

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION

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**WASTE DISCHARGE REQUIREMENTS ORDER R7-2022-0014-  
01  
AND MONITORING AND REPORTING PROGRAM**

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**ORDER INFORMATION**

**Discharger:** Hi-Desert Water District  
**Facility:** Yucca Valley Wastewater Reclamation Plant  
**Address:** 58950 Sunnyslope Dr., Yucca Valley, CA 92284  
**County:** San Bernardino County  
**WDID:** 7A360122001  
**GeoTracker ID:** WDR100031522

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I, PAULA RASMUSSEN, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on January 10, 2023.

*Original signed by* \_\_\_\_\_

PAULA RASMUSSEN  
Executive Officer

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WASTE DISCHARGE REQUIREMENTS ORDER R7-2022-0014-01  
AND MONITORING AND REPORTING PROGRAM  
HI-DESERT WATER DISTRICT  
YUCCA VALLEY WASTEWATER RECLAMATION PLANT  
SAN BERNARDINO COUNTY  
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION

**WASTE DISCHARGE REQUIREMENTS ORDER R7-2022-0014-01**

HI-DESERT WATER DISTRICT, OWNER/OPERATOR  
YUCCA VALLEY WASTEWATER RECLAMATION PLANT  
YUCCA VALLEY-  
SAN BERNARDINO COUNTY

**FINDINGS**

The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) hereby makes the following:

1. Hi-Desert Water District (HDWD or Discharger) owns and operates the Yucca Valley Wastewater Reclamation Plant (WRP or Facility). The WRP is the first sewer system and centralized wastewater treatment in the Town of Yucca Valley (Town), which previously relied on individual septic systems. HDWD provides water supply and sewer service to approximately 25,000 residents and businesses in the Town. The WRP is assigned California Integrated Water Quality System (CIWQS) number CW-396169, Waste Discharger Identification (WDID) number 7A360122001, and GeoTracker Global Identification number WDR100031522.
2. The WRP is located at 58950 Sunnyslope Drive, Yucca Valley in San Bernardino County, located in the west  $\frac{1}{2}$  of the northeast  $\frac{1}{4}$  of Section 32, Township 1 North, Range 6 East, San Bernardino Baseline & Meridian. The Assessor's Parcel Number (APN) is 060-120-107. The WRP's location is shown in **Attachment A-Vicinity Map**, and the Facility layout is shown in **Attachment B**, incorporated herein.
3. The WRP is being constructed in three phases and does not yet receive the full design flow. The initial design capacity of the WRP for Phase 1 is 1 million gallons per day (MGD). The final Phase 3 design capacity is 1.6 MGD. Connections to the sewer system are taking place in different phases and in accordance with the septic tank prohibition set forth in the Water Quality Control Plan for the Colorado River Basin Water Board (Basin Plan). The septic tank discharge prohibition prohibits the discharge of wastewater from new or existing individual onsite disposal systems on parcels within Phase 1 and Phase 2 of the HDWD Sewer Master Plan, with certain exceptions as specified in the prohibition.
4. On November 20, 2020, the Discharger submitted a Title 22 Engineering Report to the Division of Drinking Water (DDW) for the WRP. HDWD plans to use the tertiary treated recycled water produced by the WRP for a future Groundwater

Replenishment Reuse Project (GRRP)<sup>1</sup>. The Discharger plans to drill extraction wells to extract the tertiary treated recharged water and then pump to existing spreading basins several miles west to recharge the area of the aquifer which supplies HDWD's drinking water wells. DDW determined that the initial phases of the project, prior to drilling extraction wells are not a GRRP and the project is not required to comply with the full requirements of California Code of Regulations (Cal. Code Regs.), title 22, Article 5.1 Indirect Potable Reuse: Groundwater Replenishment-Surface Application at this time. However, because the water discharged is intended to be used for a GRRP in the future, a modified version of the monitoring schedule prescribed by Cal. Code Regs, title 22, Article 5.1 was amended by the Regional Water Board into Monitoring and Reporting Program R7-2015-0043-01 on January 26, 2021. Those monitoring requirements are incorporated into this Order.

5. The WRP was most recently regulated by Waste Discharge Requirements (WDRs) Order R7-2015-0043, which was adopted by the Regional Water Board on September 17, 2015.
6. On October 20, 2021, the Discharger submitted an application and Report of Waste Discharge (ROWD) to the Regional Water Board for updated WDRs to reflect the operations at the WRP as built, whereas the previous Order was adopted for the proposed Facility.
7. This Order updates the WDRs to comply with current laws and regulations applicable to the discharge.
8. On June 14, 2022, the Colorado River Basin Regional Water Board adopted WDRs R7-2022-0014, which included a Special Provision for the submission of a technical report and workplan regarding the adequacy of the existing groundwater monitoring network for the WRP.
9. On October 26, 2022, the Discharger submitted a letter requesting a time extension for WDRs R7-2022-0014 Special Provisions Requirements H.1. The letter requested a six-month extension due to the unanticipated time needed to prepare a scope for this report. The Colorado River Basin Water Board considers the request to be reasonable and therefore amends this Order to provide the requested six-month extension for Special Provisions Requirement H.1. An additional provision has been added to allow future extension requests to be granted at the discretion of the Executive Officer.

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<sup>1</sup> Detailed plans for the GRRP portion of this project are not yet developed and will require DDW review and approval prior to implementation.

### **Wastewater Reclamation Facility and Discharge**

10. The WRP consists of an influent pump station, headworks, a membrane bioreactor (MBR), two ultraviolet (UV) disinfection units, solids handling, solids storage and dewatering facilities, recharge basins for effluent disposal, and an odor control system. The headworks system consists of mechanical bar screens, vortex grit removal, influent fine screenings and grit washers. Primary and secondary treatment units consist of an MBR, nitrification, de-nitrification and include anoxic, aerobic, and swing zones. Further treatment is provided by membrane filtration basins, and UV disinfection (vessels) banks. Sodium hypochlorite will be used for process control to remove excess biological growth or algae from the treatment units and may be used in the final effluent. The WRP produces disinfected tertiary treated recycled water, which is discharged into three spreading, surface impoundments (also known as recharge basins) for groundwater recharge, as well as one off-spec basin that returns to the equalization basin and reintroduced to the influent stream for treatment. Back-up power will be available for all treatment units. The process flow is shown in **Attachment C- Process Flow Diagram**, made part of this Order by reference.
11. Untreated wastewater flows from the influent pump station to the headworks for preliminary treatment. Wastewater from the preliminary treatment system gravity flows to the MBR system for secondary treatment. Secondary treated wastewater then flows to the membrane filtration basins for further treatment and then to the UV system for disinfection. The disinfected tertiary recycled water is then discharged into three recharge basins.
12. Waste Activated Sludge (WAS) and foam from the MBR system are discharged to sludge storage tanks. The tanks are aerated by a blower system to keep the solids mixed and prevent them for turning anaerobic. Solids from the storage tanks are pumped to screw presses for dewatering. Dewatered solids are conveyed to a truck for hauling and disposal offsite. Dewatering liquor and other plant discharges are collected in a process drain pump station and pumped to the head of the plant upstream of the screens.
13. Chemical storage and dosing facilities are provided for sodium hypochlorite, citric acid, dewatering polymer and other chemicals that may be required by the MBR membrane manufacturer.
14. The Discharger's Self-Monitoring Reports (SMRs) from February 2020 through November 2021 characterize the WRP effluent as follows:

**Table 1. Effluent Characterization.**

<b>Constituent</b>	<b>Units</b>	<b>Average</b>	<b>Maximum</b>	<b>Minimum</b>
Flow	MGD	0.327	0.611	0.028
pH	s.u.	7.3	8	6.6
Turbidity	NTU	0.027	0.419	0.027
Total Coliform	MPN/100mL	<1.8	2	ND
20°C BOD <sub>5</sub>	mg/L	0.153	9.2	ND
Total Suspended Solids	mg/L	0.606	4	ND
Oil and Grease	mg/L	0.35	10	ND
Total Dissolved Solids	mg/L	426	520	370
Ammonia as N	mg/L	0.103	1.6	ND
Nitrate as N	mg/L	0.711	9.1	1
Nitrite as N	mg/L	ND	ND	ND
Total Nitrogen	mg/L	0.704	9.1	ND
UV Transmittance	%	72.7	98	55
UV Dose	mW-s/cm <sup>2</sup>	262	650	13

**Hydrogeologic Conditions**

15. Annual precipitation in the Town averages about 8 inches. Annual evapotranspiration rate in the vicinity is approximately 67 inches.
16. Based on the findings of an on-site infiltration test, the infiltration rate at the WRP recharge basin location ranges from 6 feet per day to less than 1 foot per day.

