

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

**LAHONTAN REGION**

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**ORDER NO. R6V-2020-0028**  
**NPDES NO. CA0102822**  
**WDID NO. 6B360109001**

**WASTE DISCHARGE REQUIREMENTS, WATER RECLAMATION REQUIREMENTS, AND  
 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
 FOR THE VICTOR VALLEY WASTEWATER RECLAMATION AUTHORITY  
 REGIONAL WASTEWATER TREATMENT PLANT, SAN BERNARDINO COUNTY**

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

**Table 1. Discharger Information**

Discharger:	Victor Valley Wastewater Reclamation Authority
Name of Facility:	Victor Valley Regional Wastewater Treatment Plant
Facility Address:	20111 Shay Road
	Victorville, CA 92394
	San Bernardino County

**Table 2. Discharge Location**

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Advanced Tertiary Treated Municipal Wastewater	34.61694	-117.35333	Mojave River

**Table 3. Administrative Information**

This Order was adopted on:	<b>May 6, 2020</b>
This Order shall become effective on:	<b>May 6, 2020</b>
This Order shall expire on:	<b>May 6, 2025</b>
The Discharger must file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with California Code of Regulations (CCR), title 23, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	180 days prior to the Order expiration date (November 7, 2024)
The United States Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, Lahontan Region, have classified this discharge as follows:	Major

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on the date indicated above.

  
Patty Z. Kouyoumdjian, Executive Officer

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## I. FACILITY INFORMATION

Information describing the Victor Valley Regional Wastewater Treatment Plant (Facility) is summarized in Table 1 and in Sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application. This Order regulates disinfected tertiary-treated wastewater to the Mojave River and regulates the production of recycled water. The recycled water use, including the disposal of undischarged tertiary-treated wastewater at the north and south percolation ponds, are regulated in separate Orders.

## II. FINDINGS

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

- A. Legal Authorities.** This Order serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (CWC), (commencing with section 13260). This Order also serves as Water Reclamation Requirements pursuant to article 4, chapter 7, division 7 of the CWC (commencing with section 13500). This Order is also issued pursuant to the federal Clean Water Act (CWA), section 402, and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the CWC (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G are also incorporated as part of this Order.
- C. Order Sections Implementing State Law.** The Order sections IV.B, IV.C, and V.B are included to implement state law only. These sections are not required or authorized under the federal CWA since they pertain to land discharges and recycling water requirements. Consequently, violations of these sections are not subject to the enforcement remedies that are available for NPDES violations.
- D. California Environmental Quality Act.** This action to adopt an NPDES permit is statutorily exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code sections 21000, et seq.), pursuant to CWC, section 13389.
- E. Notification of Interested Parties.** The Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

- F. Consideration of Public Comment.** The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the public meeting are provided in the Fact Sheet.

**THEREFORE, IT IS HEREBY ORDERED** that Order No. R6V-2013-0038 is rescinded upon the effective date of this Order except for enforcement purposes. In order to meet the provisions contained in CWC, division 7 (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the discharger must comply with the requirements in this renewed Order. This action in no way prevents the Water Board from taking enforcement action for past violations of the previous Order.

### III. DISCHARGE PROHIBITIONS

In accordance with region-wide and unit/area-specific prohibitions in section 4.1 of the *Water Quality Control Plan for the Lahontan Region* (Basin Plan), unless a specific exemption is granted in writing by the Water Board, the following provisions apply.

