

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION

BOARD ORDER R7-2018-0001

WASTE DISCHARGE REQUIREMENTS  
FOR  
COACHELLA VALLEY WATER DISTRICT, OWNER/OPERATOR  
WASTEWATER RECLAMATION PLANT 10  
Palm Desert – Riverside County

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

1. Coachella Valley Water District (Discharger or CVWD) owns and operates a wastewater collection system and Wastewater Reclamation Plant 10 (WRP10 or Facility) that provides sewerage service to the residents and businesses of the Cities of Palm Desert, Rancho Mirage and portions of Cathedral City and Indian Wells.
2. The Discharger submitted a Report of Waste Discharge (ROWD), dated April 11, 2014, to update Waste Discharge Requirements (WDRs) for the Facility, which is located at 43000 Cook Street, Palm Desert, California, 92211. The Discharger submitted an updated ROWD on October 16, 2017. A vicinity map is shown in Attachment A, incorporated herein and made part of this Order by reference.
3. WRP10 is in the south  $\frac{1}{2}$  of the northwest  $\frac{1}{4}$  and the north  $\frac{1}{2}$  of the southwest  $\frac{1}{4}$  of Section 15, Township 5 South, Range 6 East, San Bernardino Base and Meridian (SBB&M). The Facility is assigned the California Integrated Water Quality System (CIWQS) No. CW-247419, Waste Discharge Identification (WDID) No. 7A330105012 and GeoTracker Global ID No. WDR100029854.
4. The discharge from the Facility is currently regulated by WDRs Order 00-008, adopted on June 28, 2000. The wastewater collection system is regulated under State Water Resources Control Board General Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.
5. WDRs Order 00-008 must be updated to incorporate design modifications that have taken place at the Facility and to implement the most current laws and regulations applicable to the discharge. The Facility has been regulated by the Colorado River Basin Water Board since its construction in 1971 by Board Order 72-7 and subsequent Board Orders.
6. The Discharger proposes to construct and operate a Groundwater Replenishment Project (GRP) on portions of the original Facility. The GRP will not be covered by this Order, and this Order redefines the Facility boundaries to remove the nine northern-most evaporation/percolation ponds from the Facility. The Discharger has indicated the nine removed ponds are no longer needed and have been taken out of service. The pipelines leading to the ponds are scheduled to be permanently

abandoned-in-place in the near future. The proposed GRP involves: (1) repurposing these ponds as recharge basins, and (2) constructing new infiltration basins within the Whitewater River Stormwater Channel south of WRP10. The scope of this Order is limited to the Facility as described in this Order and does not include authorization of the unrelated GRP. The Colorado River Basin Water Board hereby expressly reserves all legal rights and privileges with respect to the GRP.

### **Wastewater Treatment Facility and Discharge**

7. WRP10 is an activated sludge treatment plant that provides secondary and tertiary treatment to domestic municipal wastewater and two (2) septage receiving facilities. The secondary wastewater treatment system has a design capacity of 18.0 million gallons per day (MGD) and currently treats an average daily flow of approximately 9 MGD. Secondary treated wastewater is discharged to nine evaporation/percolation ponds for disposal. The tertiary treatment system has a design treatment capacity of 15.0 MGD. Disinfected tertiary treated wastewater is used as recycled water for golf course and landscape irrigation. In addition, the WRP10 contains a lined storage basin for tertiary treated wastewater, seven storage basins for secondary treated wastewater, nine evaporation/percolation ponds, and two concrete and PVC-lined surface impoundments. One of the surface impoundments serves as a retention reservoir for Colorado River water from the Mid-Valley Pipeline (MVP), and the other is a blending reservoir for tertiary effluent and Colorado River water.
8. The secondary treatment system consists of three mechanical bar screens, one aerated grit chamber, one vortex type grit chamber, 16 aeration basins, and 14 secondary clarifiers.
9. The tertiary treatment system consists of two separate tertiary treatment units with a combined design treatment capacity of 15.0 MGD. One of the tertiary treatment units has a 10.0 MGD treatment capacity and includes coagulation, flocculation and dual media filtration (sand and anthracite). The second tertiary treatment unit has a 5.0 MGD treatment capacity and includes coagulation and continuous deep-bed, and up-flow sand filtration. Both tertiary treatment units include a chlorine contact chamber for disinfection (total of 2 chlorine contact chambers). Tertiary treated wastewater from the two treatment units is comingled after disinfection and then blended with Coachella Canal water in the T2 High and Low Pressure Pump Station wetwell or in one of the concrete PVC-lined surface impoundments.
10. Secondary sludge is pumped from the activated sludge treatment units to the solids handling facility for thickening and dewatering. The solids handling facilities consist of two dissolved air flotation thickeners, sludge holding tank and two belt presses. The design capacity of the solids handling facilities is 36 tons dry weight per day.
11. The solids removed from the grit chamber are disposed of at an appropriately permitted landfill. The discharger has contracted the service of a private contractor to haul away the treated secondary sludge. In the event that the Discharger's private contractor is unable to provide service for secondary sludge removal and disposal,

the Discharger plans to transport secondary sludge to the Discharger's Water Reclamation Plant No. 4 as a contingency plan for temporary storage.

12. A process flow schematic of the Facility is shown in Attachment B, made part of this Order by reference.
13. The Discharger currently treats an annual average daily flow of approximately 9 MGD at WRP10. The volume of secondary effluent treated to tertiary standards for recycling purposes depends on the seasonal golf course and landscape irrigation demand. When the demand for recycled irrigation water is low, disinfected tertiary treated water is stored in a 5-million gallon lined and covered holding basin onsite. Excess secondary treated effluent is piped to the seven storage basins where it can either be further treated for recycled reuse or disposed of to the evaporation/percolation ponds. Unused secondary effluent and any unused tertiary treated effluent are pumped to the evaporation/percolation basins for disposal.
14. Tertiary treated effluent from WRP10 is currently used as recycled water for golf course and landscape irrigation by a total of 18 different recycled water customers in Palm Desert and Indian Wells. Some effluent is also used on-site at the WRP10 facility for landscape irrigation, in accordance with the California Code of Regulations (CCR), Title 22, Division 4, Chapter 3, as approved by the State Water Resources Control Board – Division of Drinking Water (DDW). Averaged annually, approximately 6 MGD of treated wastewater is used as recycled water for irrigation purposes while the balance of approximately 3 MGD is discharged to the evaporation/percolation ponds.
15. The Discharger reports that there are currently no significant industrial users discharging to WRP10.
16. The Discharger's Self-Monitoring Reports (SMRs) for the five-year period spanning from March 2012 through February 2017 characterize WRP10 influent as follows:

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Total Influent Flow	MGD <sup>1</sup>	9.52	12.204	8.078
Total Suspended	mg/L <sup>2</sup>	348	648	202
20°C CBOD <sup>3</sup>	mg/L	282	510	165

17. The Discharger's SMRs from March 2012 through February 2017 characterize WRP10 secondary treated effluent as follows:

	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
pH	pH	6.7	7.4	6.2
Settleable Solids	ml/L <sup>4</sup>	<0.1	<0.1	<0.1