17. There are no surface waters in the vicinity of the WRP. Covington Wash, an ephemeral wash, flows from the northeast corner of the WRP. A significant portion of the WRP is within the 100-year floodplain of the Covington Wash. Calculations from a FEMA Flood map show that approximately 20.2 acres or about 25% of the 80-acre parcel is in the 100-year floodplain.
18. The groundwater monitoring network consists of one upgradient well (YV-3) and three downgradient wells (YVUZ-4, YVUZ-5, and YVUZ-6).
19. Groundwater monitoring data collected from monitoring wells YV-3, YVUZ-4, YVUZ-5, and YVUZ-6 during the period from 2019 through 2021 show the following average characteristics:

**Table 2. Groundwater Monitoring Data.**

Constituent	Units	YV-3	YVUZ-4	YVUZ-5	YVUZ-6
Depth to Groundwater	Ft bgs	423.9	427.5	363.3	325.8
pH	pH units	8.2	8.07	7.91	8.01
Fecal Coliform	MPN/100 mL	<1.8	<1.8	<1.8	<1.8
Total Coliform	MPN/100 mL	<1.8	2	2	<1.8
Enterococcosus	MPN/100 mL	<1.8	<1.8	2.4	<1.8
TDS	mg/L	214	225	260	189
Ammonia as N	mg/L	ND	ND	0.02	ND
Nitrate as N	mg/L	2.31	2.49	2.55	2.88
Nitrite as N	mg/L	ND	ND	ND	0.01
Total Nitrogen	mg/L	2.28	2.50	2.64	2.90

20. There is a Transient Non-Community (TNC) public water system, the Institute of Mental Physics (System No. 3600768) with two drinking water wells



downgradient of the recharge basins. HDWD has provided United States Geological Survey (USGS) modeling demonstrating that the closer of the two wells could receive recharge water in 8 to 25 years depending on the porosity, and the farther well could receive the water in 43 to over 50 years. Monitoring of the Institute of Mental Physics wells annually for sucralose as an indicator compound is added to this Order.

21. Groundwater flow in the area of the WRP is generally from the west to the east. There are no domestic wells within 1,000 feet of the WRP. Depth to groundwater in the Warren Subbasin ranges from 150 feet up to 1,600 feet below ground surface (bgs).
22. Water supply to the community is from groundwater production wells located in the Warren Subbasin, which is part of the Morongo Groundwater Basin. The Discharger operates thirteen supply wells and also imports water from the California State Water Project (SWP) for groundwater recharge through surface spreading.
23. The site is located in a seismically active desert region.

#### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

24. The Water Quality Control Plan for the Colorado River Basin Region (Basin Plan) designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation programs and policies to achieve those WQOs for all waters addressed through the plan. Pursuant to Water Code section 13263, subdivision (a), WDRs must implement the Basin Plan and take into consideration the beneficial uses to be protected, the WQOs reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Water Code section 13241.
25. The discharge is located within the Joshua Tree Hydrologic Unit, Warren Hydrologic Area. The Basin Plan designates the following beneficial uses for groundwater:
  - a. Municipal Supply (MUN), and
  - b. Industrial Supply (IND).
26. Adopted pursuant to Water Code section 13263, this Order prescribes WDRs for waste discharges that are not subject to regulation under Clean Water Act section 402 (33 U.S.C. § 1342).

27. These WDRs implement the Basin Plan's numeric and narrative WQOs for groundwater and surface waters established by the Basin Plan and other applicable state and federal laws and policies.
28. The Basin Plan establishes the following WQOs for MUN-designated groundwater:
  - a. Tastes and Odors (Narrative): Groundwater shall not contain taste or odor-producing substances that adversely affect beneficial uses as a result of human activity (Ch. 3, § IV.A);
  - b. Coliform Bacteria (Numeric): Groundwater shall not contain coliform organisms in exceedance of the limits specified in California Code of Regulations, title 22 (Title 22), section 64426.1 (Ch. 3, § IV.B); and
  - c. Chemical Constituents (Numeric): Groundwater shall not contain organic and inorganic chemical constituents in concentrations exceeding the Primary Maximum Contaminant Levels (MCLs) established for drinking water per Title 22, sections 64431, 64444 and 64678 (Ch. 3, § IV.C).
29. Although they are not universally incorporated into the Basin Plan as numeric WQOs for MUN-designated groundwater, the Secondary MCLs established for drinking water per Title 22, section 64449 are appropriate in most cases for use as site-specific numeric limits supporting the narrative WQO for groundwater tastes and odors. These numeric limits apply here.
30. The WDRs in this Order are exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), 20005 et seq., as the wastewater and sludge discharges authorized hereunder comply with the Basin Plan, and do not need to be managed as "hazardous waste." (Title 27, § 20090.)
31. Consistent with Water Code section 13241, the Regional Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
  - a. Past, present, and probable future beneficial uses of water.
  - b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
  - c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
  - d. Economic considerations.
  - e. The need for developing housing within the region(s).

- f. The need to develop and use recycled water.
32. Pursuant to Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. Although section 106.3 does not directly apply to WDRs, this Order nevertheless promotes that policy by requiring discharges to meet MCLs which are protective of human health, ensuring that water is safe for domestic use.
33. This Order and the separately-adopted Monitoring and Reporting Program R7-2022-0014 (MRP) are also issued pursuant to Water Code section 13267, subdivision (b)(1), which authorizes the Regional Water Board to require technical and monitoring reports. The monitoring and reporting requirements in the MRP are necessary to demonstrate compliance with this Order. The State Water Resources Control Board's (State Water Board's) electronic database, GeoTracker Information Systems, facilitates the submittal and review of monitoring and reporting documents. The burden, including costs, of the MRP bears a reasonable relationship to the need for that information and the benefits to be obtained from that information.
34. 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. (Wat. Code, § 13263, subd. (g).)
35. Regulations for the use of treated domestic wastewater in Groundwater Replenishment Reuse Projects (GRRP) are contained in California Code of Regulations Title 22, sections 60301, 60320, and 60323. This Order incorporates those sections that apply to a GRRP for Indirect Potable Reuse, Groundwater Replenishment, and Surface Application to the extent deemed necessary by the DDW as mentioned in Finding 4 above.

### **Antidegradation Analysis**

36. State Water Board Resolution 68-16, entitled *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Resolution 68-16), generally prohibits the Regional Water Board from authorizing discharges that will result in the degradation of high quality waters, unless it is demonstrated that any change in water quality will (a) be consistent with maximum benefit to the people of the state, (b) not unreasonably affect beneficial uses, and (c) not result in water quality less than that prescribed in state and regional policies (e.g., the violation of one or more water quality objectives). The discharger must also employ best practicable treatment or control (BPTC) to minimize the degradation of high quality waters. High quality waters are surface waters or areas of groundwater that have a

baseline water quality better than required by water quality control plans and policies.