- A.** The average annual flow to the Mojave River, as measured at monitoring location EFF-001, and as described in the Monitoring and Reporting Program (MRP), must not exceed 14.0 million gallons per day (MGD) in any calendar year.
- B.** Recycled water flow (recycled water delivery), as measured at monitoring location EFF-003, must not exceed 22 MGD as limited by the Ultra-Violet (UV) disinfection system reactor.
- C.** Discharge of treated wastewater at a location other than to surface water at the Mojave River or in a manner different from that described in this Order or other Water Board Order is prohibited.
- D.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by federal Standard Provisions I.G. and I.H. (Attachment D).
- E.** Neither the discharge nor its treatment shall create a nuisance as defined in CWC, section 13050.
- F.** The discharge of waste, that causes a violation of any narrative water quality objective contained in the Basin Plan, including the Non-degradation Objective, is prohibited.
- G.** The discharge of waste that causes a violation in the receiving water of any numeric water quality objective contained in the Basin Plan is prohibited.
- H.** Where any numeric or narrative water quality objective contained in the Basin Plan is already being violated in the receiving water, the discharge of waste that causes further degradation or pollution is prohibited.
- I.** The discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters is prohibited.
- J.** The discharge of chlorine or chlorine-containing compounds is prohibited.
- K.** The discharge of pesticides to surface or groundwaters is prohibited.

- L. The discharge of waste that could affect the quality of waters of the state that is not authorized by the state or Regional Board through waste discharge requirements, waiver of waste discharge requirements, NPDES permit, cease and desist order, certification of water quality compliance pursuant to CWA, section 401, or other appropriate regulatory mechanism is prohibited.

**IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**A. Effluent Limitations – Discharge Point 001**

**1. Interim Effluent Limitations**

Interim effluent limits are not applicable.

**2. Final Effluent Limitations – Discharge Point 001**

The Discharger must maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at monitoring location EFF-001 as described in the MRP, Attachment E. This Order regulates disinfected tertiary treated wastewater from discharge point EFF-001 to the Mojave River.

**Table 4. Final Effluent Limitations – Discharge Point 001**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
Biochemical Oxygen Demand (5-day @ 20°C) (BOD <sub>5</sub> )	Milligrams per liter (mg/L)	10	15	30	NA	NA
	lbs/day <sup>1</sup>	1,170	1,750	3,500	NA	NA
	Percent Removal	85 <sup>2</sup>	NA	NA	NA	NA
Escherichia coli (E. coli)	cfu / 100 mL	Footnotes <sup>3</sup> & <sup>4</sup>				
Fecal Coliform	MPN/ 100 mL	20 <sup>5</sup>	NA	40 <sup>6</sup>	NA	NA
pH	Standard Units	NA	NA	NA	6.5	8.5
Total Suspended Solids (TSS)	mg/L	10	15	30	NA	NA
	lbs/day <sup>1</sup>	1,170	1,750	3,500	NA	NA
	Percent Removal	85 <sup>2</sup>	NA	NA	NA	NA
<b>Priority Pollutants</b>						
Copper, Total Recoverable	µg/L	6.5	NA	12.9	NA	NA
	lbs/day <sup>1</sup>	0.76	NA	1.5	NA	NA

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Non-Conventional Pollutants</b>						
Total Ammonia-N Protective of WARM ben. use <sup>7</sup>	mg/L	0.78	NA	1.94	NA	NA
	lbs/day <sup>1</sup>	91	NA	227	NA	NA
Total Ammonia-N Protective of COLD ben. use <sup>7</sup>	mg/L	0.55	NA	1.38	NA	NA
	lbs/day	64	NA	161	NA	NA
Dissolved Oxygen	mg/L	6.5 <sup>8</sup>	5.0 <sup>8</sup>	4.0 <sup>8</sup>	NA	NA
Nitrogen, Total	mg/L	10.3	NA	12.3	NA	NA
	lbs/day <sup>1</sup>	1,203	NA	1,436	NA	NA
Total Dissolved Solids (TDS)	mg/L	460 <sup>9</sup>	NA	580	NA	NA
	lbs/day <sup>1</sup>	53,710 <sup>9</sup>	NA	67,721	NA	NA

<sup>1</sup>Based on a design average dry weather flow rate of 14 MGD.

<sup>2</sup>Minimum percent removal.

<sup>3</sup>Six week rolling Geometric Mean not to exceed 100 colony forming units (cfu) per 100 milliliters (mL).

<sup>4</sup>Statistical Threshold Value (STV) of 320 cfu/100 mL not to be exceeded in >10% of samples collected in a calendar month.

<sup>5</sup>Log mean for any 30-day period.

