CCR). The narrative objectives are:

“Ground water...shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses as a result of human activity.”
(Basin Plan, page 3-8).

“Discharges of water softener regeneration brines...to disposal facilities which ultimately discharge in areas where such wastes can percolate to ground water usable for domestic and municipal purposes are prohibited.” (Basin Plan, page 3-8).
29. The discharge authorized by this Board Order, and treatment and storage facilities associated with discharges of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the solid waste requirements of Title 27, CCR, Section 20005 et seq. (hereinafter Title 27). This exemption is based on Section 20090(b) of Title 27, which states in relevant part that discharges of sewage or treated effluent are exempt from Title 27 provided that the discharges satisfy the following:
 - a. Wastes consist primarily of domestic sewage and treated effluent;
 - b. Wastes are regulated by WDRs, or a waiver of WDRs;
 - c. WDRs are consistent with applicable water quality objectives; and
 - d. Treatment and disposal facilities described herein are associated with a municipal wastewater treatment facility.
30. The California Department of Public Health (CDPH), formerly California Department of Health Services (DHS) is statutorily required to establish uniform statewide recycling criteria for the various uses of recycled water to assure protection of public health where recycled water use is involved (CWC section 13521). CDPH has promulgated regulatory criteria in Title 22, Division 4, Chapter 3, section 60301 et seq. of the CCR. CDPH

regulatory criteria include specified approved uses of recycled water, numerical limitations and requirements, treatment method requirements and performance standards. CDPH regulations allow use of alternate methods of treatment in some cases, so long as the alternate methods are determined by CDPH to provide equivalent treatment and reliability.

31. A 1996 Memorandum of Agreement (MOA) between the DHS, State Water Resources Control Board, and the Regional Water Boards on the use of recycled water allocates primary areas of responsibility and authority between these agencies. The MOA provides methods and mechanisms necessary to assure ongoing and continuous future coordination of activities relative to the use of recycled water in California.
32. The CDPH has established statewide reclamation criteria for the use of recycled water and has developed guidelines for specific uses.
33. Recycled water used for surface irrigation of the following shall be at least disinfected secondary–23 recycled water:
 - a. Cemeteries,
 - b. Freeway landscaping,
 - c. Restricted access golf courses,
 - d. Ornamental nursery stock and sod farms where access by the general public is not restricted,
 - e. Pasture for animals producing milk for human consumption, and
 - f. Any nonedible vegetation where access is controlled so that the irrigated area cannot be used as if it were part of a park, playground or schoolyard.
34. Recycled water used for surface irrigation of the following shall be disinfected tertiary recycled water:
 - a. Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop,
 - b. Parks and playgrounds,
 - c. School yards,
 - d. Residential landscaping,
 - e. Unrestricted access golf courses, and
 - f. Any other irrigation use not specified in Section 60304 and not prohibited by other sections of the California Code of Regulations.
35. In a letter dated September 22, 2000, DHS approved the use of secondary–23 treated and disinfected recycled water from the treatment facility for restricted access landscape irrigation of the MCAGCC golf course.

36. In a letter dated January 23, 2001, DHS states that the use of tertiary treated recycled water is contingent upon approval of an Engineering Report (to be submitted by Discharger to DHS) and optimization of the tertiary treatment system to meet Title 22 criteria.
37. In a letter dated February 24, 2004, DHS states that it had received and reviewed the Title 22 Engineering Report, dated November 2003, for the proposed use of recycled water at MCAGCC. DHS further stated that the Engineering Report was acceptable, contingent upon the Discharger addressing DHS' recommendations and comments. The approval covers six (6) areas and specific locations that are included in the Title 22 Engineering Report submitted November 2003.
38. On June 10, 2004, MCAGCC submitted a final Engineering Report to DHS for the proposed use of tertiary treated recycled water. In a letter dated June 30, 2004, DHS approved the use of tertiary-2.2 treated and disinfected recycled water.
39. State policy promotes the use of recycled water to the maximum extent in order to supplement existing surface and ground water supplies to help meet water needs (CWC sections 13510-13512). One of the primary conditions on the use of recycled water is protection of public health (CWC sections 13521, 13522, 13550(a)(3)).
40. Pursuant to California Water Code Section 13263(g), the discharge of waste is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Groundwater Degradation

41. State Water Resources Control Board (State Water Board) Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereinafter Resolution No. 68-16) requires a Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than as described in plans and policies (e.g., violation of any water quality objective). Moreover, the discharge is required to meet WDRs that result in the best practicable treatment or control (BPTC) of the discharge necessary to assure pollution or nuisance will not occur, and highest water quality consistent with maximum benefit to the people will be maintained.
42. Some degradation of groundwater from the discharge to the evaporation ponds is consistent with Resolution No. 68-16, provided that this degradation:
 - a. Is confined to a reasonable area;
 - b. Is minimized by means of full implementation, regular maintenance, and optimal operation of BPTC measures;
 - c. Is limited to waste constituents typically encountered in domestic wastewater; and
 - d. Does not result in the loss of any beneficial use as prescribed in the applicable basin plan, or violation of any water quality objective.