37. Some degradation of groundwater from the discharge to the recharge basins is consistent with Resolution 68-16, provided that the degradation:
- a. Is confined to a reasonable area;
  - b. Is minimized by means of full implementation, regular maintenance, and optimal operation of BPTC measures by the Discharger;
  - c. Is limited to waste constituents typically encountered in domestic wastewater;
  - d. Does not unreasonably affect any beneficial uses of groundwater prescribed in the Basin Plan, and will not result in the violation of any WQO; and,
  - e. Is consistent with the maximum benefit to the people of the state.
38. Constituents in the wastewater effluent that present the greatest risk to degrade groundwater include: nitrogen, TDS, and coliforms (pathogen-indicator organisms). Each of these constituents is discussed below:
- a. **Nitrogen.** The Primary Maximum Contaminant Level (MCL) for nitrate plus nitrite as nitrogen is 10 mg/L. (Title 22, § 64431.) As a conservative means of accounting for the fate of the various components of total nitrogen, it is assumed that all nitrogen (total nitrogen) converts to nitrate/nitrite. SMRs indicate an average of 0.704 mg/L for Total Nitrogen in the effluent between February 2020 through November 2021. During the same timeframe, background (upgradient) groundwater total nitrogen was 2.28 mg/L at YV-3, while the downgradient groundwater total nitrogen was 2.50 mg/L at YVUZ-4, 2.64 mg/L at YVUZ-5, and 2.90 mg/L at YVUZ-6. It is likely that the higher concentrations of total nitrogen in the downgradient monitoring wells are due to historic long-term use of septic systems in the area. To ensure compliance with WQOs and protection of beneficial uses, this Order includes an effluent limitation of 10 mg/L for total nitrogen. While SMR data for total nitrogen in the effluent indicates no degradation in water quality, this Order also adds biweekly effluent monitoring and quarterly groundwater monitoring to further evaluate the potential degradation due to nitrogen.
  - b. **TDS.** The Secondary MCL for TDS includes a “recommended” consumer acceptance level of 500 mg/L, and an “upper” consumer acceptance level of 1,000 mg/L if it is neither reasonable nor feasible to provide more suitable waters. (See Cal. Code Regs., tit. 22, § 64449.) The typical incremental addition of dissolved salts from domestic water usage ranges from

150 to 380 mg/L. Groundwater monitoring data from second quarter 2019 to fourth quarter 2021 for monitoring wells YV-3, YVUZ-4, YVUZ-5, and YVUZ-6 averaged 214 mg/L, 225 mg/L, 260 mg/L, and 189 mg/L, respectively. In 2018, HDWD's reported flow-weighted water supply TDS concentration average ranged from 244 mg/L to 286 mg/L (*TDS Study Work Plan, 2019*<sup>2</sup>). Based on data indicated in SMRs from February 2020 through November 2021, treated wastewater discharged had an average TDS concentration of approximately 426 mg/L. This Order provides an average monthly effluent limit for TDS of 550 mg/L, which is protective of the municipal supply groundwater beneficial use. The effluent limitation is based on plant performance which shows a maximum TDS concentration of 520 mg/L.

- c. **Total Coliform.** Typical coliform concentration in domestic raw wastewater is about  $10^7$  to  $10^8$  most probable number (MPN)/100 mL, and  $10^5$  to  $10^6$  for secondary treated wastewater effluent (U.S. Environmental Protection Agency (USEPA), *Design Manual: Municipal Wastewater Disinfection*, USEPA/625/1-86/021, October 1986). Wastewater discharged from the WRP is treated to tertiary standards and then disinfected. SMRs indicate a range of Non-Detect (<1.8 MPN/100mL) to 2 MPN/100mL for Total Coliform in the effluent between February 2020 through November 2021. Given the depth to groundwater, which ranges from approximately 325 to 427 feet in the area of the WRP, it is not likely that pathogen-indicator bacteria will reach groundwater in excess of that prescribed in title 22, section 64426.1, due to significant attenuation and removal in the soils. However, groundwater monitoring wells at the WRP have been monitored quarterly and analyzed for bacteria with results ranging from below the detection limit of 1.8 MPN/100 mL to 2 MPN/100 mL for total coliforms. It is unknown if the downgradient bacteria are attributable to Facility discharges. Therefore, this Order includes a Special Provision that requires the Discharger to evaluate the adequacy of the groundwater monitoring network as well as investigating the source of the bacteria in groundwater. To evaluate the potential degradation to groundwater due to pathogens, this Order contains quarterly monitoring of enterococcosus, fecal and total coliforms in the groundwater monitoring wells.

39. The discharge of wastewater from the WRP, as permitted herein, reflects BPTC. The WRP incorporates:

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<sup>2</sup> In this Study, the Discharger proposed using all thirteen wells to develop a flow-weighted source water TDS concentration. This would be a statistically representative value of their source water. HDWD continues to track the TDS in the thirteen supply wells to be able to calculate a TDS value that best represents their source water.

- a. Technology for tertiary treated disinfected domestic wastewater;
  - b. Structural controls to dispose of waste constituents in a designated area;
  - c. A network of groundwater monitoring wells;
  - d. Solids handling facilities;
  - e. An operation and maintenance manual;
  - f. Staffing to ensure proper operation and maintenance; and
  - g. A standby emergency power generator of sufficient size to operate the treatment plant and ancillary equipment during periods of loss of commercial power.
40. Degradation of groundwater by some of the typical waste constituents associated with discharges from a facility treating domestic wastewater, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of regional utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. These factors, when taken in conjunction with the associated increase in waste constituents, are consistent with the maximum benefit to the people of the State. Accordingly, the discharge, as authorized, is consistent with the anti-degradation provisions of Resolution 68-16, and the applicable WQOs.

### **Stormwater**

41. Federal regulations for stormwater discharges were promulgated by the U.S. Environmental Protection Agency on November 16, 1990 (40 C.F.R. parts 122, 123, and 124) to implement the Clean Water Act's stormwater program set forth in Clean Water Act section 402, subdivision (p) (33 U.S.C. § 1342(p)). In relevant part, the regulations require specific categories of facilities that discharge stormwater associated with industrial activity to "waters of the United States" to obtain National Pollutant Discharge Elimination System (NPDES) permits and to require control of such pollutant discharges using Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards.
42. The State Water Board adopted Order 2014-0057-DWQ (NPDES No. CAS000001), *General Permit for Storm Water Discharges Associated with*

*Industrial Activities* (Industrial General Permit) on July 1, 2015. Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage with a design flow of one million gallons per day or more, or that are required to have an approved pretreatment program under 40 Code of Federal Regulations part 403, are required to enroll under the Industrial General Permit, unless there is no discharge of industrial stormwater to waters of the United States.

43. Because there are no “waters of the United States” in the vicinity of the discharges, the Facility is not subject to the federal regulations for discharges of storm water. Nonetheless, this Order recommends that the Discharger implement, where practicable, construction stormwater best management practices to ensure nuisance conditions are prevented.

### **CEQA and Public Participation**

44. Pursuant to California Code of Regulations, title 14, section 15301, 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 (CEQA), Public Resources Code section 21000 et seq.
45. The Regional Water Board has notified the Discharger and all known interested agencies and persons of its intent to issue WDRs for this discharge and has provided them with an opportunity for a public meeting and to submit comments.
46. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to this discharge.