<sup>6</sup>Not more than 40 most probable number (MPN) per 100 milliliters (mL) in more than 10 percent (%) of all the samples collected in any 30-day period.

<sup>7</sup>VVWRA must comply with one total ammonia effluent limitation. VVWRA must comply with the total ammonia effluent limitation protective of the COLD beneficial use until USEPA approves the portion of the Water Board' Basin Plan amendment that would remove the COLD beneficial use from downstream of VVWRA's discharge location and the Water Board's Executive Officer notifies VVWRA of this effect, at which time, the total ammonia effluent limitation protective of the COLD beneficial use no longer applies. Upon notification to VVWRA by the Water Board's Executive Officer of USEPA's approval of the amendment to remove the COLD beneficial use downstream of VVWRA's discharge location, VVWRA must comply with the total ammonia effluent limitation protective of the WARM beneficial use.

<sup>8</sup>Dissolved oxygen limitations are minimum monthly mean/minimum weekly mean/minimum daily concentration.

<sup>9</sup>To be applied as an annual average effluent limitation (AAEL).

Definitions:

lbs/day = Pounds per day.

mg/L = Milligrams per liter.

MPN/100 mL = Most probable number per 100 milliliters.

µg/L = Micrograms per liter.

**B. Land Discharge Specifications**

Land discharge specifications for percolation ponds, as measured at monitoring location EFF-002, and biosolids drying units are included under Order No. R6V-2012-0058.



**C. Recycling Specifications**

1. This permit establishes recycled water production requirements and not recycled water use requirements. Recycled Water Use Requirements are regulated under a different order. This Order regulates tertiary-treated wastewater to the Mojave River and delivered recycled water to authorized use areas. The production of recycled water is regulated in this Order but the use of recycled water is regulated in a separate Notice of Applicability letter issued on January 11, 2017 enrolling the Discharger under State Water Board Order WQ 2016-0068-DDW (*Water Reclamation Requirements for Recycled Water Use*). The Discharger must operate and maintain the disinfection system to achieve equivalency to CCR, title 22, disinfected tertiary recycled water. Equivalency to CCR, title 22, disinfection must include compliance with turbidity and bacteria effluent limitations established in this Order, Section IV.C.1.b, and the UV Disinfection Operational Provisions for Recycled Water Treatment specified in this Order, Section IV.C.1.a, below.

**a. UV Disinfection Operational Provisions for Recycled Water Treatment**

- i. The UV disinfection system shall be operated to deliver a minimum UV dose of 100 millijoules per centimeter squared (mJ/cm<sup>2</sup>) at all times.
- ii. The following equations must be used in the automatic UV disinfection control system for calculating UV dose:

$$S = e^{-0.5876} \times e^{0.0456 \times UVT} \times P^{0.9574}$$

$$RED_{calc} = 10^{1.8871} \times A_{254}^{-1.4460} \times [S/S_0]^{0.9821} \times [1/Q]^{0.7970} \times B$$

Where:

UVT= Ultraviolet transmittance (UVT) at or above 52 percent. At UVT values above 72.7 percent (or  $A_{254} = 0.138$  centimeter [cm]), the value should be used as the default value in the RED calculation.

S = Measured UV sensor value (milliwatts per centimeter squared [mW/cm<sup>2</sup>]).

S<sub>0</sub> = UV intensity at 100 percent lamp power (new lamps) with clean sleeves (0.32 kilowatts per lamp [kW/lamp]), typically expressed as a function of UVT (mW/cm<sup>2</sup>).

P = Measured ballast power setting, kilowatt (kW) per lamp.

RED = Reduction Equivalent Dose (RED) calculated with the UV dose-monitoring equation (mJ/cm<sup>2</sup>).

A<sub>254</sub> = UV absorbance at 254 nanometers per centimeter (nm-cm<sup>-1</sup>).

Q = Flow rate per lamp, calculated as gallon per minute (GPM) divided by the number of lamps in one bank. At flow rates below 8.2 GPM/lamp, 8.2 GPM/lamp should be used as the default value in the RED calculation.