43. The discharge of wastewater from the WWTF, as permitted herein, reflects BPTC. The controls assure the discharge does not create a condition of pollution or nuisance, and that water quality will be maintained which is consistent with the anti-degradation provisions of Resolution No. 68-16. The WWTF incorporates:
 - a. An impermeable clay layer underlying the WWTF;
 - b. Technology for secondary or tertiary treated disinfected domestic wastewater;
 - c. Solids handling facilities;
 - d. An operation and maintenance manual;
 - e. Staffing to assure proper operation and maintenance; and
 - f. A standby emergency power generator of sufficient size to operate the treatment facility and ancillary equipment during periods of loss of commercial power.
44. Constituents in domestic WWTF effluent that present the greatest risk to groundwater quality are nitrogen, coliforms (pathogen-indicator organisms), and dissolved salts (TDS). The proposed WWTF provides substantial removal of soluble organic matter, solids, and nitrogen.
45. While secondary treatment reduces fecal coliform densities by 90 to 99%, the remaining organisms in effluent are still 10^5 to 10^6 MPN/100 ml (United States Environmental Protection Agency, Design Manual, Municipal Wastewater Disinfection; October 1986). Given the depth to groundwater and the clay layer beneath the treatment ponds, it is not likely that pathogen-indicator bacteria will reach groundwater at densities exceeding those prescribed in Title 22, CCR.
46. The typical incremental addition of dissolved salts from domestic water usage is 150 to 380 mg/L. Domestic water supply to the community showed a range of 153 to 245 mg/L with an average of about 190 mg/L during the period of December 2004 to July 2011. The TDS increase for this facility for the same time period was about 487 mg/L.
47. Salinity of groundwater beneath the WWTF ponds ranges from 900 to 15,926 mg/L. Board Order R7-2012-0002 proposes a TDS limit of 900 mg/L. During the period of December 2004 to July 2011, the Dischargers SMR show that effluent from the WWTF had a range of 390 to 1600 mg/L with an average of an average of about 664 mg/L. The clay layer beneath the treatment ponds and the regulatory limit of 900 mg/L reasonably protect present and anticipated beneficial uses of groundwater beneath, therefore, is not likely that groundwater will exhibit degradation by TDS.
48. Title 22, CCR § 64431, Maximum Contaminant Level (MCL) for Nitrate plus Nitrite as Nitrogen is 10 mg/L. To account for the fate of transport for the various components of Total Nitrogen, as a conservative value it is assumed that all nitrogen present converts to nitrate/nitrite. The Discharger's SMR from December 2004 to July 2011 show a range of 2.2 to 100 mg/L with an average of 20 mg/L for Total Nitrogen. Given the depth to groundwater and the clay layer beneath the treatment ponds, it is not likely that nitrates will reach groundwater at a rate or in concentrations causing groundwater to exceed those prescribed in Title 22, CCR § 64431.

49. Groundwater limits equal to water quality objectives for indicator waste constituents are appropriate and protective of water quality objectives. The marine base contributes to economic development in the area. This factor and the associated increase in TDS are consistent with maximum benefit to the people of the State. Accordingly, the discharge as authorized is consistent with the anti-degradation provisions of Resolution 68-16.

CEQA / NEPA Public Participation

50. In accordance with Section 15301, Chapter 3, Title 14 of the California Code of Regulations, the issuance of these WDRs, which govern the operation of an existing facility involving negligible or no expansion of use beyond that previously existing, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.).
51. On April 2, 2008, the United States Marine Corps filed a Memorandum of Decision for Categorical Exclusion for the construction and activities associated with repairs at the WWTF. The Discharger submitted their Request for Environmental Impact Review (REIR) and the Memorandum of Decision to the Regional Water Board with their ROWD. The REIR states:
 - a. The Proposed Action has no enumerated conditions that preclude the Action from being categorically excluded from further NEPA documentation;
 - b. The Proposed Action falls within the purview of categorical exclusion number 14 and requires no further NEPA documentation;
 - c. The Proposed Action is a continuing activity not likely to cause substantial environmental degradation and requires no further NEPA documentation, and;
 - d. The Proposed Action has explicit guidelines and requires a Decision Memorandum.

Categorical Exclusion 14 applies to "Alteration of and additions to existing buildings, facilities, structures, vessels, aircraft, and equipment to conform or provide conforming use specifically required by new or existing applicable legislation or regulations (e.g., hush houses for aircraft engines, scrubbers for air emissions, improvements to storm water and sanitary and industrial wastewater collection and treatment systems, and installation of firefighting equipment)."

52. The Board has notified the Discharger and all known interested agencies and persons of its intent to draft WDRs for this discharge, and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
53. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the Discharger shall comply with the following:

A. Discharge Prohibitions

1. Discharge of waste classified as 'hazardous', as defined in Title 23, CCR, Section 2521(a), or 'designated', as defined in California Water Code Section 13173, is prohibited.
2. Discharge of treated wastewater at a location other than the designated disposal areas or as recycled water used for irrigation at approved use areas, is prohibited. This prohibition does not limit the flexibility in discharging different percentages of treated wastewater.
3. The WWTF shall be maintained to prohibit sewage or treated effluent from surfacing or overflowing.
4. The discharge of any wastewater from the facility to any surface waters or surface drainage courses is prohibited.
5. The Discharger shall not accept waste in excess of the design treatment capacity of the disposal system.
6. The discharge of waste to land not owned or authorized for such use by the Discharger is prohibited.
7. Surfacing or ponding of wastewater outside of the designated disposal locations is prohibited.
8. Bypass or overflow of untreated or partially treated waste is prohibited.
9. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in Sections 13050(l) and 13050(m) of Division 7 of the California Water Code.

B. Effluent Limitations

1. Effluent discharged to the evaporation ponds for disposal (not used as recycled water) shall not exceed the following effluent limits:

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum
20° C BOD ₅ ¹	mg/L	45	65	
Total Suspended Solids	mg/L	95	---	---
Total Dissolved Solids (TDS)	mg/L	900	---	---

¹ 5-day biochemical oxygen demand at 20 °C.