<sup>1</sup> MGD – million gallons per day

<sup>2</sup> mg/L – milligrams per liter

<sup>3</sup> CBOD – Carbonaceous Biochemical Oxygen Demand

<sup>4</sup> ml/L – milliliters per liter

Total Suspended Solids	mg/L	6.8	15	2.5
20°C CBOD	mg/L	3.5	5.9	1.4
Total Dissolved Solids	mg/L	460	530	360
Sulfate	mg/L	69	82	54
Chloride	mg/L	75	140	49
Fluoride	mg/L	0.7	0.9	0.5
Nitrate as N	mg/L	16	27	3.0
Nitrite as Nitrite	mg/L	0.62	3.10	ND
Total Nitrogen	mg/L	15	28	4.0

18. The Discharger's SMRs from March 2012 through February 2017 characterize the WRP10 tertiary treated effluent as follows:

#### Tertiary Plant 1

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorine Residual	mg/L	7.74	9.41	5.21
Turbidity	NTU <sup>5</sup>	0.67	1.11	0.26
Fecal Coliform	MPN/100ml <sup>6</sup>	<1.1	<1.1	<1.1
Modal Contact Time	mg*min/L <sup>7</sup>	>450	>450	>450

#### Tertiary Plant 2

<u>Constituent</u>	<u>Units</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorine Residual	mg/L	7.07	9.01	3.49
Turbidity	NTU	0.81	1.28	0.35
Fecal Coliform	MPN/100ml	<1.1	<1.1	<1.1
Modal Contact Time	mg*min/L	>450	>450	>450

#### Hydrogeologic Conditions

19. Annual precipitation in Palm Desert area averages approximately 3.6 inches and annual evapotranspiration is approximately 72 inches.

20. The Whitewater River Stormwater Channel is located immediately south of the WRP10 site.

21. Water supply to the communities of Palm Desert, Rancho Mirage, and parts of Cathedral City and Indian Wells that are serviced by the Discharger's wastewater collection system is from groundwater production wells within the Coachella Valley Groundwater Basin. The Discharger's SMRs indicate that the water supply has an average Total Dissolved Solids (TDS) concentration of approximately 230 mg/L.

22. Data submitted by the discharger indicates that depth to groundwater in the vicinity

<sup>5</sup> NTU – Nephelometric Turbidity Units

<sup>6</sup> MPN/100ml – most probable number per 100 milliliters

<sup>7</sup> mg\*min/L – milligram-minutes per liter

of the plant is between 202 to 267 feet below ground surface. The soil texture below the plant ranges from fine sand to gravel.

23. In 1995, the Discharger installed groundwater monitoring wells MW1 (intended to be upgradient), MW2 and MW3 (intended to be downgradient) to monitor the impact of wastewater discharged to groundwater in the area of the evaporation/percolation ponds. Groundwater monitoring wells MW1, MW2 and MW3 were located on-site at the WRP10 facility. In January 2011, the Discharger reported that the groundwater monitoring wells were deteriorated and in need of replacement. In addition, the Discharger reported that the wells were located in the area influenced by groundwater mounding resulting from discharges to the evaporation/percolation ponds. Therefore, MW1 may not represent upgradient conditions, and MW2 and MW3 may not effectively monitor the impact that the onsite wastewater discharges have on areal groundwater. Subsequently, the Discharger installed MW4 (intended to be upgradient), and MW5 and MW6 (both intended to be downgradient) off-site as replacement monitoring wells. The location of the wells is shown in Attachment C, incorporated herein and made part of this Order by reference. As part of this Order, CVWD will be required to monitor the groundwater mound created by the discharge to the evaporation/percolation ponds using groundwater monitoring wells within the mound.
24. The Discharger has reported quarterly groundwater quality results from water samples collected from monitoring wells MW1, MW2 and MW3. The following water quality data are average values spanning the period April 2009 through July 2012 for Wells MW1, MW2 and MW3.

	<u>Units</u>	<u>MW1 (upgradient)</u>	<u>MW2 (downgradient)</u>	<u>MW3 (downgradient)</u>
Groundwater Elevation	Feet Relative to Mean Sea Level	-30	-28	-35
TDS	mg/L	584	455	464
Sulfate	mg/L	198	72	49
Chloride	mg/L	105	71	78
Fluoride	mg/L	0.12	0.14	0.10
Nitrate as N	mg/L	7.36	9.01	3.14
Total Nitrogen	mg/L	7.94	9.20	3.12

25. The Discharger has reported quarterly groundwater quality data for monitoring wells MW4, MW5 and MW6. The following water quality data are average values for wells MW4, MW5 and MW6 for the period spanning August 2012 through September 2017:

	<u>Units</u>	<u>MW4 (upgradient)</u>	<u>MW5 (downgradient)</u>	<u>MW6 (downgradient)</u>
Groundwater Elevation	Feet Relative to Mean Sea Level	-31	-52	-54
TDS	mg/L	701	737	568

Sulfate	mg/L	167	178	161
Chloride	mg/L	47	86	83
Fluoride	mg/L	0.17	0.3	0.16
Nitrate as N	mg/L	6.0	19	11
Total Nitrogen	mg/L	6.2	19	11

26. Historical information from as early as the 1930's found elevated nitrate and TDS concentrations in groundwater in the Indian Wells area. Huberty et al (1948) found that the elevated groundwater concentrations were likely a by-product of flood irrigation of the nearby date groves, which leached salts and nitrates out of the shallow soil, including from the remnants of a mesquite forest that had been located in this area. The lateral extent of elevated salt and nitrate concentrations in the groundwater and the change in concentration through time are not known.
27. There are no domestic wells within 500 feet of the on-site evaporation/percolation basins.
28. Regional groundwater flow in the area is generally from west to east.
29. WRP10 is in a seismically active desert region.

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

30. The Water Quality Control Plan for the Colorado River Basin (Basin Plan), which was adopted on November 17, 1993 and amended on March 7, 2017, designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan (including amendments adopted by the Colorado River Basin Water Board to date). Pursuant to section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of CWC section 13241.
31. The discharge is within the Coachella Hydrologic Subunit, and the Basin Plan designated beneficial uses for groundwater include:
  - a. Municipal supply (MUN),
  - b. Industrial supply (IND), and
  - c. Agricultural supply (AGR).
32. This Order establishes WDRs pursuant to Division 7, Chapter 4, Article 4 of the CWC (for discharges that are not subject to regulation under Section 402 of the Clean Water Act (33 U.S.C. § 1342)).
33. These WDRs implement numeric and narrative 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 of the CCR. The Basin Plan states that:

- a. Groundwater for use as domestic or municipal water supply (MUN) must not contain taste or odor-producing substances in concentrations that adversely affect beneficial uses as a result of human activity.
- b. Groundwater designated for use as domestic or municipal supply (MUN), the concentration of coliform organisms shall not exceed the limits specified in section 64426.1 of Title 22 of the CCR.

34. The Basin Plan, in Chapter 3 Water Quality Objectives, Section IV Ground Water Objectives, states that the goal of the Colorado River Basin Water Board is to maintain the existing water quality of all non-degraded groundwater basins. Generally, groundwater that is pumped returns to the basin after use with an increase in mineral concentrations such as TDS, nitrate, etc., that are picked up by water during its use. Under these circumstances, the Colorado River Basin Water Board's objective is to minimize the quantities of contaminants reaching groundwater. This is achieved by establishing required management practices for major discharges to land. The Effluent Limitations and Special Provisions of this Order require the Discharger to develop management practices that effectively minimize the quantities of contaminants reaching the groundwater in the area of the evaporation/percolation ponds.