### **REQUIREMENTS**

**IT IS HEREBY ORDERED** that Waste Discharge Requirements Order R7-2015-0043 is rescinded (except for enforcement purposes), and that the Discharger shall comply with the following requirements.

#### **A. Effluent Limitations**

1. Effluent discharged to the recharge basins for disposal shall not exceed the following effluent limits:

**Table 3. Effluent Limitations**

Constituent	Units	Monthly Average	Weekly Average	Daily Maximum
20°C BOD <sub>5</sub>	mg/L	10	15	30
Total Suspended Solids	mg/L	10	15	30
Total Dissolved Solids	mg/L	550	--	--
Total Nitrogen	mg/L	10	--	--
Nitrite as Nitrogen	mg/L	1	--	--
Oil and Grease	mg/L	15	--	--

2. At a minimum, the recycled municipal wastewater applied at a GRRP shall receive treatment that meets the following:
  - a. All recycled water produced at the WRF must be filtered using the General Electric Z500D leap MBR cassette system as described in the Title 22 Engineering Report. No changes, additions, or modifications can be made to the filter facility unless approval is obtained from DDW and the Regional Board.
  - b. The filtered wastewater must 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.
  - c. The effluent must be disinfected using a 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.

- d. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed, and the number of total coliform bacteria shall 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.
3. The hydrogen ion concentration (pH) in the effluent shall be maintained within the limits of 6.0 to 9.0 standard units.
4. The recharge basins shall be maintained so that they continuously operate in aerobic conditions. The dissolved oxygen content in the upper zone (one foot) of the recharge basins shall be equal to or greater than 1.0 mg/L. If there is little or no water in the ponds, the monitoring report shall state "No standing water in ponds and/or not sufficient water in the ponds to sample safely" in place of reporting dissolved oxygen concentration.

## **B. Receiving Water Limitations**

The discharge of wastewater from the WRP shall not cause groundwater to: exceed applicable water quality objectives; acquire taste, odor, toxicity, or color that create nuisance conditions; impair beneficial uses; or contain constituents in excess of California Maximum Contaminant Levels (MCLs), as set forth in Title 22. (See, e.g., § 64426.1 [bacteriological constituents], § 64431 [inorganics]; § 64444 [organics], § 64678 [lead and copper].)

## **C. Discharge Prohibitions**

1. Discharge of waste classified as "hazardous," as defined in California Code of Regulations, title 27, section 20164, or "designated," as defined in Water Code section 13173 and California Code of Regulations, title 27, section 20164, is prohibited.
2. The discharge of treated wastewater at a location other than the designated disposal areas is prohibited.
3. The discharge of any wastewater from the WRP to any surface waters or surface drainage courses is prohibited.

4. The Discharger shall not accept waste in excess of the design treatment capacity of the WRP's disposal system.
5. Surfacing or ponding of wastewater outside of the designated disposal locations is prohibited.
6. Bypass or overflow of untreated or partially-treated waste, from the WRP or any intermediate unit processes, to the percolation ponds is prohibited, except as authorized in Standard Provision H.13.
7. The discharge of wastewater to a location or in a manner different from that prescribed in this Order is prohibited.
8. The discharge of wastewater to land not owned or controlled by the Discharger, or not authorized for such use, is prohibited.
9. There shall be no surface flow of wastewater away from the designated recharge areas.
10. The storage, treatment, or disposal of wastes from the WRP shall not cause contamination, pollution, or nuisance as defined in Water Code section 13050, subdivisions (k), (l), and (m).

**D. Discharge Specifications**

1. The Discharger shall maintain sufficient freeboard in the recharge basins to accommodate seasonal precipitation and to contain a 100-year storm event, but in no case have less than two (2) feet of freeboard (measured vertically). Freeboard shall be utilized for wake and waves of fluid motion and emergency or natural disaster purposes only.
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. Recharge basins shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, ancillary inflow, and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
4. The recharge basins shall be managed to prevent breeding of mosquitoes. In particular:

- a. An erosion control program should ensure 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.
5. Public contact with non-disinfected wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
  6. Adequate measures shall be taken to ensure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.
  7. Objectionable odors originating at the WRP shall not be perceivable beyond the limits of the wastewater treatment and disposal area.
  8. The recharge basins shall be maintained and operated so as to maximize infiltration and minimize the increase of salinity in the groundwater.

**E. UV Disinfection Process Requirements**

1. The Discharger shall operate the ultraviolet (UV) disinfection system in accordance with the following operating protocol and technical and administrative requirements in order to ensure compliance with disinfection effluent limitations specified in Effluent Limitations A.1 of this Order.
  - a. The effluent must be disinfected using a 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.
  - b. The UV disinfection system is limited to the following operational parameter ranges:
    - i. Permit flow up to 1.63 MGD per closed channel reactor;
    - ii. UV transmittance at or above 52 percent; and,

- iii. UV sensor intensities at or above 4 mW/cm<sup>2</sup>.
- c. The Discharger shall operate each UV reactor independently to deliver a minimum UV dose of 100 milliJoules per square centimeter (mJ/cm<sup>2</sup>) at all times.
- d. The equation below must be used for each UV reactor as part of the automatic UV disinfection control system for calculating UV dose. They are from the "Xylem Water Solutions WEDECO LBX 1500E UV System NWRI 2012 Validation Report" (Carollo Engineers, September 2015)".

$$S_{pred} = (A \times B^{UVA} \times UVA^C) \times (D \times E + F \times PL^G) / (E \times PL^G)$$

$$RED_{MS2} = 0.929 \times 10^{A+B \times UVA} \times UVA^{C+D \times UVA} \times [S/S_{pred,100\%}/Q]^{E+F \times UVA^2}$$

Where:

$S_{pred}$  = Predicted UV sensor value (W/m<sup>2</sup>)

UVA = UV absorbance at 254 nm

S = Measured UV sensor intensity value (W/m<sup>2</sup>)

$S_{pred,100\%}$  = Predicted UV intensity at full lamp power, corresponding to new lamps with clean sleeves (W/m<sup>2</sup>)

PL = Percent ballast power setting (100% = 100)

$RED_{MS2}$  = UV dose per reactor (mJ/cm<sup>2</sup>)

Q = flow rate in MGD (at flow rates below 0.5 MGD, the value of 0.5 MGD should be used as a default value in the RED calculation)

A-G = Empirical constants, whose values are listed in the validation report for each equation

- e. On-line monitoring of UV intensity, flow, and ultraviolet transmittance (UVT) must be provided at all times.
- f. Flow meters, UV intensity sensors, and UVT monitors must be properly calibrated to ensure proper disinfection.