2. The 30-day monthly average daily discharge from the main WWTF shall not exceed 2.5 MGD for secondary treated water and 1.0 MGD for tertiary treated water.

3. The oxidation basins and evaporative/storage basins shall be maintained so they will be kept in aerobic conditions. The dissolved oxygen content in the upper zone (one foot) of evaporative/storage basins shall not be less than 1.0 mg/L.
4. Effluent from the WWTF shall not have a pH below 6.0 or above 9.0.

C. Discharge Specifications

1. A minimum depth of two (2) feet of freeboard shall be maintained at all times in facultative ponds and evaporative/storage basins.
2. All treatment, storage, and disposal areas shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
3. Public contact with non-disinfected wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives. The non-disinfected wastewater is not approved for off-site distribution. Conspicuous signs shall be posted in a prominent location in each area where non-disinfected wastewater is stored on-site. Each sign or label with "Non-disinfected wastewater - No body contact or drinking" wording shall be displayed as well as the international warning symbol.
4. The discharge shall not cause degradation of any water supply.
5. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal area.
6. The discharger shall not accept waste in excess of the design treatment capacity of the disposal system.
7. On-site wastes, including windblown spray from recycled water application, shall be strictly confined to the lands specifically designated for the disposal operation, and on-site irrigation practices shall be managed so there is no runoff of effluent from irrigated areas.
8. Disinfected secondary-23 recycled water directly reused shall conform to the following:
 - a. Recycled water shall meet the secondary treatment standards for suspended solids and biochemical oxygen demand listed in the effluent limitations.
 - b. The median concentration of total coliform bacteria in the disinfected effluent shall not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven (7) days for which analyses have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one (1) sample in any 30 day period.
9. Disinfected tertiary recycled water directly reused shall conform to the following:
 - a. Recycled water shall meet the secondary treatment standards for suspended solids and biochemical oxygen demand listed in the effluent limitations.

- i. A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligrams-minute per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or
 - 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 poliovirus may be used for purposes of demonstration.
 - b. The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven (7) 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 (1) sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
 - c. Wastewater that has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following:
 - 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 traveling bridge automatic backwash filters; and
 - ii. Turbidity of the filtered wastewater does not exceed any of the following:
 - (1) An average of 2 NTU within a 24-hour period;
 - (2) 5 NTU more than 5 percent of the time within a 24-hour period; and
 - (3) 10 NTU at any time.
 - d. Wastewater that has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:
 - i. 0.2 NTU more than 5 percent of the time within a 24-hour period; and
 - ii. 0.5 NTU at any time.
 - e. Wastewater that has not been coagulated:
 - i. filter effluent turbidity does not exceed 2 NTU;
 - ii. the turbidity of the influent to the filters is continuously measured;
 - iii. the influent turbidity does not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU; and

- iv. that there is the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes
10. There shall be at least a 4-foot horizontal and 1-foot vertical separation (with domestic water above the recycled water pipeline) between all newly installed constant pressure pipelines transporting domestic water and those transporting recycled water. All newly installed recycled water distribution lines shall be colored purple or labeled with purple tape. Existing pipelines are excluded from this requirement.
11. There shall be no-cross connection between potable water supply and piping containing recycled water. Supplementing recycled water with water used for domestic supply shall not be allowed except with an air-gap separation. An air-gap or reduced pressure principle device shall be provided at all domestic water service connections to recycled water use areas.
12. Irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-2.3 recycled water shall not take place within 100 feet of any domestic water supply well.
13. Irrigation with, or impoundment of, undisinfected secondary recycled water shall not take place within 150 feet of any domestic water supply well.
14. The storage, delivery, or use of recycled water shall not individually or collectively, directly or indirectly, result in pollution, or adversely affect water quality, as defined in the California Water Code.
15. The delivery or use of recycled water shall be in conformance with the reclamation criteria contained Title 22, or amendments thereto, for the irrigation of food crops, irrigation of fodder, fiber, and seed crops, landscape irrigation, supply of recreational impoundments and ground water recharge.
16. The discharger shall not deliver recycled water for reuse to those users whom, by reason of their operational practices; cause nuisances associated with wastewater or otherwise contribute to the violation of the requirements of this Board Order.
17. Prior to delivering recycled water to any new user or any new use site on MCAGCC grounds, the discharger shall submit to CDPH and the Regional Water Board a Title 22 Engineering Report for additional recycled water sites discussing any new distribution system being constructed by the discharger to provide service to the new user or use site.
18. Recycled water shall not be delivered to any new user who has not first received approval from CDPH and a discharge permit from the Regional Water Board.

D. Sludge Disposal

1. Disposal of oil and grease, biosolids, screenings, and other solids collected from liquid wastes shall be pursuant to Title 27, and the review and approval of the Regional Water Board Executive Officer.
2. Any proposed change in use or disposal of biosolids requires the approval of the Regional Water Board Executive Officer, and U.S. Environmental Protection Agency Regional Administrator, who must be notified at least 90 days in advance of the change.

3. Sludge use and disposal shall comply with Federal and State laws and regulations, including permitting requirements, and technical standards in 40 CFR Part 503. If the State and Regional Water Boards are delegated the authority to implement 40 CFR Part 503 regulations, this Order may be revised to incorporate appropriate time schedules and technical standards. The Discharger shall comply with the standards and time schedules in 40 CFR part 503, whether or not part of this Order.