35. 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. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

36. Section 13267 of the CWC authorizes the Colorado River Basin Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement state requirements and demonstrate compliance with the Order. The State Water Resources Control Board's (State Water Board) electronic database, GeoTracker Information Systems, facilitates the submittal and review of facility correspondence, Discharger requests, and monitoring and reporting data. This Order modifies the previous MRP established under WDRs Order 00-008.

37. The discharge as authorized by this 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 requirements of the Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, Division 2, Subdivision 1 of the CCR (Title 27), commencing with section 20005. This exemption is based on section 20090(a) of

Title 27, which states in relevant part that discharges of domestic sewage or treated effluent, and treatment or storage facilities associated with municipal wastewater treatment plants, are exempt provided that such discharges are regulated by WDRs consistent with applicable water quality objectives, and that residual sludges or solid waste from wastewater treatment facilities are discharged only in accordance with the applicable Title 27 provisions. This Order regulates the discharge of domestic wastewater and associated treatment and storage facilities in a manner consistent with applicable surface and ground water quality objectives, and residual sludges or solid waste from the Facility will be managed pursuant to Title 27.

38. Pursuant to CWC 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.

### **Water Recycling Regulatory Considerations**

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)). The discharge as authorized by this Order is consistent with the State's Recycled Water Policy and meets the requirements of Title 22, Division 4, Chapter 3, section 60301 of the CCR to assure protection of public health.
40. The State Water Board adopted a Recycled Water Policy (Policy) on February 3, 2009 and amended the Policy on January 22, 2013. Section 7.b.(4) of the amended Policy states that permits or requirements for landscape irrigation projects shall include, in addition to any other appropriate recycled water monitoring requirements, monitoring for priority pollutants in the recycled water at the recycled water production facility once per year, except when the recycled water production facility has a design production flow for the entire water reuse system of one MGD or less. For these smaller facilities, recycled water shall be monitored for priority pollutants once every five years. Priority pollutants are those identified in 40 CFR Part 423, Appendix A.
41. The State Water Resources Control Board – Division of Drinking Water (DDW) [formerly, the California Department of Public Health (CDPH)], 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). DDW has promulgated regulatory criteria in Title 22, Division 4, Chapter 3, section 60301 et seq. of the CCR. DDW regulatory criteria include specified approved uses of recycled water, numerical limitations and requirements, treatment method requirements and performance standards. DDW regulations allow use of alternate methods of treatment in some cases, so long as the alternate methods are determined by DDW to provide equivalent treatment and reliability.
42. DDW has established statewide reclamation criteria for the use of recycled water and has developed guidelines for specific uses:



- a. Recycled water used for surface irrigation of the following is required to be at least disinfected secondary recycled water (22 CCR section 60301.225):
    - i. Cemeteries,
    - ii. Freeway landscaping,
    - iii. Restricted access golf courses,
    - iv. Ornamental nursery stock and sod farms where access by the general public is not restricted
    - v. Pasture for animals producing milk for human consumption, and
    - vi. 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.
  - b. Recycled water used for surface irrigation of the following is required to be at least disinfected tertiary recycled water (22 CCR section 60301.230):
    - i. Food crops, including all edible root crops, where the recycled water comes into contact with the edible portion of the crop,
    - ii. Parks and playgrounds,
    - iii. School yards,
    - iv. Residential landscaping,
    - v. Unrestricted access golf courses, and
    - vi. Any other irrigation use not specified in section 60304 and not prohibited by other sections of the CCR.
43. The discharge as authorized by this Order is consistent with the State Water Board's Recycled Water Policy and the CWC. The disinfected tertiary recycled water standard found in Title 22, section 60301.230 of the CCR is an appropriate level of treatment and performance for the intended reuse.
44. On June 7, 2016, the State Water Board adopted Order WQ 2016-0068-DDW Water Reclamation Requirements for Recycled Water Use (General Order). The Discharger has informed the Colorado River Basin Water Board that it intends to enroll in the General Order by June 6, 2019 as a Water Recycling Administrator for the Discharger's service areas and to update its Title 22 Engineering Report for WRP10.

### **State Anti-Degradation Policy**

45. State Water Board Resolution 68-16, entitled the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (Resolution 68-16), states:
- "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not

unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.”

If an activity may result in degradation to high quality waters, Resolution 68-16 further states:

“Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.”

46. The Colorado River Basin Water Board has determined that some degradation of groundwater from the discharge to the evaporation/percolation ponds is consistent with Resolution 68-16 because any limited degradation:

- a. Is confined to a reasonable area;
- b. Is minimized by means of full implementation, regular maintenance, and optimal operation of best practicable treatment and control (BPTC) measures by the Discharger;
- c. Is limited to waste constituents typically encountered in domestic wastewater;
- d. Does not unreasonably effect any beneficial uses of groundwater prescribed in the Basin Plan, and will not result in the violation of any water quality objective; and
- e. Is consistent with the maximum benefit to the people of the state.

47. Constituents in the Facility effluent that have the potential to degrade groundwater include nitrogen, coliforms (pathogen-indicator organisms), TDS, chloride and sulfate. Each of these constituents is discussed below:

- a. **Nitrogen.** The Discharger’s SMRs from March 2012 through February 2017 indicate that total nitrogen in the effluent ranges from 4.0 to 28 mg/L and average 15 mg/L. Groundwater monitoring samples have been collected from six wells around WRP10 MW1 and MW4 are designated as “upgradient wells” but may not be far enough upgradient to be outside of the area affected by the infiltrating wastewater. Upgradient wells MW1 and MW4 show total nitrogen concentrations averaging 7.9 and 6.2 mg/L respectively. Downgradient wells MW2, MW3, MW5, and MW6 show total nitrogen concentrations averaging 9.2, 3.1, 19 and 11 mg/L respectively. These data indicate that the discharge of treated wastewater to the evaporation/percolation ponds is contributing nitrate to groundwater. Groundwater concentrations exceed the Primary MCL prescribed in Title 22, CCR section 64431.

Using recycled water for golf course and landscape irrigation has reduced the amount of nitrogen entering the groundwater in the area of the evaporation/percolation ponds. The Discharger currently recycles approximately 60 percent of the secondary treated wastewater. Even with

reductions in nitrogen loading due to increased water recycling, continuation of the existing treatment and evaporation/percolation pond disposal practices poses a potential threat to the beneficial use of groundwater.

This Order includes groundwater limitations for nitrogen in Section G. Special Provisions, Section F, of this Order also requires that the Discharger conduct a comprehensive investigation regarding the vertical and lateral extent of nitrogen in the groundwater in the vicinity of WRP10, and evaluate Discharger's contribution to nitrate in the groundwater.

- b. **Coliforms.** Secondary treatment reduces fecal coliform densities by 90 to 99%; the remaining organisms in effluent are still  $10^5$  to  $10^6$  most probable number (MPN) per 100 milliliters (U.S. Environmental Protection Agency, *Design Manual, Municipal Wastewater Disinfection*; October 1986). Given the depth to groundwater, it is not likely that pathogen-indicator bacteria will reach groundwater in excess of that prescribed in Title 22 of the CCR, due to significant attenuation and removal in the soils in the vadose zone. To verify no degradation due to pathogen-indicator organisms is occurring, this Order adds quarterly total coliform and E. coli monitoring for the groundwater monitoring wells.
- c. **TDS.** During the period of March 2012 through February 2017, the Discharger's SMRs show that effluent from WRP10 had a TDS range of 360 to 530 mg/L with an average of 460 mg/L. Under WDRs Order 00-008, TDS was measured based on the incremental addition of TDS above that of the community water supply. Domestic water supply to the community showed an average TDS concentration of about 210 mg/L from March 2012 to February 2017. The average TDS increase in the effluent for this facility over the domestic water supply from March 2012 to February 2017 was about 250 mg/L.