- g. At least monthly, all duty UV intensity sensors must be checked for calibration against a reference UV intensity sensor.
- h. For all UV intensity sensors in use, the ratio of the duty UV sensor intensity to the reference UV sensor intensity must be less than or equal to 1.2. If the calibration ratio is  $>1.2$ , the failed duty UV sensor must be replaced by a properly calibrated sensor and recalibrated by a qualified facility. The reference UV intensity sensors must be recalibrated at least annually by a qualified facility using a National Institute of Standards and Technology (NIST) traceable standard.
- i. UVT meter must be inspected and checked against a reference bench-top unit weekly to document accuracy.
- j. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2% or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.
- k. Flow meters measuring the flow through a UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.
- l. Each UV reactor at the UV system must be designed with built-in automatic reliability features that must be triggered by critical alarm setpoints.
- m. Conditions triggering an alarm and startup of the redundant UV reactor include the following:
  - i. The UV dose goes below  $105 \text{ mJ/cm}^2$ ; and,
  - ii. Whole bank failure.
- n. Conditions that must divert effluent to waste include the following:
  - i. UV dose is below the minimum UV dose of  $100 \text{ mJ/cm}^2$ ;
  - ii. UVT is below 52%;
  - iii. UV intensity below the minimum commissioned of  $4 \text{ mW/cm}^2$ ;
  - iv. Complete UV channel failure; and,

- v. Flow above 1.63 MGD per closed channel reactor.
  - o. A quick reference plant operations data sheet must be posted at the treatment plant and include the following information:
    - i. The alarm set points for flow, UV dose, UV intensity, and UVT.
    - ii. The values of flow, UV dose, UV intensity, and UVT when effluent must be diverted to waste.
    - iii. The required frequency of verification and calibration for all meters/analyzers measuring flow, UV intensity, and UVT.
    - iv. The required frequency of mechanical cleaning and equipment inspection.
    - v. The UV lamp hour tracking procedures and replacement intervals.
  - p. This UV dose equation assumes that the intensity sensors would measure the decline as the lamps age. Since there is one UV intensity sensor that monitors two of the 60 lamps in a bank, the two lamps with the highest number of hours should be the ones closest to the UV intensity sensor.
  - q. Equivalent or substitutions of equipment are not acceptable without an adequate demonstration of equivalent disinfection performance.
2. The Discharger shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. The Discharger shall report daily average and maximum flow through the UV disinfection system. If the UV transmittance falls below 52 percent or UV dose falls below 100 mJ/cm<sup>2</sup>, the event shall be reported to the Colorado River Basin Water Board and the DDW by telephone with 24 hours. Any inadequately treated and disinfected wastewater shall be diverted to a storage basin or an upstream process for adequate treatment.

## **F. Pretreatment Provisions**

In the event that the WRP receives influent from Industrial Users (as defined in 40 C.F.R. § 403.3(j)) which passes through (40 C.F.R. § 403.3(p)) or interferes (40 C.F.R. § 403.3(k)) with the operation of the WRP, or from Industrial Users that are otherwise subject to National Pretreatment Standards (40 C.F.R.

§ 403.3(l)), then the WRP shall have and enforce an adequate pretreatment program in compliance with California Code of Regulations, title 23, section 2233 and 40 Code of Federal Regulations section 403.8.

The Discharger shall immediately notify the Regional Water Board of any planned discharges that would trigger pretreatment requirements.

Within one year of notification that a pretreatment program is required, the Discharger shall submit a revised Report of Waste Discharge and formal pretreatment program for Regional Water Board review and approval.

#### **G. Sludge and Solids Limitations**

1. Disposal of oil and grease, biosolids, screenings, and other solids collected from liquid wastes shall be pursuant to Title 27 of the California Code of Regulations.
2. Sludge use and disposal shall comply with federal and state laws and regulations, including permitting requirements, and technical standards in 40 Code of Federal Regulations part 503.
3. Any proposed change in use or disposal of biosolids requires the approval of the Regional Water Board's Executive Officer, and U.S. Environmental Protection Agency Regional Administrator, who must be notified at least **90 days** in advance of the change.
4. The Discharger shall maintain a permanent log of all solids hauled away from the WRP 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. Sludge that is stockpiled at the WRP shall be sampled and analyzed for those constituents listed in the sludge monitoring section of the MRP, and as required by 40 Code of Federal Regulations part 503. The results of the analyses shall be submitted to the Regional Water Board as part of the MRP.

#### **H. Special Provisions**

1. **Groundwater Monitoring Network Technical Report and Work Plan: By June 30, 2023**, the Discharger shall submit to the Colorado River Basin Water Board's Executive Officer for review and approval a technical report on the adequacy of the existing groundwater monitoring network. The technical report shall describe the current condition of the

groundwater monitoring network and evaluate whether this network adequately monitors the effects of the discharge from the disposal ponds on groundwater. In addition, the technical report shall provide an analysis of the groundwater data collected from the existing groundwater monitoring wells. The analysis shall include maps (e.g., equipotential maps) showing the direction of flow and identification of upgradient and downgradient monitoring wells. Further, it shall include an appropriate statistical analysis for constituents of concern (COCs) for the upgradient and downgradient wells, based on the groundwater data collected to date. COCs in this case are TDS and its major ions: sulfate, chloride, nitrogen (total nitrogen, nitrite, and nitrate), and fluoride. The analysis shall also include an investigation to determine the source of bacteria in the groundwater.

If the technical report indicates that repair of monitoring wells or addition of monitoring wells is necessary, the Discharger shall submit a work plan to the Colorado River Basin Water Board's Executive Officer for review and approval **within four (4) months** of Technical Report approval. The work plan shall include a description proposed changes to the groundwater monitoring network (e.g., monitoring locations, monitoring frequency, sampling protocol, or quality assurance/quality control) and a time schedule for the implementation of these changes. **Within 30 days** of approval of the work plan by the Executive Officer, the Discharger shall begin implementation of the work plan in accordance with the time schedule. The time schedule for implementation shall be **18 months**.

2. **Request for Extension.** If the Discharger is unable to timely comply with any of the deadlines in the Special Provisions, the Discharger may request an extension from the Regional Water Board's Executive Officer. The extension request must be submitted in writing as soon as a delay is recognized and prior to the compliance date. The extension request should include justification for the delay. The request must be approved by the Executive Officer in writing.

## I. Standard Provisions

3. **Noncompliance.** The Discharger shall comply with all of the terms, requirements, and conditions of this Order and MRP R7-2022-0014. Noncompliance is a violation of the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) and grounds for: (1) an enforcement action; (2) termination, revocation and reissuance, or modification of these WDRs; or (3) denial of an Order renewal application.



4. **Enforcement.** The Regional Water Board reserves the right to take any enforcement action authorized by law. Accordingly, failure to timely comply with any provisions of this Order may subject the Discharger to enforcement action. Such actions include, but are not limited to, the assessment of administrative civil liability pursuant to Water Code sections 13323, 13268, and 13350, a Time Schedule Order (TSO) issued pursuant to Water Code section 13308, or referral to the California Attorney General for recovery of judicial civil liability.
5. **Proper Operation and Maintenance.** 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 Order. Proper operation and maintenance includes, but is not limited to, 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 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 on request.
6. **Reporting of Noncompliance.** The Discharger shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the Regional Water Board office and the Office of Emergency Services (OES) within 24 hours of when the Discharger becomes aware of the incident. If noncompliance occurs outside of business hours, the Discharger shall leave a message on the Regional Water Board's office voicemail. A written report shall also be provided within five 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. All other forms of noncompliance shall be reported with the Discharger's next scheduled Self-Monitoring Report (SMR), or earlier if requested by the Regional Water Board's Executive Officer.
7. **Duty to Mitigate.** The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.
8. **Material Changes.** Prior to any modifications which would result in any material change in the quality or quantity of wastewater treated or

discharged, or any material change in the location of discharge, the Discharger shall report all pertinent information in writing to the Regional Water Board, and if required by the Regional Water Board, obtain revised requirements before any modifications are implemented.

9. **Design Capacity Report.** The Discharger shall provide a report to the Regional Water Board when it determines that the WRPs 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 plant reaches design capacity.
10. **Operational Personnel.** The WRP shall be supervised and operated by persons possessing certification of appropriate grade pursuant to Title 23, section 3680.
11. **Familiarity with Order.** The Discharger shall ensure that all site-operating personnel are familiar with the content of this Order and maintain a copy of this Order at the WRP.
12. **Inspection and Entry.** 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 Order, or the place where records are kept under the conditions of this Order;
  - b. Have access to and copy, at reasonable times, records kept under the conditions of this Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at this location.
13. **Records Retention.** The Discharger shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. Records may be maintained electronically. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Water Board's Executive Officer.