B = Number of operating banks.

e = 2.718285 (Greek letter with numeric value)

- iii. The UV disinfection system reactor is limited to the following operational parameter ranges:
  - (a) Operating in the 320-watt mode only.
  - (b) UVT at or above 52 percent.
  - (c) Flow up to 22 MGD under normal operating conditions with proper redundant disinfection capacity.
- iv. On-line monitoring of flow, UVT, and UV intensity must be provided at all times.
- v. UV intensity sensors, flow meters and UVT monitors must be properly calibrated to ensure proper disinfection.
- vi. The online UVT meter must be cleaned and calibrated to ensure accurate readings. At a minimum, the UVT meter must be cleaned and calibrated consistent with manufacturer recommended frequencies.
- vii. The online UVT intensity sensors must be cleaned and calibrated to ensure accurate readings. At a minimum, the UVT intensity sensors must be cleaned and calibrated consistent with manufacturer recommended frequencies or as otherwise specified herein.
- viii. The Facility must have a minimum of one reference UV intensity sensor onsite at all times. Measurements made by each duty UV intensity sensor must be checked at least monthly using a reference UV intensity sensor. 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 greater than 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.
- ix. The UVT meter must be inspected and checked against a reference benchtop unit weekly to document accuracy.
- x. If the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more, the on-line UVT analyzer must be recalibrated by a procedure recommended by the manufacturer.
- xi. Flow meters measuring the flow through the UV reactor must be verified to determine accuracy at least monthly via checking the flow reading against other flow determination methods.
- xii. The Discharger must develop and operate the UV disinfection system in accordance with an approved operations plan that clearly specifies the

operational limits and responses required for critical conditions and alarms. The Discharger has previously provided a Disinfection Operations Plan to the Water Board. Any modifications to this Operations Plan not specified by the Water Board must be approved by the California Department of Public Health and the Water Board prior to implementation.

- xiii.** A copy of the effective Disinfection Operations Plan must be maintained onsite and readily available to operations personnel and regulatory agencies. A quick reference plant operations data sheet should be posted at the treatment plant and include the following information:
  - (a) The alarm set points for turbidity, high and low flow, UV dose and transmittance, and UV lamp operation hours.
  - (b) The values of turbidity, flow, UV dose, transmittance (UVT), and UV lamp operation hours when flow must be diverted to waste.
  - (c) The required frequency of calibration for all meters measuring turbidity, UV intensity, flow, and UV transmittance.
  - (d) The required frequency of mechanical cleaning/wiping and equipment inspection.
  - (e) The UV lamp age-tracking procedures and replacement intervals.
- xiv.** The Wedeco TAK 55HP UV system must be operated with a built-in automatic reliability feature that must be triggered when the system is below the target UV doses of 100 mJ/cm<sup>2</sup> at all times. If measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available UV lamp bank or redundant channel.
- xv.** Conditions that should divert flow include inability to meet the minimum UV dose, high flow, low UV intensity, low transmittance, intensity sensor failure, multiple lamp failure, or reactor failure.
- xvi.** Equivalent replacements or substitutions of equipment are not acceptable without an adequate demonstration of equivalent disinfection performance.
- xvii.** Additional separate water recycling requirements for VVWRA are specified in a Notice of Applicability (NOA) letter, dated January 11, 2017, authorizing VVWRA to be an Administrator for the delivery and use of recycled water under State Water Board Order No. WQ 2016-0068-DDW.

**b. Additional Limitations Based on CCR, Title 22 Requirements for Disinfected Tertiary Recycled Water**

The Discharger must operate and maintain the disinfection system to achieve equivalency to CCR, title 22 disinfection with compliance measured at monitoring location EFF-003, as described in the MRP, Attachment E.