TDS in groundwater in the vicinity of the WRP10 ponds averaged 701 mg/L at well MW4, 737 mg/L at well MW5 and 568 mg/L at well MW6 from August 2012 and December 2017. (MW4 is designated as an "upgradient well" but may not be far enough upgradient to be outside of the area affected by the infiltrating wastewater). Title 22, section 64449 of the CCR lists a Recommended Secondary MCL for TDS of 500 mg/L, an Upper Level of 1000 mg/L and a Short Term Level of 1500 mg/L.

To minimize further degradation of the groundwater from TDS, this Order establishes restrictions intended to minimize current and long-term impacts to beneficial uses. This Order introduces an interim effluent limitation for TDS based on the 99<sup>th</sup> percentile of the Facility effluent over the previous three years, which was 530 mg/L for the period ending September 2017. Because the interim effluent limit exceeds the recommended secondary MCL, a Special Provision of this Order requires that the Discharger conduct an investigation of the vertical and lateral extent of groundwater containing TDS in excess of 500 mg/L, evaluate options for reducing TDS in the effluent, and evaluate Discharger's contribution to TDS concentrations in the groundwater. The results of the TDS investigation will be used to develop a final TDS effluent limit consistent with water quality and public health goals.

d. **Chloride and Sulfate.** WDRs Order 00-008 contains annual effluent limitations of 70 mg/L for chloride and 70 mg/L for sulfate. The Discharger's monitoring data indicates an increase in chloride and sulfate concentrations in the effluent has occurred over the past 20 years. Chloride and sulfate are present in the water supply, and one of the causes for the increased concentrations of these constituents may be water conservation measures in the community that have significantly reduced influent flow to the Facility. The Discharger's monitoring found maximum chloride concentrations of 140 mg/L and maximum sulfate concentrations of 82 mg/L. Title 22 of the CCR lists a Recommended Secondary MCL for both chloride and sulfate of 250 mg/L, an Upper Level of 500 mg/L and a Short-Term Level of 600 mg/L. This Order replaces the individual effluent limitations for chloride and sulfate with an interim TDS effluent limitation. The TDS investigation, described above, will be used to develop a final TDS effluent limit consistent with water quality and public health goals. The TDS effluent limit is expected to provide the necessary protection to groundwater beneficial use, while giving the Discharger the flexibility to continue and expand water conservation efforts.

48. The discharge of wastewater from WRP10, as permitted herein, reflects best practicable treatment or control (BPTC) for the treatment technology currently in use at WRP10 (activated sludge for secondary treatment and tertiary treatment for recycled water use). 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 68-16. WRP10 incorporates:

- a. Technology for secondary and tertiary treated domestic wastewater;
- b. Solids handling facilities;
- c. An operation and maintenance manual;
- d. A network of groundwater monitoring wells;
- e. Staffing to assure proper operation and maintenance; and
- f. A standby emergency power generator of sufficient size to operate the treatment plant and ancillary equipment during periods of loss of commercial power.

49. This Order also establishes an updated groundwater monitoring program to ensure compliance with the receiving groundwater limitations of this Order and determine whether additional or revised effluent limitations are necessary to protect water quality.

50. Degradation of groundwater by some of the typical waste constituents associated with discharges from a regional utility treating municipal 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 for the

relevant municipalities far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. The economic prosperity of valley communities and associated industries is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

### **Storm Water**

51. Federal regulations for storm water discharges were promulgated by the U.S. Environmental Protection Agency on November 16, 1990 (40 CFR Parts 122, 123, and 124) to implement the Clean Water Act's storm water program set forth in Clean Water Act Section 402(p) (33 U.S.C. §1342(p)). In relevant part, the regulations require specific categories of facilities that discharge storm water associated with industrial activity to "waters of the United States" to obtain 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.
52. The State Water Board adopted Water Quality 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, including land dedicated to the disposal of sewage sludge, that are within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 CFR Part 403, are required to enroll under the Industrial General Permit unless there is no discharge of industrial storm water to waters of the U. S. There are no storm water discharges from the Facility to waters of the U.S. because all storm water generated at the Facility is directed to the evaporation/percolation ponds and does not leave the boundaries of the Facility. Therefore, the Discharger is not required to enroll under the Industrial General Permit.

### **CEQA and Public Participation**

53. In accordance with section 15301, Chapter 3, Title 14 of the CCR, the issuance of these WDRs, which govern the operation and permitting 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.).
54. The Colorado River Basin Water 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.
55. The Colorado River Basin Water Board, in a public meeting, heard and considered

all comments pertaining to this discharge.

**IT IS HEREBY ORDERED**, that WDRs Order 00-008 is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the CWC and the 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 CWC section 13173, is prohibited.
2. Discharge of treated wastewater in a manner or a location, other than as described in the findings, is prohibited.
3. WRP10 shall be operated and maintained to prevent untreated sewage or partially or fully 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. Surfacing or ponding of wastewater outside of the designated disposal locations is prohibited.
6. Bypass or overflow of untreated or partially treated waste is prohibited.

**B. Effluent Limitations**

1. Effluent discharged to the evaporation/percolation ponds for disposal shall not exceed the following effluent limits:

<u>Constituent</u>	<u>Units</u>	<u>Weekly Average</u>	<u>Monthly Average</u>	<u>Annual Average</u>
20° C CBOD <sub>5</sub> <sup>7</sup>	mg/L	30	20	-----
Total Suspended Solids	mg/L	30	20	-----
Settleable Solids	ml/L	0.5	0.3	-----
TDS (Interim)	mg/L	-----	-----	530

2. The 30-day monthly average daily flow rate into the WRP10 facility shall not exceed design secondary treatment capacity of 18.0 MGD.
3. The 30-day monthly average daily discharge rate of recycled tertiary treated water for use as golf course or landscape irrigation shall not exceed the design tertiary treatment capacity of 15.0 MGD.

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<sup>7</sup> 5-day Carbonaceous Biochemical Oxygen Demand at 20° C

4. The pH of the effluent from WRP10 shall not be below 6.0 or above 9.0.
5. Disinfected Tertiary recycled water directly reused shall conform to the following:
  - a. The filtered wastewater shall be disinfected by either:
    - i. A chlorine disinfection process following filtration that provides a Contact Time (CT) (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; 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 viruses (such as MS2 and polio virus) in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for the purposes of this demonstration. Using total coliform bacteria as the indicator organism, the median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed a most probable number (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.
  - b. For wastewater that has been coagulated, the wastewater shall be passed through natural undisturbed soils or a bed of filter media pursuant to the following:
    - i. The flow rate shall 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 shall 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 shall not exceed any of the following:
      - (1) An average of 2 Nephelometric Turbidity Units (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.
  - c. The turbidity of wastewater that has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane shall 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.
  - d. For wastewater that has not been coagulated:

- i. filter effluent turbidity shall not exceed 2 NTU;
- ii. the turbidity of the influent to the filters shall be continuously measured;
- iii. the influent turbidity shall not exceed 5 NTU for more than 15 minutes and never exceeds 10 NTU; and
- iv. the capability to automatically activate chemical addition or divert the wastewater should the filter influent turbidity exceed 5 NTU for more than 15 minutes shall be maintained.