14. **Change in Ownership.** This Order is not transferable to any person without written approval by the Regional Water Board's Executive Officer. Prior to any change in ownership of this operation, the Discharger shall notify the Regional Water Board's Executive Officer in writing at least 30 days in advance. The notice must include a written transfer agreement between the existing owner and the new owner. At a minimum, the transfer agreement must contain a specific date for transfer of responsibility for compliance with this Order and an acknowledgment that the new owner or operator is liable for compliance with this Order from the date of transfer. The Regional Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate other requirements as may be necessary under the Water Code.
  
15. **Bypass.** Bypass (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 bypass unless:
  - a. Bypass 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 bypass. Severe property damage does not mean economic loss caused by delays in fee collection; and
  
  - b. There were no feasible alternatives to bypass, 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 bypass occurring during equipment downtime, or preventative maintenance; or
  
  - c. Bypass is (1) required for essential maintenance to ensure efficient operation; (2) neither effluent nor receiving water limitations are exceeded and (3) the Discharger notifies the Regional Water Board ten (10) days in advance.

In the event of an unanticipated bypass, 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's office voicemail. A written report shall be provided within five (5) business days after the Discharger is aware of the incident. The written report shall include a description of the bypass, 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.

16. **Stormwater.** All storm water discharges from this Facility must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies, regarding discharges of storm water to storm water drain systems or other courses under their jurisdiction.
17. Storm water discharges from the Facility shall not cause or threaten to cause pollution or contamination.
18. Storm water discharges from the Facility shall not contain hazardous substances equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.
19. **Backup Generators.** Standby, power generating facilities shall be available to operate the WRP during a commercial power failure.
20. **Format of Technical Reports.** The Discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with Title 23, division 3, chapter 30, as raw data uploads electronically over the Internet into the State Water Board's GeoTracker database, found at: <https://geotracker.waterboards.ca.gov/>. Documents that were formerly mailed by the Discharger to the Regional Water Board, such as regulatory documents, narrative monitoring reports or materials, and correspondence, shall also be uploaded into GeoTracker in the appropriate Microsoft Office software application format, such as Word or Excel files, or as a Portable Document Format (PDF) file. Large documents must be split into appropriately-labelled, manageable file sizes and uploaded into GeoTracker.
21. **Qualified Professionals.** In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of California registered professionals (i.e., civil engineer, engineering geologist, geologist, etc.) competent and proficient in the fields pertinent to the required activities. All technical reports required under this Order that contain work plans, describe the conduct of investigations and studies, or contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately-qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain a statement of qualifications of the responsible licensed professional(s) as well as the professional's signature and/or stamp of the seal. Additionally, all field

activities are to be conducted under the direct supervision of one or more of these professionals.

22. **Certification Under Penalty of Perjury.** All technical reports required in conjunction with this Order shall include a statement by the Discharger, or an authorized representative of the Discharger, certifying under penalty of perjury under the laws of the State of California, that the reports were prepared under his or her supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted, and that based on his or her inquiry of the person or persons who manage the system, the information submitted is, to the best of his or her knowledge and belief, true, complete, and accurate.
23. **Modification, Revocation, Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for an Order modification, rescission, or reissuance, or the Discharger's notification of planned changes or anticipated noncompliance, does not stay any Order condition. Causes for modification include, but are not limited to, the violation of any term or condition contained in this Order, a material change in the character, location, or volume of discharge, a change in land application plans or sludge use/disposal practices, or the adoption of new regulations by the State Water Board, Regional Water Board (including revisions to the Basin Plan), or federal government.

Any person aggrieved by this Regional Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the statutes and regulations applicable to filing petitions are available on the State Water Board's website and can be provided upon request.

### **Order Attachments**

Attachment A—Vicinity Map

Attachment B—Facility Layout

Attachment C—Process Flow Diagram

Monitoring and Reporting Program R7-2022-0014

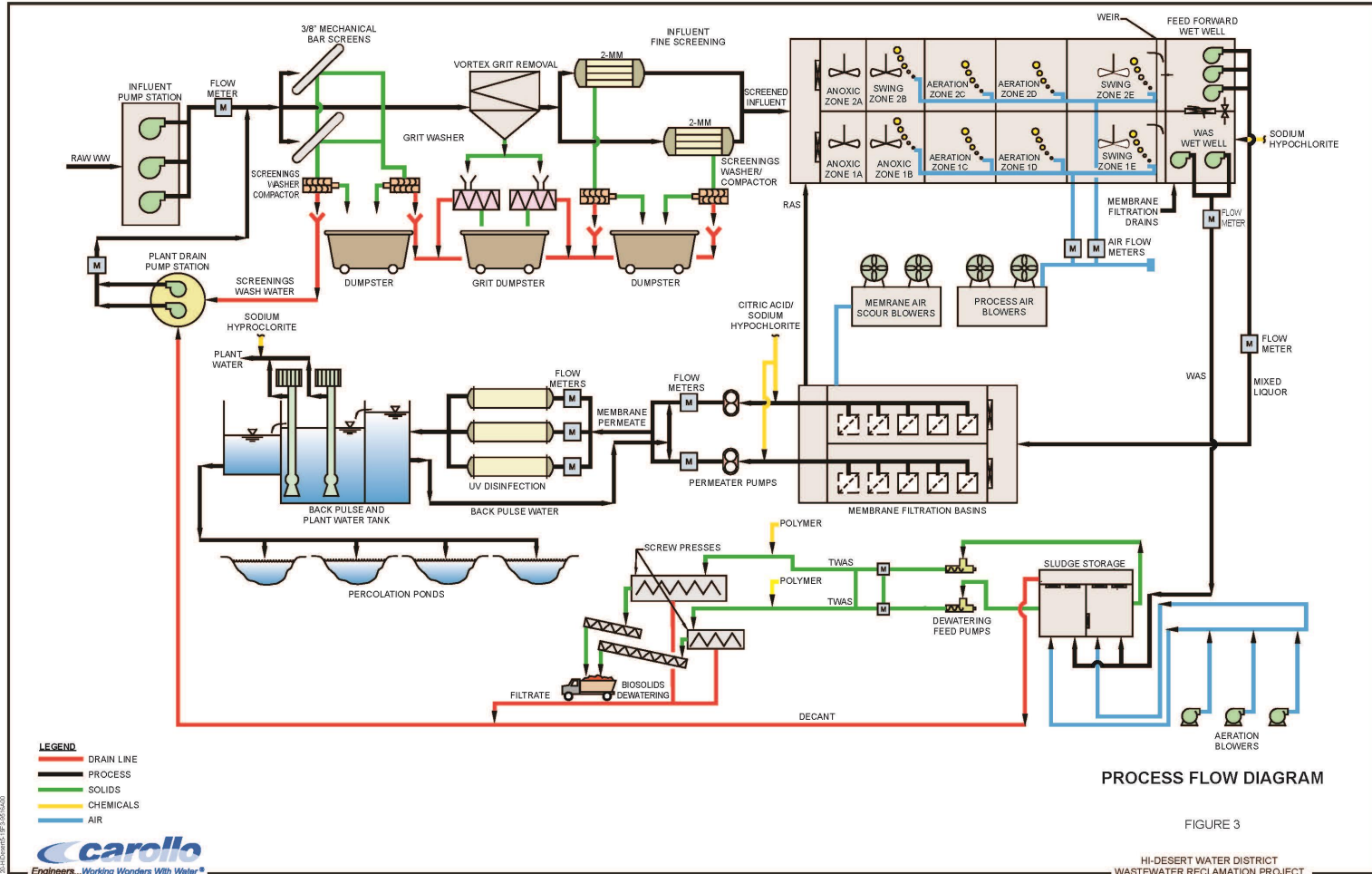
**ATTACHMENT A—VICINITY MAP**



**ATTACHMENT B—FACILITY LAYOUT**



**ATTACHMENT C—PROCESS FLOW DIAGRAM**



PROCESS FLOW DIAGRAM

FIGURE 3

HI-DESERT WATER DISTRICT  
 WASTEWATER RECLAMATION PROJECT



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN

**MONITORING AND REPORTING PROGRAM R7-2022-0014**

HI-DESERT WATER DISTRICT  
YUCCA VALLEY WASTEWATER RECLAMATION PLANT  
YUCCA VALLEY  
SAN BERNARDINO COUNTY

Adopted by the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board or Board) pursuant to Water Code section 13267, subdivision (b)(1), this Order establishes an updated Monitoring and Reporting Program (MRP) for the Hi-Desert Water District (Discharger) and its Valley Wastewater Reclamation Plant (WRP or Facility), and immediately supersedes the prior program associated with Waste Discharge Requirements Order R7-2015-0043.