**Table 5. Final Limitations for Recycled Water Delivery – Based on CCR, Title 22 as Measured at Monitoring Location EFF-003.**

Parameter	Effluent Limitations				
	7-day Median	# Samples > 23 MPN/ 30-days	Daily Average	% Samples > 5 NTUs Within 24 Hr.	Instantaneous Maximum
Turbidity	NA	NA	2 NTUs <sup>1</sup>	5% <sup>2</sup>	10 NTUs
Total Coliform Organisms	2.2 MPN <sup>3</sup>	1 sample <sup>4</sup>	NA	NA	240N

<sup>1</sup>Effluent turbidity must not exceed an average of 2 Nephelometric Turbidity Units (NTUs) within a 24-hour period.

<sup>2</sup>Effluent turbidity must not exceed 5 NTUs more than 5 percent of the time within a 24-hour period.

<sup>3</sup>Total coliforms in effluent must not exceed a median most probable number (MPN) of 2.2 organisms per 100 milliliters (mL) based on the results of the last seven days for which analyses have been completed.

<sup>4</sup>Total coliforms in effluent must not exceed 23 MPN/100 mL in more than one sample in any 30-day period.

NA = Not Applicable.

**V. RECEIVING WATER LIMITATIONS**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Compliance with numeric receiving water limitations must be measured at monitoring locations RSW-001 and RSW-002. The discharge must not cause the following in the Mojave River:

**A. Surface Water Limitations**

1. The Discharger must not cause an exceedance of any applicable water quality standard for receiving water adopted by the Water Board or the State Water Board.
2. **Ammonia.** The neutral, un-ionized ammonia species (NH<sub>3</sub>) is highly toxic to freshwater fish. The fraction of toxic NH<sub>3</sub> to total ammonia species (NH<sub>4</sub><sup>+</sup> + NH<sub>3</sub>) is a function of temperature and pH. The Basin Plan, Tables 3-1 to 3-4, were derived from USEPA ammonia criteria for freshwater. Ammonia concentrations must not exceed the values listed for the corresponding conditions in the Basin Plan tables 3-1 to 3-4. For temperature and pH values not explicitly in the tables, the most conservative value neighboring the actual value may be used or criteria can be calculated from numerical formulas developed by the USEPA.
3. **Bacteria**
  - a. **Fecal Coliform.** Waters must not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The fecal coliform concentration during any 30-day period must not exceed a log mean of 20 MPN/100 mL, nor must more than 10 percent of all samples collected during any 30-day period exceed 40 MPN/100 mL. The log mean must ideally be based on a minimum of not less than five samples collected as evenly spaced as practicable during any 30-day period. However, a log mean concentration exceeding 20 MPN/100 mL for any 30-day period shall indicate violation of this objective even if fewer than five samples were collected.

- b. Biostimulatory Substances.** Waters must not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.
- 4. Chemical Constituents.** Waters must not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.
  - a.** The receiving waters have been designated as municipal and domestic supply (MUN) and must not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) established for drinking water and specified in CCR, title 22 that are incorporated by reference into this Order: Table 64431-A (MCLs for Inorganic Chemicals), Table 64444-A (MCLs for Organic Chemicals), Table 64449-A (Secondary MCLs, Consumer Acceptance Limits), and Table 64449-B (Secondary MCLs, Ranges).
  - b.** Waters designated as agricultural supply (AGR) must not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e., agricultural purposes).
- 5. Chlorine, Total Residual.** For the protection of aquatic life, total chlorine residual must not exceed either a median value of 0.002 mg/L or a maximum value of 0.003 mg/L. Median values shall be based on daily measurements taken within any 6-month period.
- 6. Color.** Waters must be free of coloration that causes nuisance or adversely affects the water for beneficial uses.
- 7. Dissolved Oxygen.** The dissolved oxygen concentration, as percent saturation, must not be depressed by more than 10 percent, nor must the minimum dissolved oxygen concentration be less than 80 percent of saturation. The minimum dissolved oxygen concentration must not be less than 4.0 mg/L as a daily minimum, 5.0 as a 7-day mean, and 6.5 as a 30-day mean.
- 8. Floating Materials.** Waters must not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect the water for beneficial uses. For natural high-quality waters, the concentrations of floating material must not be altered to the extent that such alterations are discernible at the 10 percent significance level.
- 9. Nondegradation of Aquatic Communities and Populations.** All wetlands must be free of substances attributable to wastewater or other discharges that produce adverse physiological responses in humans, animals, or plants; or that lead to the presence of undesirable or nuisance aquatic life. All wetlands must be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.
- 10. Oil and Grease.** Waters must not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect

the water for beneficial uses. For natural high-quality waters, the concentration of oils, greases, or other film or coat generating substances must not be altered.