### **C. Groundwater Limitations**

1. Discharge from the Facility shall not cause groundwater to exceed water quality objectives; acquire taste, odor, toxicity, or color that creates nuisance conditions; impair beneficial uses; or contain constituents in excess of California Maximum Contaminant Levels (MCLs), as set forth in Title 22 of the CCR (section 64426.1 for bacteriological constituents; section 64431 for inorganic chemicals; section 64432.1 for nitrates; and section 64444 for organic chemicals; and section 64678 for lead and copper action levels).

### **D. Discharge Specifications**

1. The treatment or disposal of wastes from the WRP shall not cause pollution or nuisance as defined in sections 13050(l) and 13050(m) of Division 7 of the CWC, respectively.
2. For purposes of odor control, the evaporation/percolation ponds shall be maintained so they will be kept in aerobic conditions. The dissolved oxygen content in the upper zone (one foot) of percolation ponds shall not be less than 1.0 mg/L. If there is no water in the evaporation/percolation ponds, the monitoring report shall state "No standing water in ponds" in place of reporting dissolved oxygen concentration.
3. A minimum depth of two feet of freeboard shall be maintained at all times in the percolation ponds.
4. 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.
5. The evaporation/percolation 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.
6. 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.
7. The Discharger shall not accept waste in excess of the design treatment capacity of the disposal system.
  8. Public contact with non-disinfected wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
  9. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal area.
  10. WRP10 shall be operated and maintained to comply with BPTC.

#### **E. Industrial Pretreatment**

1. The Discharger shall include in the annual report required pursuant to the MRP an evaluation of the performance of WRP10, including a discussion of capacity and any potential pretreatment issues. The Discharger shall also notify Colorado River Basin Water Board staff as soon as the Discharger determines that a pretreatment program becomes necessary for compliance with this Order, including avoidance of nuisance conditions. If a pretreatment program becomes necessary pursuant to 40 CFR Part 403.8, this Order may be reopened to require the Discharger to develop, adopt, and enforce an adequate industrial pretreatment program.

#### **F. Special Provisions**

1. **Within three months** of adoption of this Order, the Discharger shall submit to the Colorado River Basin Water Board a workplan that describes the methods to be used to prepare a technical report to evaluate the vertical and lateral extent of groundwater containing greater than 10 mg/L nitrogen and evaluate overall TDS impacts in the vicinity of WRP10. The technical report shall address the following issues:
  - a. The adequacy of the monitoring well network with regard to upgradient “background” water quality.
  - b. The adequacy of the existing monitoring network to monitor the hydraulic head associated with infiltration of the wastewater.
  - c. The anticipated vertical and lateral extent of elevated nitrogen and TDS concentrations based on historical infiltration volumes, infiltration head, and groundwater flow velocities, and the method to be used to test the accuracy of this prediction.
  - d. The potential threat to existing water supply wells posed by groundwater containing elevated nitrogen and/or TDS concentrations, based on both the

- location and well-screen interval of the threatened wells.
- e. Proposed methods to evaluate the Discharger's nitrogen and TDS contribution to groundwater in the vicinity of WRP10.
  - f. A schedule for implementation of the workplan.

The workplan shall include details regarding the sampling locations and methods, the chemical testing program, and the methods to be used to evaluate the data obtained. The workplan and schedule shall be submitted for approval by the Colorado River Basin Water Board's Executive Officer. The discharger shall submit the technical report in accordance with the approved schedule.

2. **Within three months** of adoption of this Order, submit an up-to-date copy of the Operations and Maintenance Manual for the Facility.
3. **By December 31, 2022**, the Discharger must submit an updated ROWD (Form 200 and all necessary application documentation) that describes upgrades and modifications performed to WRP10 and any planned upgrades and modifications to be completed.

#### 4. **Certification**

- a. 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, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly 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.
- b. 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 assure that qualified personnel properly gather 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.

#### **G. Standard Provisions**

1. The Discharger shall comply with all of the conditions of this Order. Noncompliance

is a violation of the Porter-Cologne Water Quality Control Act (CWC section 13000 et seq.), and is grounds for enforcement action.

2. The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all correspondence and reports required under Monitoring and Reporting Program (MRP) R7-2018-0001, and future revisions thereto, including groundwater monitoring data and discharge location data (latitude and longitude), correspondence, and pdf monitoring reports to the State Water Board's GeoTracker database (<https://geotracker.waterboards.ca.gov/>). Documents that are normally mailed by the Discharger, such as regulatory documents, narrative technical monitoring program reports, and such reports submissions, materials, data, and correspondence, to the Colorado River Basin Water Board shall also be uploaded into GeoTracker in the appropriate Microsoft software application, such as word, excel, or an Adobe Portable Document Format (PDF) file. Large documents are to be split into manageable file sizes appropriately labelled and uploaded into GeoTracker.
3. The Discharger shall not cause degradation of any water supply in a manner inconsistent with State Water Board Resolution 68-16.
4. Standby, power-generating facilities shall be available to operate the Facility during a commercial power failure.
5. 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.
6. WRP10 shall be supervised and operated by persons possessing certification of appropriate grade pursuant to section 3680, Chapter 26, Division 3, Title 23 of the CCR.
7. 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 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 Colorado River Basin Water Board's Executive Officer on request.
8. The Discharger shall ensure that all site-operating personnel are familiar with the content of this Order, and shall maintain a copy of this Order at the site.
9. The Discharger shall allow the Colorado River Basin 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 CWC, any substances or parameters at this location.
10. 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 Colorado River Basin Water Board's Executive Officer.
  11. Any proposed change in use or disposal of biosolids requires the approval of the Colorado River Basin 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.
  12. 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.
  13. 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 Colorado River Basin Water Board specifying location and method of disposal, before disposing of treated or untreated sludge, or similar solid waste.
  14. 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 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 Order and as required by 40 CFR Part 503. The results of the analyses shall be submitted to the Colorado River Basin Water Board as part of the MRP.
  15. The Discharger shall provide a report to the Colorado River Basin Water Board when it determines that the plant'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 plant reaches design capacity.

16. 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 Colorado River Basin Water Board, and obtain revised requirements.
17. Prior to a change in ownership or management of WRP10, the Discharger shall transmit a copy of this Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Colorado River Basin Water Board.
18. The Discharger shall provide adequate notice to the Colorado River Basin Water Board Executive Officer of the following:
  - a. The introduction of pollutants into any treatment facility described in the Findings of this 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 Order, by an existing or new source; and
  - c. Any planned physical alteration or addition to the facilities described in this Order, or change planned in the Discharger's sludge use or disposal practice, where such alterations, additions, or changes may justify the application of Order conditions that are different from or absent in the existing Order, including notification of additional disposal sites not reported during the Order application process, or not reported pursuant to an approved land application plan.
19. The Discharger shall report any noncompliance that may endanger human health or the environment. The noncompliance shall be reported immediately to the Colorado River Basin Water Board's 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.

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 Colorado River Basin Water Board office in accordance with the above time limits.

20. 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 Colorado River Basin Water Board's Executive Officer, or if required by an applicable standard for sludge use and disposal.

21. In the event of an unanticipated by-pass, the Discharger shall immediately report the incident to the Colorado River Basin Water Board. During non-business hours, the Discharger shall leave a message on the Colorado River Basin 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.