**A. SAMPLING AND ANALYSIS GENERAL REQUIREMENTS**

1. **Testing and Analytical Methods.** The collection, preservation, and holding times of all samples shall be in accordance with U.S. Environmental Protection Agency (USEPA)-approved procedures. All analyses shall be conducted in accordance with the latest edition of either the USEPA's *Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act* (40 C.F.R. part 136) or *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium* (SW-846), unless otherwise specified in the MRP or approved by the Regional Water Board's Executive Officer.
2. **Laboratory Certification.** All analyses shall be conducted by a laboratory certified by the State Water Resources Control Board (State Water Board), Division of Drinking Water's Environmental Laboratory Accreditation Program (ELAP), unless otherwise approved by the Regional Water Board's Executive Officer.
3. **Reporting Levels.** All analytical data shall be reported with method detection limits (MDLs) and with either the reporting level or limits of quantitation (LOQs) according to 40 Code of Federal Regulations part 136, Appendix B. The laboratory reporting limit for all reported monitoring data shall be no greater than the practical quantitation limit (PQL).
4. **Sampling Location(s).** Samples shall be collected at the location(s) specified in the WDRs. If no location is specified, sampling shall be conducted at the most representative sampling point available.
5. **Representative Sampling.** All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the

chain of custody form for the sample. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved by Regional Water Board staff.

6. **Instrumentation and Calibration.** All monitoring instruments and devices used by the Discharger shall be properly maintained and calibrated to ensure their continued accuracy. Any flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices. In the event that continuous monitoring equipment is out of service for a 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.
7. **Field Test Instruments.** Field test instruments (such as those used to test pH, dissolved oxygen, and electrical conductivity) may be used provided that:
  - a. The user is trained in proper use and maintenance of the instruments;
  - b. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
  - c. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
  - d. Field calibration reports are submitted.
8. **Records Retention.** The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, for a minimum of five (5) years from the date of the sampling or measurement. This period may be extended by request of the Regional Water Board's Executive Officer at any time. 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. All sampling and analytical results, including:
    - i. units of measurement used;
    - ii. minimum reporting limit for the analyses;
    - iii. results less than the reporting limit but above the method detection limit (MDL);
    - iv. data qualifiers and a description of the qualifiers;
    - v. quality control test results (and a written copy of the laboratory quality assurance plan);
    - vi. dilution factors, if used; and
    - vii. sample matrix type.
9. **Inoperative Facility.** 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.

**B. INFLUENT MONITORING**

Influent to the WRP shall be monitoring according to the following schedule:

**MRP Table 1. Influent Monitoring Schedule.**

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Flow	MGD <sup>3</sup>	Measurement	Daily	Monthly
20°C BOD <sub>5</sub> <sup>4</sup>	mg/L <sup>5</sup>	24 Hr. Composite	Weekly	Monthly
Total Suspended Solids (TSS)	mg/L	24 Hr. Composite	Weekly	Monthly
Total Dissolved Solids (TDS)	mg/L	Grab	Weekly	Monthly

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<sup>3</sup> Million gallons per day

<sup>4</sup> 5-Day Biochemical Oxygen Demand at 20 degrees Celsius.

<sup>5</sup> Milligrams per Liter

**C. EFFLUENT MONITORING**

Effluent from the WRP shall be monitored according to the following schedule:

**MRP Table 2. Effluent Monitoring Schedule.**

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Flow	MGD <sup>6</sup>	Measurement	Daily	Monthly
pH	s.u. <sup>7</sup>	Grab	Daily	Monthly
Turbidity	NTU <sup>8</sup>	Recorder	Continuous, 95 <sup>th</sup> percentile, peak value	Monthly
Total Coliform	MPN/100mL	Grab	Daily	Monthly
20°C BOD <sub>5</sub>	mg/L	24-hr Composite	Weekly	Monthly
Total Suspended Solids	mg/L	24-hr Composite	Weekly	Monthly
Oil and Grease	mg/L	Grab	Monthly	Monthly
Dissolved Oxygen <sup>9</sup>	mg/L	Grab	Weekly	Monthly
Total Dissolved Solids	mg/L	Grab	Weekly	Monthly

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<sup>6</sup> Million Gallons per Day

<sup>7</sup> standard pH units.

<sup>8</sup> Nephelometric Turbidity Unit

<sup>9</sup> Dissolved Oxygen shall be monitored at the upper one foot layer of the recharge basins.

MONITORING AND REPORTING PROGRAM R7-2022-0014  
 HI-DESERT WATER DISTRICT  
 YUCCA VALLEY WASTEWATER RECLAMATION PLANT  
 SAN BERNARDINO COUNTY

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Total Organic Carbon	mg/L	24-hr Composite <sup>10</sup>	Weekly	Monthly
Ammonia as N	mg/L	Grab	2/Week <sup>14</sup>	Monthly
Nitrate as N	mg/L	Grab	2/Week <sup>14</sup>	Monthly
Nitrite as N	mg/L	Grab	2/Week <sup>14</sup>	Monthly
Total Nitrogen	mg/L	Grab	2/Week <sup>11</sup>	Monthly
UV Transmittance	%	Recorder	Continuous	Monthly
UV Dose	mW-s/cm <sup>2</sup>	Calculated	Continuous	Monthly
Inorganic Chemicals <sup>12</sup>	mg/L	Grab	Quarterly	Quarterly
Radionuclides <sup>13</sup>	mg/L	Grab	Quarterly	Quarterly
Organic Chemicals <sup>14</sup>	mg/L	Grab	Quarterly	Quarterly
Disinfection Byproducts <sup>15</sup>	µg/L <sup>16</sup>	Grab	Quarterly	Quarterly

<sup>10</sup> A grab sample may be used if HDWD can demonstrate the grab sample is representative of the water quality in a 24-hour period.

<sup>11</sup> After 24 months of monitoring, may be reduced with Division and RWQCB approval if average of all samples does not exceed 5 mg/L and the average of a result and its confirmation sample does not exceed 10 mg/L.

<sup>12</sup> List found in California Code of Regulations (CCR), Title 22, Table 64431-A, except for nitrogen compounds.

<sup>13</sup> List found in CCR, Title 22, Tables 64442 and 64443.

<sup>14</sup> List found in CCR, Title 22, Table 6444-A.

<sup>15</sup> List found in CCR, Title 22, Table 64533-A.