E. Special Provisions

1. **Source Control Program Requirements.** The Discharger shall develop and implement a source control program to control the discharge of non-domestic pollutants to its sanitary sewer system and its treatment facilities. This source control program shall be implemented to prevent:
 - a. The pass-through of pollutants or any interference with wastewater treatment facility operations from any pollutant, including BOD, excessive heat, oil and grease, metals, and organics that may result in the violation of discharge requirements (including effluent limitations) contained in this Order;
 - b. The introduction of pollutants which could create a fire or explosion hazard in the sanitary sewer system or the treatment facility, including waste streams with a closed cup flashpoint of less than 140 degrees °F using test methods specified in 40 CFR 261.21; and
 - c. The introduction of pollutants which could cause corrosive structural damage, obstructions in flow, or the formation of toxic gases and fumes in a quantity that could cause acute worker health and safety problems.
2. **Annual Industrial Waste Survey.** The Discharger shall conduct an annual Industrial Waste Survey (IWS) of all non-domestic facilities in the service area of the permitted treatment facility to determine whether any such facilities may be contributing to violations of the discharge requirements specified in the Order.
3. **Domestic Discharger Source Control.** The Discharger shall develop public education/general awareness outreach materials about proper disposal of fats, oils, grease, and household hazardous waste. These materials shall be reviewed annually and updated as necessary.
4. **Special Requirements for Facilities using Oil/Water Separators.** All non-domestic facilities with the potential to discharge oil and other petroleum products, such as vehicle maintenance facilities, shall be equipped with an oil/water separator (OWS) to handle peak hydraulic loads and to reduce facility influent from containing free oil, or oil and grease at levels that will adversely impact the operation and maintenance of the treatment facility. The Discharger shall develop, budget for, and implement a documented OWS maintenance program that includes the following:
 - a. Weekly, documented inspections of each OWS to measure and record sludge and oil depths and to assess and document the condition of rope skimmers, coalescer packs, and other components of the OWS.

- b. Recordkeeping or a logbook to document OWS repairs and service.
 - c. Periodic cleaning of the OWSs to remove accumulated sediment on a minimum frequency of semiannually.
5. **FOG Control Program.** The Discharger shall prepare and implement a FOG control program to reduce the amount of these substances discharged to the sanitary sewer system. This program shall include the following as appropriate:
- a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
 - b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;
 - c. The legal authority to prohibit discharges to the system and to require the installation of grease traps or interceptors, design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
 - d. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each Section; and
 - e. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system.

F. Provisions

1. The discharger shall provide the following information regarding off-site use of disinfected secondary-23 or disinfected tertiary recycled water:
 - a. Name and location of the golf courses/landscape areas being irrigated.
 - b. Quantity and quality of the recycled water provided to individual customers.
 - c. The discharger shall immediately notify the Regional Board's Executive Officer of any changes regarding the location and quantity of recycled water provided to individual customers.
2. The discharger shall provide documentation to ensure that there is no interconnection between the potable and recycled water systems. Dischargers with both potable and irrigation water delivered to the site shall ensure that a cross-connection test is completed prior to delivery of recycled water to the site. A cross-connection control test, mutually agreeable to the permittee and CDPH shall be conducted at least once every four (4) years. Existing users shall conduct a cross-connection test within a time frame acceptable to CDPH. The tests shall be conducted by an American Waterworks Association (AWWA) certified cross-connection control program specialist or equivalent. Prior to conducting the test the user shall notify the CDPH and County Department of Health Services. Results of the cross-connection test shall be submitted to the Regional Water Board, CDPH and County Department of Health Services within 30 days of completion.

3. Adequate measures shall be taken to minimize public contact with recycled water. Clearly visible, adequately sized warning signs shall be posted in sufficient numbers around the application and storage areas. The size and number of warning signs shall be mutually determined by the Discharger and CDPH.
4. Prior to construction of new facilities planning to discharge recycled water, the discharger shall submit the design drawings to the CDPH, field operations branch, for approval. The discharger shall, at a maximum, allow CDPH a 30-day comment period for completed designs submitted. If comments are not received by the discharger from CDPH within that 30-day period, then no response will be deemed as "no comment" and the discharger will be able to begin construction.
5. Golf course pump houses utilizing recycled water shall be appropriately tagged with warning signs with proper wording of sufficient size to warn the public that recycled water is not safe for drinking. All new and replacement at grade valve boxes shall be purple and appropriately tagged for water reuse purposes.
6. The use of recycled water shall be in conformance with the reclamation criteria contained in Title 22 of the California Code of Regulations, or amendments thereto.
7. Recycled water shall not be applied in a manner or at a location where it could come in contact with drinking water fountains, food handling, food storage or dining areas.
8. Irrigated areas shall be properly managed to minimize ponding.
9. Recycled water shall not be used as domestic supply water or intentionally used as animal water supply.
10. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R7-2012-0002, and future revisions thereto, as specified by the Regional Water Board Executive Officer.
11. Given the monitoring frequency prescribed by MRP No. R7-2012-0002, if only one sample is available for a given reporting period, compliance with monthly average, or weekly average Discharge Specifications, will be determined from that sample.
12. Prior to implementing a modification that results in a material change in the quality or quantity of wastewater treated or discharged, or a material change in the location of discharge, the Discharger shall report all pertinent information in writing to the Regional Water Board, and obtain revised requirements.
13. Prior to a change in ownership or management of WWTF, the Discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Water Board.
14. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order, and shall maintain a copy of this Board Order at the site. Personnel must be informed that recycled water is meant for irrigation and landscaping purposes only, and is not approved for drinking, hand washing, etc. Personnel must also be informed of the locations of domestic and recycled water lines to ensure that the potable and recycled systems are not interconnected.

15. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
16. Standby, power generating facilities shall be available to operate the facility during a commercial power failure.
17. The Discharger shall comply with all of the conditions of this Board Order. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Cal. Water Code, § 13000 et seq.), and grounds for enforcement action.
18. The discharger's WWTF shall be supervised and operated by persons possessing certification of appropriate grade pursuant to Section 3680, Chapter 26, Division 3, Title 23 of the California Code of Regulations.
19. The Discharger shall at all times properly operate and maintain all systems and components of collection, treatment and control, installed or used by the Discharger to achieve compliance with this Board Order. Proper operation and maintenance includes effective performance, adequate process controls, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities/systems when necessary to achieve compliance with this Board Order. All systems in service or reserved shall be inspected and maintained on a regular basis. Records of inspections and maintenance shall be retained, and made available to the Regional Water Board Executive Officer on request.
20. The Discharger shall report orally, any noncompliance that may endanger human health or the environment. The noncompliance shall be reported immediately to the Regional Water Board Executive Officer, and the Office of Emergency Services as soon as:
 - a. the Discharger has knowledge of the discharge,
 - b. notification is possible, and
 - c. notification will not substantially impede cleanup or other emergency measures.

During non-business hours, the Discharger shall leave a message on the Regional Water Board office voice recorder at (760) 346-7491. A written report shall also be provided within five (5) business days of the time the discharger becomes aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance. The discharger shall report all intentional or unintentional spills in excess of one thousand (1,000) gallons occurring within the facility or collection system to the Regional Board office in accordance with the above time limits.

21. By-pass (i.e., the intentional diversion of waste streams from any portion of the treatment facilities, except diversions designed to meet variable effluent limits) is prohibited. The Regional Water Board may take enforcement action against the Discharger for by-pass unless:
 - a. By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to be inoperable, or substantial

and permanent loss of natural resources reasonably expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production; and

There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment was not installed to prevent by-pass occurring during equipment downtime, or preventive maintenance.

- b. By-pass is:
 - i. Required for essential maintenance to assure efficient operation; and
 - ii. Neither effluent nor receiving water limitations are exceeded; and
 - iii. The Discharger notifies the Board ten (10) days in advance.
- 22. In the event of an unanticipated by-pass, the Discharger shall immediately report the incident to the Regional Water Board. During non-business hours, the Discharger shall leave a message on the Regional Water Board office voice recorder. A written report shall be provided within five (5) business days the Discharger is aware of the incident. The written report shall include a description of the by-pass, any noncompliance, the cause, period of noncompliance, anticipated time to achieve full compliance, and steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.
- 23. The Discharger shall allow the Regional Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter the premises regulated by this Board Order, or the place where records are kept under the conditions of this Board Order;
 - b. Have access to and copy, at reasonable times, records kept under the conditions of this Board Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and
 - d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameters at this location.
- 24. The Discharger shall comply with the following:
 - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. The Discharger shall retain records of all monitoring information, copies of all reports required by this Board Order, and records of all data used to complete the application for this Board Order, for a period of at least 5 years from the date of the sample, measurement, report or application.

- c. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements.
 - ii. The individual(s) who performed the sampling or measurements.
 - iii. The date(s) analyses were performed.
 - iv. The individual(s) who performed the analyses.
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
25. The Discharger is the responsible party for the WDRs and the MRP for the facility. The Discharger shall comply with all conditions of these WDRs. Violations may result in enforcement action, including Regional Water Board orders or court orders that require corrective action or impose civil monetary liability, or modification or revocation of these WDRs by the Regional Water Board.
26. The discharger shall designate an on-site supervisor responsible for operation of the recycled water system. The supervisor shall be responsible for the installation, operation and maintenance of the irrigation system, prevention of potential hazards, maintenance of the distribution system plans in "as-built" form, and for the distribution of the recycled water. The name of the on-site supervisor shall be listed on the monthly monitoring report.
27. The Discharger shall provide adequate notice to the Regional Water Board Executive Officer of the following:
 - a. The introduction of pollutants into any treatment facility described in the Findings of this Board Order from an indirect Discharger which would be subject to Section 301 or 306 of the Clean Water Act, if the pollutants were discharged directly;
 - b. Any substantial change in the volume or character of pollutants introduced into any treatment facility described in the Findings of this Board Order, by an existing or new source; and
 - c. Any planned physical alteration or addition to the facilities described in this Board Order, or change planned in the Discharger's sludge use or disposal practice, where such alterations, additions, or changes may justify the application of Board Order conditions that are different from or absent in the existing Board Order, including notification of additional disposal sites not reported during the Board Order application process, or not reported pursuant to an approved land application plan.
28. The Discharger shall report all instances of noncompliance. Reports of noncompliance shall be submitted with the Discharger's next scheduled SMR or earlier if requested by the Regional Water Board Executive Officer, or if required by an applicable standard for sludge use and disposal.