### **General Conditions**

22. This Order does not authorize violation of any federal, state, or local laws or regulations.
23. This 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.
24. This Order may be modified, rescinded, or reissued, for cause. The filing of a request by the Discharger for a modification, rescission or reissuance of this Order, or notification of planned changes or anticipated noncompliance, does not stay any 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, including the Colorado River Basin Water Board (including but not limited to amendments to the Basin Plan), or federal government.

I, Jose Angel, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of a Order adopted by the California Regional Water Quality Control Board, Colorado River Basin, on March 8, 2018.

Original signed by  
JOSE L. ANGEL, P.E.  
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION  
MONITORING AND REPORTING PROGRAM R7-2018-0001  
FOR  
COACHELLA VALLEY WATER DISTRICT, OWNER/OPERATOR  
WASTEWATER RECLAMATION PLANT 10  
Palm Desert – Riverside County

Location of Discharge:  
S ½, NW ¼, and the N ½, SW ¼, Section 15, T5S, R6E, SBB&M

**A. Monitoring**

1. This Monitoring and Reporting Program (MRP) describes requirements for monitoring the wastewater system and groundwater quality subject to Waste Discharge Requirements (WDRs) Order R7-2018-0001. This MRP is issued pursuant to California Water Code (CWC) section 13267. The Coachella Valley Water District (Discharger) shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board, Colorado River Basin (Colorado River Basin Water Board) or its Executive Officer.

2. CWC section 13267 states, in relevant part:

“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

3. CWC section 13268 states, in relevant part:

“(a) (1) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of section 13399.2, or falsifying any information provided therein, is guilty of a misdemeanor, and may be liable civilly in accordance with subdivision (b). (b) (1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars (\$1,000) for each day in which the violation occurs.”

4. The Discharger owns and operates the wastewater system that is subject to WDRs Order R7-2018-0001. The reports required herein are necessary to ensure that the Discharger complies with that Order. Pursuant to CWC section 13267, the Discharger shall implement the MRP and shall submit the monitoring reports described herein.
5. All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved by Colorado River Basin Water Board staff.
6. 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 as described in the "Reporting" section of this MRP.
7. 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 Colorado River Basin Water Board's Executive Officer, all analyses shall be conducted by a laboratory certified by the State The Water Resources Control Board Division of Drinking Water. 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.
8. 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.
9. Samples shall be collected at the location specified in the WDRs. If no location is specified, sampling shall be conducted at the most representative sampling point available.



10. Given the monitoring frequency prescribed by this MRP and WDRs Order R7-2018-0001, 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.
11. 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 MRP, and records of all data used to complete the application for this MRP, 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.
12. 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 Colorado River Basin Water Board indicating that there has been no activity during the required reporting period.

### Influent Monitoring

13. Influent to WRP10 shall be monitored according to the following schedule:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Total Flow	MGD <sup>1</sup>	Flow Measurement	Daily <sup>2</sup>	Monthly
20°C CBOD <sub>5</sub> <sup>3</sup>	mg/L <sup>4</sup>	24-Hr. Composite	Weekly	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite	Weekly	Monthly

<sup>1</sup> MGD – million gallons per day

<sup>2</sup> Reported for each day with average monthly flow calculated.

<sup>3</sup> 5-day Carbonaceous Biochemical Oxygen Demand

<sup>4</sup> mg/L – milligrams per liter

### Secondary Effluent Monitoring

14. Effluent from WRP10 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>
20°C CBOD <sub>5</sub>	mg/L	24-Hr. Composite	Twice-Weekly	Monthly
Total Suspended Solids	mg/L	24-Hr. Composite	Twice-Weekly	Monthly
Settleable Matter	ml/L <sup>5</sup>	Grab at Peak Flow	Twice-Weekly	Monthly
pH	pH units	Grab	Daily	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Major Anions (Cl, SO <sub>4</sub> , HCO <sub>3</sub> , CO <sub>3</sub> )	mg/L	Grab	Annually	Annually
Major Cations (Ca, Mg, Na, K)	mg/L	Grab	Annually	Annually
Nitrate (NO <sub>3</sub> -N) as Nitrogen	mg/L	Grab	Monthly	Monthly
Nitrite	mg/L	Grab	Monthly	Monthly
Total Nitrogen	mg/L	Grab	Quarterly	Quarterly
Volatile Organic Compounds (VOCs) <sup>6</sup>	mg/L <sup>7</sup>	Grab	Quarterly	Quarterly

### Tertiary Effluent Monitoring

15. Tertiary treated effluent for use as recycled water 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>
Volume of Wastewater used for irrigation at each location	MGD	Flow Measurement	Daily	Monthly

<sup>5</sup> ml/L – milliliters per liter

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

<sup>7</sup> µg/L – micrograms per liter

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Coliform	MPN/100 mL <sup>8</sup>	Grab	Daily	Monthly
Turbidity	NTU <sup>9</sup>	Continuous	Meter Reading	Monthly
Chlorine Residual	mg/L <sup>10</sup>	Continuous	Meter Reading	Monthly
Chlorine Contact Time (CT)	mg*min/L <sup>11</sup>	Calculation	Daily	Monthly
Priority Pollutants <sup>12</sup>	mg/L <sup>13</sup>	Grab	Annually	Annually
Major Anions (Cl, SO <sub>4</sub> , HCO <sub>3</sub> , CO <sub>3</sub> )	mg/L	Grab	Annually	Annually
Major Cations (Ca, Mg, Na, K)	mg/L	Grab	Annually	Annually

The Discharger shall provide the following information regarding off-site use of 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 Colorado River Basin Water Board's Executive Officer of any changes regarding the location and quantity of recycled water provided to individual customers.

### Pond Monitoring

16. The Discharger shall monitor each of the wastewater treatment and evaporation/percolation ponds as specified:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH	pH units	Grab	Weekly	Monthly
Dissolved Oxygen <sup>14</sup>	mg/L	Grab	Weekly	Monthly
Freeboard	0.1 feet	Observation	Monthly	Monthly
Berm Condition	----	Observation	Monthly	Monthly

<sup>8</sup> MPN/100 mL – Most Probable Number per 100 milliliters

<sup>9</sup> NTU – Nephelometric Turbidity Units

<sup>10</sup> mg/L – milligrams per liter

<sup>11</sup> Milligram minutes per liter is chlorine concentration x modal contact time.

<sup>12</sup> 40 CFR Part 423, Appendix A

<sup>13</sup> µg/L – micrograms per liter

<sup>14</sup> Samples shall be collected from opposite the inlet at a depth of one foot and from each pond in use.

Odors                                ----                                Observation                                Monthly                                Monthly

If there is little or no water in the percolation/evaporation ponds, the monitoring report shall state “No standing water in ponds” in place of reporting dissolved pH and dissolved oxygen concentration.

**Water Supply to the Community**

17. 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>
pH	Standard units	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Major Anions (Cl, SO4, HCO3, CO3)	mg/L	Grab	Annually	Annually
Major Cations (Ca, Mg, Na, K)	mg/L	Grab	Annually	Annually
Nitrate	mg/L	Grab	Monthly	Monthly

For the major ion analyses, these samples shall be obtained from multiple wells within the service area of the Facility to evaluate the range of concentrations found in the area, and from a potable water outlet (tap water) to represent blended concentrations.