- 11. **pH.** Changes in normal ambient pH levels must not exceed 0.5 pH units. The pH must not be depressed below 6.5 nor raised above 8.5. Compliance with the pH objective for these waters will be determined on a case-by-case basis.
- 12. **Radioactivity.** Radionuclides must not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Waters must not contain concentrations of radionuclides (measured in picocuries per liter [pCi/L]) in excess of limits listed in the Table 6 and as specified in CCR, title 22:

**Table 6. Receiving Water Limitations for Radionuclides**

Constituent	Limit (pCi/L)
Radioactivity, Gross Alpha	15
Radium-226 + Radium-228	5

- 13. **Sediment.** The suspended sediment load and suspended sediment discharge rate of surface waters must not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.
- 14. **Settleable Materials.** Waters must not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high-quality waters, the concentration of settleable materials must not be raised by more than 0.1 milliliters per liter (ml/L).
- 15. **Suspended Material.** Waters must not contain suspended materials in concentrations that cause nuisance or that adversely affect the water for beneficial uses. For natural high-quality waters, the concentration of total suspended materials must not be altered to the extent that such alterations are discernible at the 10 percent significance level.
- 16. **Taste and Odor.** Waters must not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish or other edible products of aquatic origin, that cause nuisance, or that adversely affect the water for beneficial uses. For naturally high-quality waters, the taste and odor must not be altered.
- 17. **Temperature.** The natural receiving water temperature of all waters must not be altered unless it can be demonstrated to the satisfaction of the Water Board that such an alteration in temperature does not adversely affect the water for beneficial uses. For waters designated WARM, water temperature must not be altered by more than 5 degrees Fahrenheit (5°F) above or below the natural temperature. For waters designated COLD, the temperature must not be altered.

The Water Board adopted a Basin Plan Amendment on June 12, 2019, removing the COLD beneficial use along portions of the Mojave River, which includes portions upstream and downstream of the VVWRA Facility to the terminus of the

river. The State Water Board approved this Basin Plan change on October 3, 2019. On March 3, 2020, the California Office of Administrative Law approved the Water Board's June 12, 2019 amendments removing the existing COLD beneficial use along portions of the Mojave River. Approval of the Basin Plan Amendments by USEPA are pending. Therefore, the most restrictive standard applies (e.g., no alteration of temperature for the COLD use) until USEPA approval of the Basin Plan amendments are granted. For purposes of compliance and enforcement, the Water Board will consider historical data and the impact of temperature alterations upon the beneficial uses of the Mojave River below the Discharge Point EFF-001.

- 18. Toxicity.** All waters must be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms; analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration and/or other appropriate methods as specified by the Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, must not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary, for other control water that is consistent with the requirements for "experimental water" as defined in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, et al. 2012 or subsequent editions).

- 19. Turbidity.** Waters must be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity must not exceed natural levels by more than 10 percent.

**B. Groundwater Limitations**

This section is not applicable. Groundwater limitations are specified in Board Order No. R6V-2012-0058.

**VI. PROVISIONS**

**A. Standard Provisions**

1. The Discharger must comply with all Standard Provisions included in Attachment D.
2. The Discharger must comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision must apply:
  - a. Surface waters as used in this Order include, but are not limited to, wetlands and live streams, either perennial or ephemeral, that flow in natural or artificial watercourses, and natural lakes and artificial impoundments of waters within the State of California.
  - b. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the Discharger from

liabilities under federal, state, or local laws, nor guarantee the Discharger a capacity right in the receiving waters.