29. The discharger shall provide a report to the Regional Board when it determines that the facility's average dry-weather flow rate for any month exceeds 80 percent of the design capacity. The report should indicate what steps, if any, the discharger intends to take to provide for the expected wastewater treatment capacity necessary when the facility reaches design capacity.
30. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.
31. Ponds shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, ancillary inflow, and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
32. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
33. The discharger shall provide a plan as to the method, treatment, handling and disposal of sludge that is consistent with all State and Federal laws and regulations and obtain prior written approval from the Regional Water Board specifying location and method of disposal, before disposing of treated or untreated sludge, or similar solid waste materials not hauled to the MAGTFTC MCAGCC Class III landfill, which is authorized to accept treated or untreated sludge.
34. The Discharger shall maintain a permanent log of all solids hauled away from the treatment facility for use/disposal elsewhere and shall provide a summary of the volume, type (screenings, grit, raw sludge, digested sludge), use (agricultural, composting, etc.), and the destination in accordance with the MRP of this Board Order. Sludge that is stockpiled at the treatment facility shall be sampled and analyzed for those constituents listed in the sludge monitoring section of the MRP of this Board Order and as required by Title 40, Code of Federal Regulations, Part 503. The results of the analyses shall be submitted to the Regional Board as part of the MRP.
35. This Board Order does not convey property rights of any sort, or exclusive privileges, nor does it authorize injury to private property or invasion of personal rights, or infringement of federal, state, or local laws or regulations.
36. This Board Order may be modified, rescinded, or reissued, for cause. The filing of a request by the Discharger for a Board Order modification, rescission or reissuance, or notification of planned changes or anticipated noncompliance, does not stay any Board Order condition. Causes for modification include a change in land application plans, or sludge use or disposal practices, and adoption of new regulations by the State or Regional Water Board (including revisions to the Basin Plan), or Federal government.

I, Robert Perdue, 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, Colorado River Basin Region, on June 21, 2012.

Ordered By: 
ROBERT PERDUE
Executive Officer

June 21, 2012
Date

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

MONITORING AND REPORTING PROGRAM NO. R7-2012-0002
FOR
UNITED STATES MARINE CORPS BASE, OWNER/OPERATOR
MAINSIDE WASTEWATER TREATMENT FACILITY
AND
WASTEWATER COLLECTION AND DISPOSAL SYSTEMS
Twentynine Palms – San Bernardino County

Location of Wastewater Treatment Facilities and Discharges:
NW ¼ of Section 29, T2N, R9E and NW ¼ of Section 19, T2N, R9E, and SBB&M.

A. Monitoring

1. The collection, preservation and holding times of all samples shall be in accordance with United States Environmental Protection Agency (USEPA) approved procedures. Unless otherwise approved by the Regional Water Board's Executive Officer, all analyses shall be conducted by a laboratory certified by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136), promulgated by the USEPA.
2. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for period greater than 24-hours, the Discharger shall obtain representative grab samples each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. The Discharger shall report the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.
3. Samples shall be collected at the location specified in the Permit. If no location is specified, sampling shall be conducted at the most representative sampling point available.
4. If the facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall forward a letter to the Regional Water Board indicating that there has been no activity during the required reporting period.

Influent Monitoring

5. Influent to the WWTF shall be monitored according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow (Total Facility Influent)	MGD ¹	Flow Measurement	Daily ²	Monthly
20°C BOD ₅ ³	mg/L ⁴	24-Hr. Composite or 4 grab samples in an 8-hour period ⁵	Once every two weeks	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite or 4 grab samples in an 8-hour period	Once every two weeks	Monthly

¹ Million Gallons-Per-Day

² Reported for each day with average monthly flow calculated

³ Biochemical Oxygen Demand

⁴ Milligrams per Liter

⁵ The period shall be between 6 am through 4 pm.

WWTF Secondary Effluent Monitoring

6. The Discharger shall monitor effluent from the WWTF according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow (Total Facility Effluent)	MGD	Measurement	Daily	Monthly
20° C BOD ₅	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
Settleable Solids	mg/L	Grab	Monthly	Monthly
pH	pH units	Grab	Daily	Monthly
Dissolved Oxygen	mg/L	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Nitrate (NO ₃ ⁻ N) as Nitrogen	mg/L	Grab	Monthly	Monthly
Nitrite (NO ₂ ⁻ N) as Nitrogen	mg/L	Grab	Monthly	Monthly

Total Nitrogen	mg/L	Grab	Monthly	Monthly
Volatile Organic Compounds ⁶	µg/L ⁷	Grab	Annually	Annually

⁶ Analysis of Volatile Organic Compounds is to be accomplished using the USEPA test methods 601 and 602 or 624

⁷ Micrograms per Liter

Disinfected Secondary-23 Recycled Water

7. Disinfected secondary-23 recycled water used for irrigation shall monitored according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	MGD	Measurement	Daily	Monthly
Total Coliforms	MPN/100mL ⁸	Grab	Daily	Monthly
Chlorine Residual	mg/L	Meter Reading	Continuous	Monthly
20° C BOD ₅	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
pH	pH units	Grab	Daily	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly

⁸ Most Probable Number per 100 milliliters

Disinfected Tertiary Recycled Water

8. Disinfected tertiary recycled water used for irrigation shall monitored according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	MGD	Measurement	Daily	Monthly
Turbidity ⁹	NTU ¹⁰	Meter Reading	Continuous	Monthly
Total Coliforms	MPN/100mL	Grab	Daily	Monthly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Chlorine Residual	mg/L	Meter Reading	Continuous	Monthly
CT ¹¹	mg*min/L ¹²	Meter Reading	Calculation	Monthly
20° C BOD ₅	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite 4 grab samples in 8-hour period	Once every two weeks	Monthly
pH	pH units	Grab	Daily	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly

⁹ Turbidity to be measured only for disinfected tertiary treated recycled water.