**Groundwater Monitoring**

18. The Discharger shall monitor groundwater wells MW4, MW5, and MW6, and any other wells installed to comply with this Order according to the following schedule [report in Geotracker in Electronic Data Format (EDF)]:

<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	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

Total Coliform Organisms	MPN/100mL	Grab	Quarterly	Quarterly
Major Anions (Cl, SO <sub>4</sub> , HCO <sub>3</sub> , CO <sub>3</sub> )	mg/L	Grab	Quarterly	Quarterly
Major Cations (Ca, Mg, Na, K)	mg/L	Grab	Quarterly	Quarterly
E. coli	MPN/100mL	Grab	Quarterly	Quarterly
VOCs	µg/L	Grab	Quarterly	Quarterly
Groundwater elevation (MSL) <sup>15</sup>	0.01ft	Calculated	Quarterly	Quarterly
Depth to Groundwater (bgs) <sup>16</sup>	0.01ft	Measurement	Quarterly	Quarterly
Flow Gradient	feet/foot	Calculated	Quarterly	Quarterly
Flow Direction	degrees	Calculated	Quarterly	Quarterly

### Sludge Monitoring

19. The Discharger shall report annually on the quantity, location and method of disposal of all sludge and similar solid materials being produced at the WRP10. 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 WRP10 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 <sup>17</sup>	Composite	Annually	Annually
Cadmium	mg/kg	Composite	Annually	Annually
Copper	mg/kg	Composite	Annually	Annually
Lead	mg/kg	Composite	Annually	Annually
Mercury	mg/kg	Composite	Annually	Annually
Molybdenum	mg/kg	Composite	Annually	Annually
Nickel	mg/kg	Composite	Annually	Annually

<sup>15</sup> Groundwater elevation shall be based on depth-to-water using a surveyed measuring point elevation above Mean Sea Level.

<sup>16</sup> bgs – below ground surface

<sup>17</sup> mg/kg – milligrams per kilogram

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Selenium	mg/kg	Composite	Annually	Annually
Zinc	mg/kg	Composite	Annually	Annually
Fecal Coliform	MPN/gram <sup>18</sup>	Composite	Annually	Annually

## B. Reporting

### Operation and Maintenance

1. The Discharger shall inspect and document any operation/maintenance problems by inspecting each unit process including groundwater monitoring wells. 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 Colorado River Basin Water Board Office annually.
2. The annual Operation and Maintenance report shall include the following:
  - a. Documentation showing the calibration of flow meters and equipment as performed in a timely manner annually;
  - b. Modifications and updates to the Operation and Maintenance Manual;
  - c. Operator certification status update including number of staff and grade certification.
  - d. Modifications and updates to the Discharger's waste water ordinance or rules and regulations.
3. The Discharger shall provide an operator certification status update including number of staff and grade certification annually.
4. 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 WDRs. Where appropriate, the Discharger shall include supporting calculations (e.g., for monthly averages).
5. The results of any analysis taken more frequently than required at the locations specified in this MRP shall be reported to the Colorado River Basin Water Board.
6. The annual report shall also contain an affirmative statement concerning whether there is a need to establish an industrial pretreatment program.
7. Self-Monitoring Reports (SMRs) shall be certified under penalty of perjury to be true and correct, and shall contain the required information at the frequency

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<sup>18</sup> MPN/gram – Most Probable Number per gram

designated in this MRP.

8. Each Report must contain an affirmation in writing that states:

"All analyses were conducted at a laboratory certified for such analyses by and in accordance with current USEPA procedures or as specified in this Monitoring and Reporting Program."

9. Each Report shall contain the following completed declaration:

"I certify under the penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. 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.

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

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

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

10. The SMRs, and other information requested by the Colorado River Basin Water Board, shall be signed by a principal executive officer or ranking elected official of the Discharger.
11. A duly authorized representative of the Discharger may sign the documents if:
- The authorization is made in writing by the person described above;
  - The authorization specifies an individual or person having responsibility for the overall operation of the regulated disposal system; and
  - The written authorization is submitted to the Colorado River Basin Water Board's Executive Officer.
12. The Discharger shall attach a cover letter to the SMRs. 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.
13. Annual reports shall include an evaluation of the performance of WRP10, including a discussion of capacity and pretreatment issues, in filtration and inflow rates, nuisance conditions, on-going constituent trend analysis, and a two-year forecast of anticipated flow increases.

14. Quarterly groundwater monitoring reports shall include, at a minimum, the following:

- a) Maps depicting the facility layout and the location of sampling points and monitoring wells.
- b) Map depicting groundwater elevations in the monitoring wells, including the inferred direction of groundwater flow. This map shall include all of the elevations obtained from monitoring wells located within a one mile radius of the Facility boundary to which the Discharger has access. The contour intervals on the groundwater elevation map shall be small enough to show areas of groundwater mounding, if present.
- c) Tables of the data collected. The tables shall include all of the data collected to-date at each monitoring point, organized with the oldest data in the top row, and progressively newer data in rows below the top row. Each row shall be a separate date and each column shall be a separate parameter at a single location (or a single average, as appropriate). The tables shall be submitted in electronic (Excel or other tab delimited) format.
- d) Graphs depicting groundwater elevations through time, and TDS and nitrate concentrations through time, at each monitoring point. Individual graphs can combine multiple locations and/or multiple chemicals if that allows the data to be compared more easily.
- e) Piper (trilinear) diagrams of the major anions and cations, with sodium in the lower right portion of the cation triangle and chloride in the lower left portion of the anion triangle.

The Discharger can include additional figures, tables and graphs if it improves the readability of the document.

15. Daily, weekly, and monthly monitoring shall be included in the monthly monitoring report. Monthly monitoring reports shall be submitted to the Colorado River Basin Water Board by the **15<sup>th</sup> day of the following month following the monitoring period**. Quarterly monitoring reports shall be submitted by **January 15<sup>th</sup>, April 15<sup>th</sup>, July 15<sup>th</sup>, October 15<sup>th</sup>**. Annual monitoring reports shall be submitted to the Colorado River Basin Water Board by **January 15<sup>th</sup> of the following year**.

15. The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all correspondence and reports required under this MRP and future revisions thereto, including groundwater monitoring data and discharge location data (latitude and longitude), correspondence, and PDF monitoring reports to the State Water Resources Control Board's GeoTracker database. Documents that are 100 megabytes (MB) or larger should be broken down into smaller electronic files, labelled properly and uploaded into GeoTracker.