- c. All discharges authorized by this Order must be consistent with the terms and conditions of this Order. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this Order constitutes a violation of the terms and conditions of this Order.
- d. Pursuant to CWC, section 13263, subdivision (g), no discharge of waste into the waters of the State, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the State are privileges, not rights.
- e. Failure to comply with this permit may constitute a violation of the CWC, and/or the CWA, and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.
- f. The Discharger must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.
- g. The CWC and the CWA provide for civil liability and criminal penalties for violations of the permit limits including imposition of civil liability or referral to the Attorney General.
- h. A copy of the NPDES permit must be kept at the Facility and available at all times to operating personnel.
- i. Provisions of the permit are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.
- j. The Discharger must notify the Water Board Executive Officer as soon as the Discharger or the Discharger's agents have knowledge of any discharge in violation of this permit, or any emergency discharge, or other discharge of water to the receiving water in accordance with the notification requirements in the Standard Provisions for NPDES Permits, included in this Order as Attachment D, and with CWC, sections 13267 and 13383. This notification must be given in the event the Discharger is unable to comply with any of the conditions of this Order due to:
  - i. Breakdown or serious malfunction of water treatment equipment;
  - ii. Accidents caused by human error or negligence;
  - iii. Overflows from the system; or
  - iv. Other causes such as acts of nature.
- k. Pursuant to CWC, section 13267, subdivision (b), the Discharger must notify the Water Board of any substantial change in the volume or character of pollutants introduced into the Facility from the conditions existing at the time of adoption of this NPDES permit.



- l.** Adequate notice must include information on the quality and quantity of effluent discharged into the receiving waters for the Facility, as well as any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the Facility. A substantial change in volume is considered an increase in excess of ten percent of the mean daily flow rate. The Discharger must forward a copy of such notice directly to the USEPA Regional Administrator.
- m.** The Discharger must file a ROWD with the Water Board at least 180 days before making any material change or proposed change in the character, location, or volume of the discharge.
- n.** Any change in the ownership and/or operation of property subject to the NPDES permit must be reported to the Water Board within 10 days of the change. Notification of applicable NPDES Permit requirements must be furnished in writing to the new owners and/or operators, and a copy of such notification must be sent to the Water Board within 10 days of the change.
- o.** If a Discharger becomes aware that any information submitted to the Water Board is incorrect, the Discharger must immediately notify the Water Board, in writing, and correct that information.
- p.** If the Discharger becomes aware that its NPDES permit is no longer needed (because the discharge will cease), the Discharger must notify the Water Board in writing within 10 days and request that the permit be rescinded.
- q.** Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- r.** In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation (MDEL), average monthly effluent limitation (AMEL), or receiving water limitation of this Order, the Discharger must notify the Water Board by telephone (760) 241-6583 within 24 hours of having knowledge of such noncompliance, and must confirm this notification in writing within five days, unless the Water Board waives confirmation. The written notification must state the nature, time, duration, and cause of noncompliance, and must describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above on the date of the next normal monitoring report to be provided as required by this Order.
- s.** CWC, sections 13350 and 13385 provides that any person who violates a waste discharge requirement, or a provision of the CWC, is subject to civil penalties stated therein.

## **B. Monitoring and Reporting Program (MRP) Requirements**

The Discharger must comply with the MRP, Attachment E, and future revisions thereto, as specified by the Executive Officer.

## **C. Special Provisions**

### **1. Reopener Provisions**

- a. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Federal Water Pollution Control Act or amendments thereto, the Water Board may reopen and modify this Order in accordance with such more stringent standards.
- b. The Water Board may reopen this Order to establish new conditions or effluent limitations should monitoring data, toxicity testing data, or other new information indicate that a constituent is discharged at a level that will do any of the following:
  - i. Cause, have reasonable potential to cause, or contribute to an in-stream excursion above any water quality criteria or objective, or
  - ii. Cause, have reasonable potential to cause, or contribute to a violation of any narrative water quality objective contained in the Basin Plan.
- c. The Water Board may reopen this Order to revise the Operational Provisions for the UV disinfection system specified in this Order, section IV.C, based on a site-specific engineering study that demonstrates CCR, title 22 equivalency for virus inactivation in tertiary treated recycled water and acceptance by the State Water Board DDW.
- d. If the removal of the COLD beneficial use occurs within the five-year period prior to the expiration date of this permit, the Water Board may reopen and modify this Order in accordance with such beneficial use amendments.