¹⁰ Nephelometric Turbidity Unit

¹¹ CT is the product of total residual chlorine and modal contact time measured at the same point. This is to be measured for disinfected tertiary treated recycled water

¹² Milligram-minutes per Liter

Water Supply to the Community

9. The domestic water supply shall be monitored according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly

Sludge Monitoring

10. The Discharger shall report annually on the quantity, location and method of disposal of all sludge and similar solid materials being produced at the WWTF. If no sludge is disposed of during the year being reported, the Discharger shall state "No Sludge Removed" in the annual monitoring report. Sludge that is generated at the WWTF shall be sampled and analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Arsenic	mg/kg ¹³	Composite	Prior to Disposal	Annually
Cadmium	mg/kg	Composite	Prior to Disposal	Annually
Copper	mg/kg	Composite	Prior to Disposal	Annually
Lead	mg/kg	Composite	Prior to Disposal	Annually
Mercury	mg/kg	Composite	Prior to Disposal	Annually
Molybdenum	mg/kg	Composite	Prior to Disposal	Annually
Nickel	mg/kg	Composite	Prior to Disposal	Annually
Selenium	mg/kg	Composite	Prior to Disposal	Annually
Zinc	mg/kg	Composite	Prior to Disposal	Annually
Fecal Coliform	MPN/gram ¹⁴	Composite	Prior to Disposal	Annually

¹³ Milligrams per kilogram

¹⁴ Most Probable Number per gram

B. Reporting

Operation and Maintenance

1. The Discharger shall report the following:

<u>Activity</u>	<u>Reporting Frequency</u>
The Discharger shall inspect and document any operation/maintenance problems by inspecting each unit process. In addition, calibration of flow meters and equipment shall be performed in a timely manner and documented. Operation and Maintenance reports shall be submitted to the Regional Water Board Office annually.	Annually
The amount of chlorine shall be monitored daily and reported monthly. Chlorine shall be measured in pounds per day.	Monthly

2. The Discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with Waste Discharge Requirements (WDRs). Where appropriate, the Discharger shall include supporting calculations (e.g., for monthly averages).

3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurement(s);
 - b. The individual(s) who performed the sampling or measurement(s);
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or method used; and
 - f. The results of such analyses.
4. The results of any analysis taken, more frequently than required at the locations specified in this MRP shall be reported to the Regional Water Board.
5. SMRs shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency designated in this MRP.
6. Each Report shall contain the following statement:

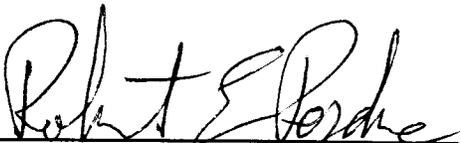
"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations".
7. The SMR, and other information requested by the Regional Water Board, shall be signed by a principal executive officer or ranking elected official.
8. A duly authorized representative of the Discharger may sign the documents if:
 - a. The authorization is made in writing by the person described above;
 - b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and
 - c. The written authorization is submitted to the Regional Water Board's Executive Officer.
9. The Discharger shall report any failure in the facility (wastewater treatment facility, and collection and disposal systems). The incident shall be reported immediately to the Regional Water Board Executive Officer as soon as:
 - a. The Discharger has knowledge of the discharge,
 - b. Notification is possible, and
 - c. Notification will not substantially impede cleanup or other emergency measures.

Results of analyses performed shall be provided within 15 days of sample collection.

10. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs, discuss corrective actions taken or planned and the proposed time schedule of corrective actions. Identified violations should include a description of the requirement that was violated and a description of the violation.
11. Daily, weekly, twice monthly and monthly monitoring shall be included in the monthly monitoring report. Monthly monitoring reports shall be submitted to the Regional Water Board by the 15th day of the following month. Annual monitoring reports shall be submitted to the Regional Water Board by January 15th of the following year.
12. The Discharger shall submit monitoring reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring, Suite 100
Palm Desert, CA 92260

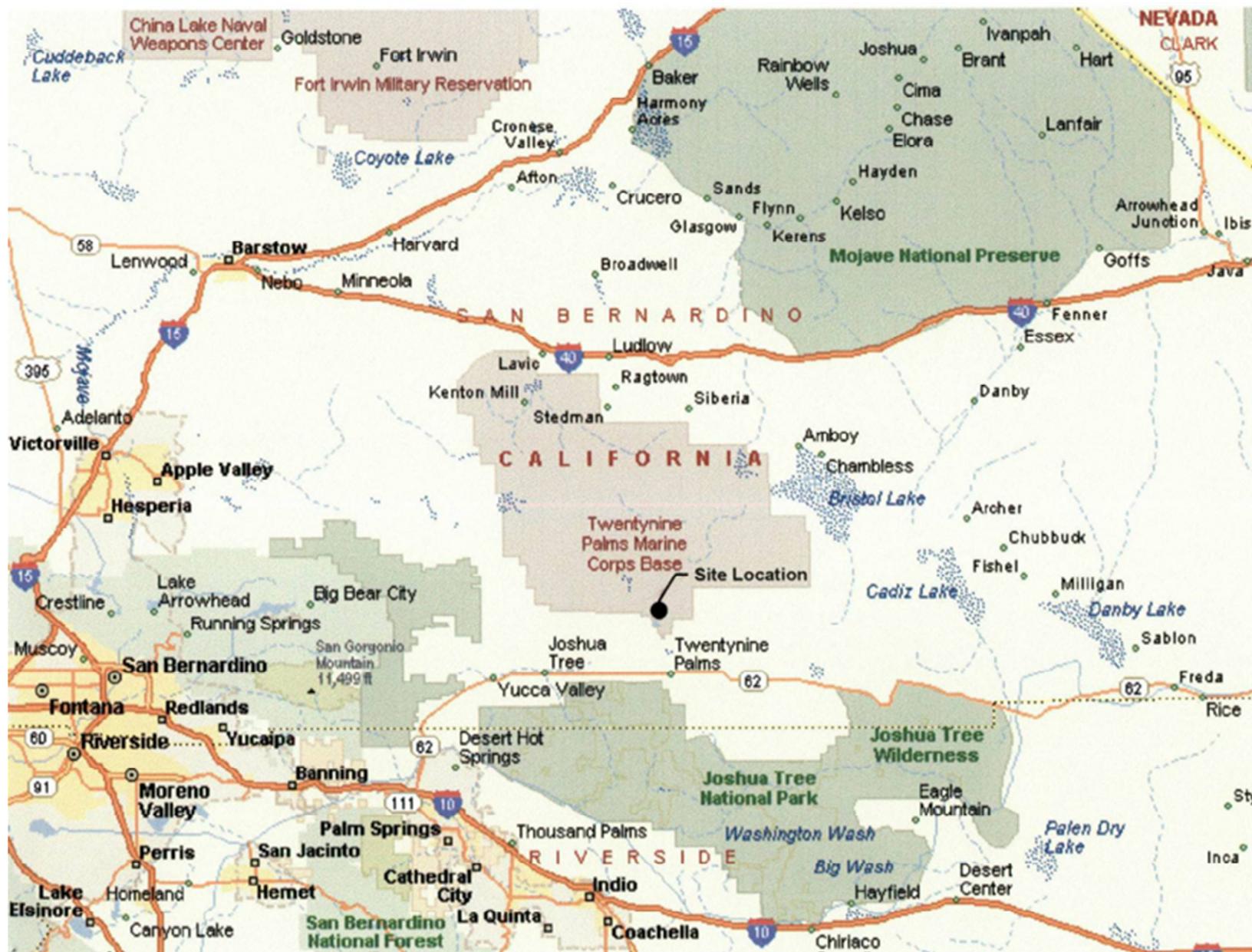
Ordered By:


ROBERT PERDUE
Executive Officer

June 21, 2012

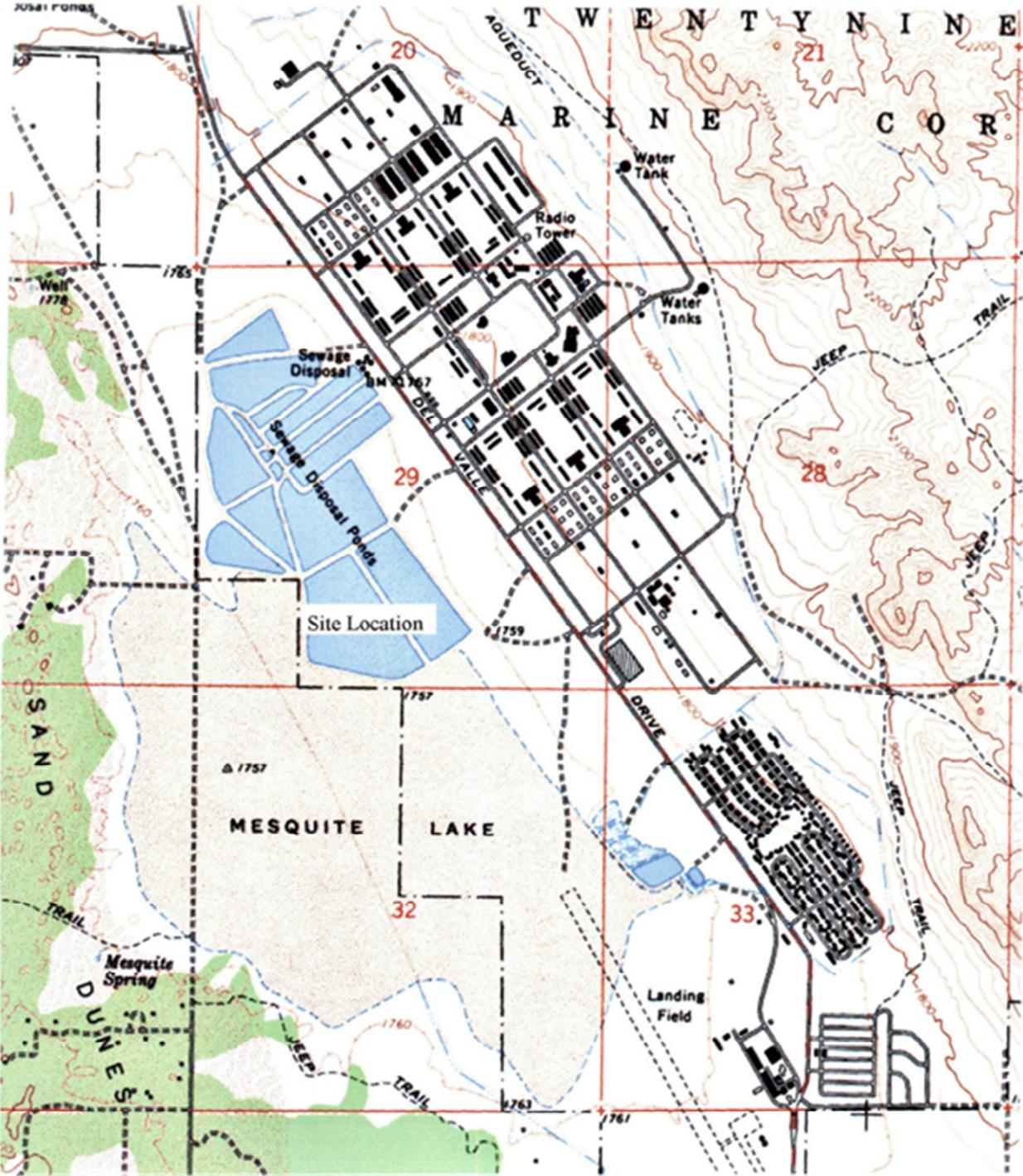
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION



Attachment A – Site Map

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION



Attachment B – Facility Layout