Original signed by \_\_\_\_\_  
JOSE L. ANGEL, P.E.  
Executive Officer



March 8, 2018

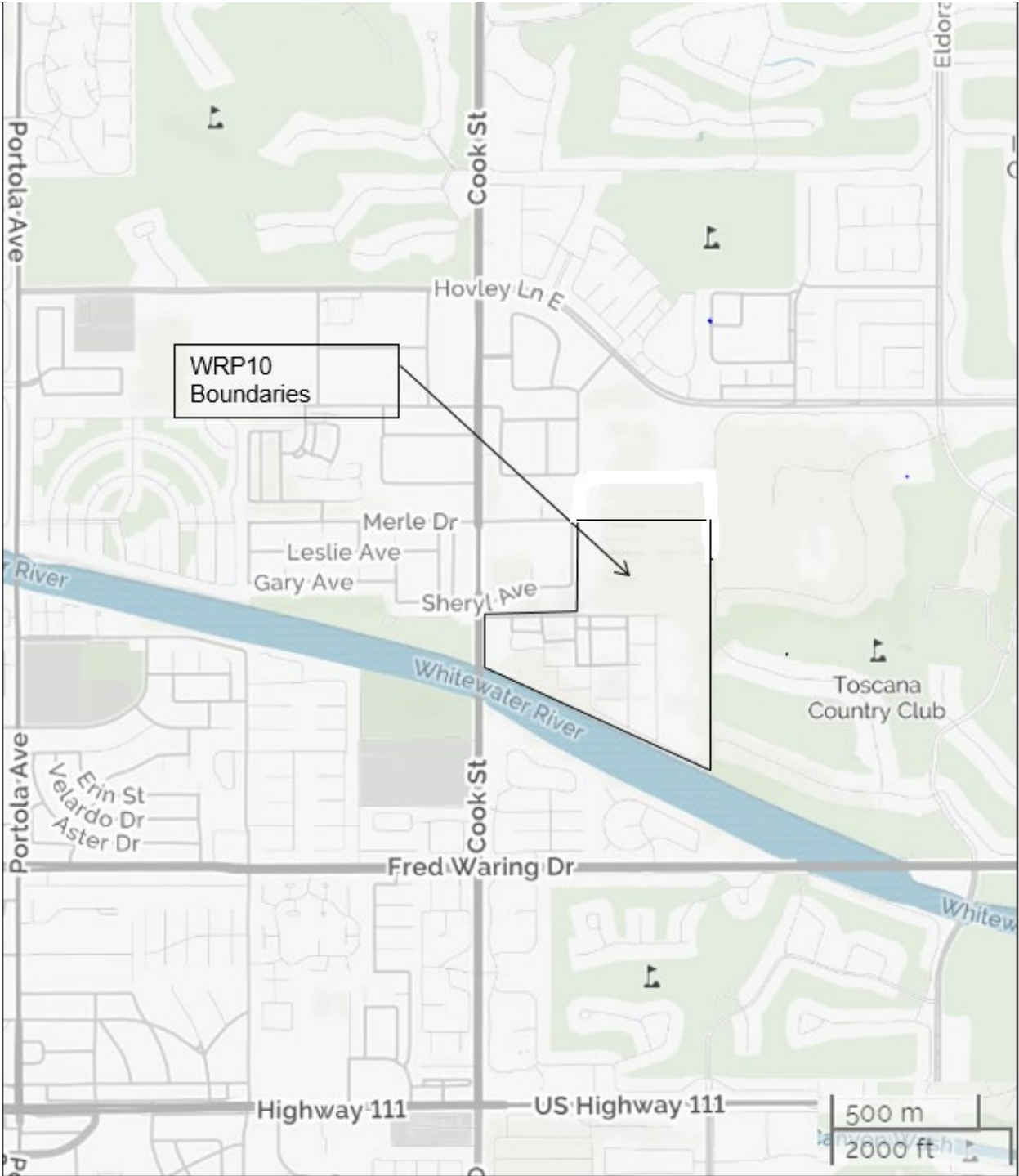
Date

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

**Attachment A – Vicinity Map**

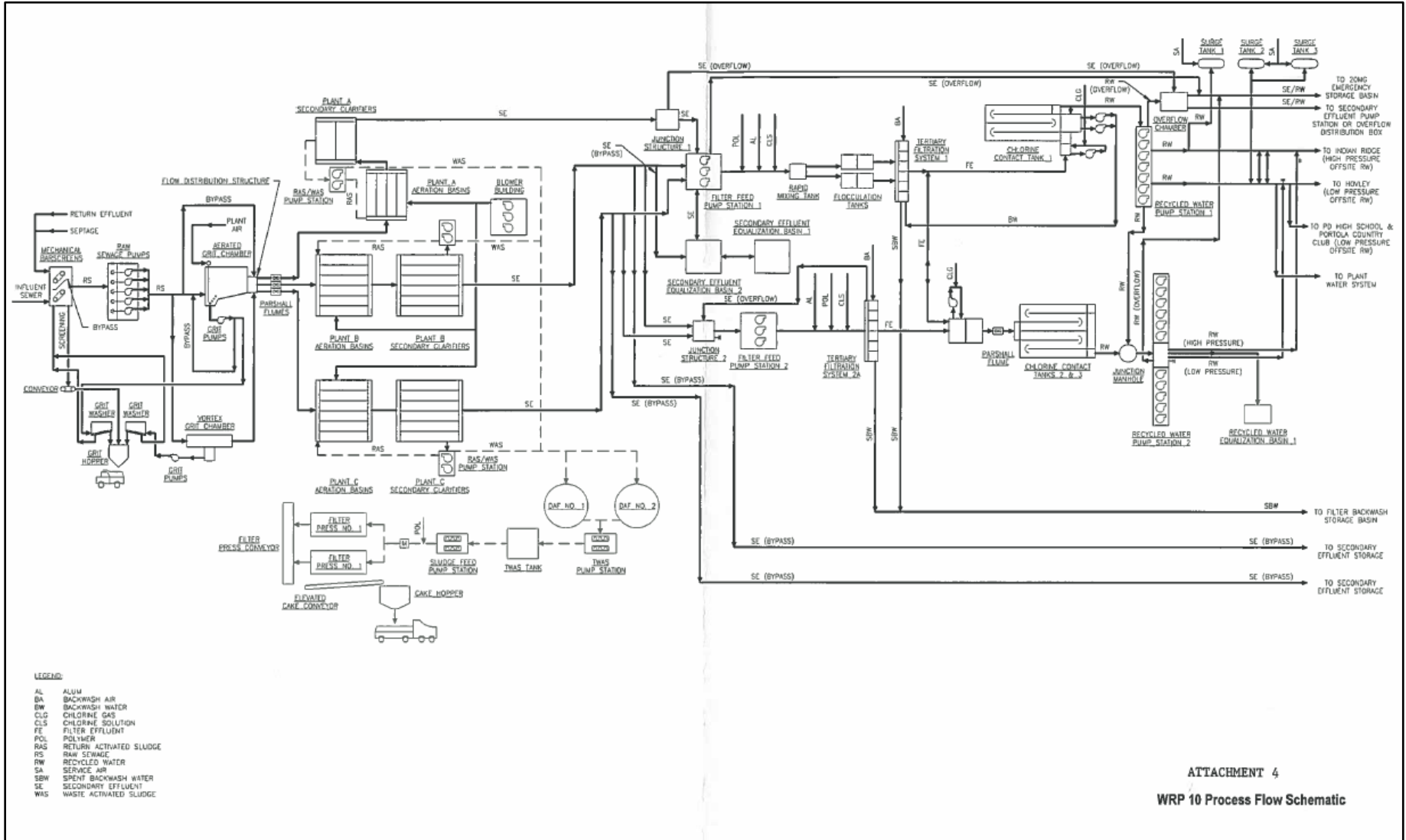
**COACHELLA VALLEY WATER DISTRICT  
WASTEWATER RECLAMATION PLANT 10  
Palm Desert - Riverside County**

Discharge Location: S ½, NW ¼, and the N ½, SW ¼, Section 15, T5S, R6E, SBB&M



**CALIFORNIA REGIONAL WATER QUALITY CONTROLBOARD  
COLORADO RIVER BASIN REGION**

**Attachment B – Schematic Flow Diagram**



CALIFORNIA REGIONAL WATER QUALITY CONTROLBOARD  
COLORADO RIVER BASIN REGION

Attachment C – Monitoring Well Locations



Monitoring Well 4 –  
Monitoring Well 5 –  
Monitoring Well 6 –