<sup>16</sup> micrograms per liter

MONITORING AND REPORTING PROGRAM R7-2022-0014  
 HI-DESERT WATER DISTRICT  
 YUCCA VALLEY WASTEWATER RECLAMATION PLANT  
 SAN BERNARDINO COUNTY

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Lead and Copper	mg/L	Grab	Quarterly	Quarterly
Chemicals with Notification Levels (NL)	µg/L	Grab	Quarterly <sup>17</sup>	Quarterly
Sucralose (as an indicator compound)	µg/L	Grab	Quarterly	Quarterly
MBAS and CTAS	mg/L	24-hr Composite	Annually	Annually
Total Hardness	mg/L	24-hr Composite	Annually	Annually
Priority Pollutants <sup>18</sup>	µg/L	24-hr Composite	Quarterly <sup>19</sup>	Annually
Secondary Drinking Water Contaminants <sup>20</sup>	mg/L	Grab	Annually	Annually

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<sup>17</sup> After two years of sampling, may be reduced to annual with Division and RWQCB approval

<sup>18</sup> USEPA list of Priority Pollutants are found in Appendix A to 40 CFR Part 423

<sup>19</sup> After two years of sampling, may be reduced to annual with Division and RWQCB approval

<sup>20</sup> List found in CCR, Title 22, Tables 64449-A and 64449-B.

**D. DOMESTIC WATER SUPPLY MONITORING**

The domestic water supply shall be monitored at a location or in a manner that is representative of actual TDS concentrations of domestic water distributed to the community according to the following schedule:

**MRP Table 3. Domestic Supply Monitoring Schedule.**

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly

**E. GROUNDWATER MONITORING**

Groundwater monitoring constituents and schedule may be revised based on a request from the DDW, by the Colorado River Water Board’s Executive Officer for cause, including request by the Discharger. The approved groundwater monitoring network shall be monitored for the following constituents according to the following schedule:

**MRP Table 4. Groundwater Monitoring Schedule.**

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Depth to Groundwater	ft	measurement	Quarterly	Quarterly
pH	s.u.	Grab	Quarterly	Quarterly
Fecal Coliform	MPN/100mL	Grab	Quarterly	Quarterly
Total Coliform	MPN/100mL	Grab	Quarterly	Quarterly
Enterococcosus	MPN/100mL	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly



Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Ammonia as N	mg/L	Grab	Quarterly	Quarterly
Nitrate as N	mg/L	Grab	Quarterly	Quarterly
Nitrite as N	mg/L	Grab	Quarterly	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly	Quarterly
MBAS and CTAS	mg/L	Grab	Annually	Annually
Total Hardness	mg/L	Grab	Annually	Annually
Priority Pollutants	µg/L	Grab	Annually	Annually
Sucralose	µg/L	Grab	Annually	Annually

**F. SLUDGE MONITORING**

Prior to disposal, sludge that is generated at the WRP shall be sampled and analyzed for the following:

**MRP Table 5. Sludge Monitoring Schedule.**

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Arsenic	mg/kg <sup>21</sup>	Composite	Annually	Annually
Cadmium	mg/kg	Composite	Annually	Annually
Copper	mg/kg	Composite	Annually	Annually
Lead	mg/kg	Composite	Annually	Annually

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<sup>21</sup> milligrams per kilogram.

Constituent	Units	Type of Sample	Monitoring Frequency	Reporting Frequency
Mercury	mg/kg	Composite	Annually	Annually
Molybdenum	mg/kg	Composite	Annually	Annually
Nickel	mg/kg	Composite	Annually	Annually
Selenium	mg/kg	Composite	Annually	Annually
Zinc	mg/kg	Composite	Annually	Annually
Fecal Coliform	MPN/gram <sup>22</sup>	Composite	Annually	Annually

**G. PRETREATMENT REPORTING**

1. In the event that significant industrial wastewater is being discharged to the WRP, the Discharger shall in the annual report describe the pretreatment program activities over the prior twelve (12) month period. The report shall be submitted by **January 31<sup>st</sup>** and include the following:
  - a. A summary of actions taken by the Discharger which ensures industrial-user compliance;
  - b. An updated list of industrial users (by SIC categories) which were issued permits, and/or enforcement orders, and a status of compliance for each user; and
  - c. The name and address of each user that received a revised discharge limit.
  
2. As specified in Pretreatment Provision F.1, in the event that an approved pretreatment program is required, the Discharger shall submit a pretreatment program for review and approval by the Regional Water Board.

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<sup>22</sup> Most Probable Number per gram.

## H. REPORTING REQUIREMENTS

1. Daily, weekly, and monthly monitoring shall be included in the Monthly Self-Monitoring Reports (SMRs). Monthly SMRs shall be submitted by the **15th day of the following month**. Quarterly SMRs shall be submitted by **January 15th, April 15th, July 15th, and October 15th**. Annual SMRs shall be submitted by **January 31st** of the following year.
2. Monthly and quarterly SMRs shall include, at a minimum, the following:
  - a. **Cover Letter.** A transmittal letter summarizing the essential points in the report.
  - b. **Maps.** Maps depicting the Facility layout and the location of sampling points.
  - c. **Summary of Monitoring Data.** Tables of the data collected. Each row shall be a monitoring event and each column shall be a separate parameter at a single location (or a single average, as appropriate).
  - d. **Compliance Summary.** Identification of any violations found since the last report was submitted, and actions taken or planned for correcting each violation. If the Discharger previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. If no violations have occurred since the last submittal, this shall be stated.
3. Annual SMRs shall include, at a minimum the following:
  - a. **Cover Letter.** A transmittal letter summarizing the essential points in the report.
  - b. **Maps.** Maps depicting the Facility layout and the location of sampling points.
  - c. **Summary of Monitoring Data.** Tables of the data collected. The tables shall include all of the data collected to-date at each monitoring point, organized in chronological order, with the oldest data in the top row and progressively newer data in rows below the top row. Each row shall be a monitoring event and each column shall be a separate parameter at a single location (or a single average, as appropriate).

- d. **Graphical Display.** Graphs depicting monitoring parameters through time, with the concentrations being the y-axis and time being the x-axis. Logarithmic scales can be used for values that vary by orders of magnitude. Individual graphs can combine multiple locations or multiple chemicals if that allows the data to be compared more easily.
  - e. **Pretreatment Report.** Information concerning significant industrial wastewater discharged to the treatment facility, and an affirmative statement concerning whether there is a need to establish an industrial pretreatment program.
  - f. **Operation and Maintenance Summary.** Information concerning operation and maintenance of the facility, including documentation showing the calibration of flow meters and equipment, modifications to the Operation and Maintenance Manual, and any modifications or updates to the Discharger's wastewater rules and/or regulations.
  - g. **Compliance Summary.** Identification of any violations found since the last report was submitted, and actions taken or planned for correcting each violation. If the Discharger previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. If no violations have occurred since the last submittal, this shall be stated.
4. SMRs shall be certified under penalty of perjury to be true and correct. Each SMR submitted to the Regional Water Board shall contain the following completed declaration:

"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 fine and imprisonment for knowing violations.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Title)"

5. The SMRs and any other information requested by the Regional Water Board shall be signed by a principal executive officer or ranking elected official. 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.
6. 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.
7. As specified in Standard Provision H.16, technical reports shall be prepared by or under the direction of appropriately qualified professional(s). Each technical report submitted shall contain a statement of qualification of the responsible licensed professional(s) as well as the professional's signature and/or stamp of the seal.
8. As specified in Standard Provision H.15, the Discharger shall comply with Electronic Submittal of Information (ESI) requirements by submitting all correspondence and reports required under MRP R7-2022-0014 and any future revision(s) hereto, including groundwater monitoring data and discharge location data (latitude and longitude), correspondence, and PDF monitoring reports to the State Water Board's GeoTracker database. Documents too large to be uploaded into GeoTracker should be broken down into smaller electronic files and labelled properly prior to uploading into GeoTracker.