### **2. Toxicity Monitoring Requirements**

- a. **Chronic Whole Effluent Toxicity.** To evaluate compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in the MRP (Attachment E, section V.B).
- b. **Toxicity Reduction Evaluation (TRE) Workplan.** By **August 18, 2020**, the Discharger must review and update its existing TRE workplan, revise if necessary, and submit it to the Water Board. The TRE Workplan must outline the procedures for identifying the source(s) of and reducing or eliminating effluent toxicity. The TRE Workplan must be developed in accordance with USEPA guidance and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.
- c. **Accelerated Monitoring.** If the toxicity monitoring trigger is exceeded during regular toxicity monitoring, the Discharger must initiate accelerated monitoring, as specified in section V of the MRP.



priority pollutant is present in the effluent above an effluent limitation and either:

- i. A sample result is reported as DNQ and the effluent limitation is less than the Reporting Limit (RL); or
- ii. A sample result is reported as Non-Detect (ND) and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section X.B.4.

The PMP must include, but not be limited to, the following actions and submittals acceptable to the Water Board:

- (a) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- (b) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
- (c) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation; and
- (d) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy.

**b. Best Management Practices**

This Order references the requirement for the Discharger to identify, implement, and monitor BMPs in accordance with a site-specific Storm Water Pollution Prevention Plan (SWPPP), as required under the General Industrial Storm Water Permit, Board Order No. 2014-0057-DWQ, or the most current Order in effect. The Discharger has applied for coverage under this permit and is regulated under Waste Discharge Identification Number 6B36I005756.

**4. Construction, Operation, and Maintenance Specifications**

- a. The Discharger's wastewater treatment facility must be supervised by people who possess a wastewater treatment plant operator certificate of appropriate grade pursuant to the CCR, title 23, Chapter 26, sections 3670.1, 3675, and 3680.
- b. Infiltration/inflow into sewerage facilities from stormwater or nuisance water must be minimized to the maximum extent practicable. Solid waste must be discharged only at a legal point of disposal in accordance or in a manner approved by the Executive Officer or Water Board.
- c. All facilities used for collection, transportation, treatment, or disposal of waste must be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

- d. Waste biosolids must be discharged only at a legal point of disposal in accordance with the provisions of CCR, title 27, and in accordance with the Code of Federal Regulations (CFR), title 40, part 503 (40 CFR part 503).

**5. Special Provisions for Municipal Facilities – Publicly Owned Treatment Works (POTWs)**

**a. Pretreatment Requirements**

- i. The Discharger must implement their approved Industrial Wastewater Pretreatment Program Plan, dated January 1, 1995, including any subsequent modifications approved by the Water Board. The Discharger must perform ongoing industrial inspections and monitoring, as necessary to ensure compliance with pretreatment regulations contained in 40 CFR part 403.
- ii. The Discharger must be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 CFR part 403, including any subsequent regulatory revisions to 40 CFR part 403. Where 40 CFR part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger must complete the required actions within 6 months from the issuance date of this permit or the effective date of the 40 CFR part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger must be subject to enforcement actions, penalties, fines, as provided in the CWA.
- iii. The Discharger must enforce the requirements promulgated under the CWA, sections 307(b), (c), (d), and 402(b) with timely, appropriate and effective enforcement actions. The Discharger must cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.
- iv. The Discharger must perform the pretreatment functions as required in 40 CFR part 403 including, but not limited to:
  - (a) Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
  - (b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6(c);
  - (c) Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and
  - (d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3).
- v. The Discharger must implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to

ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:

- (a) Wastes which create a fire or explosion hazard in the treatment works;
  - (b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
  - (c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;
  - (d) Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
  - (e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40 degrees Celsius (40°C) (104°F);
  - (f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - (g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and
  - (h) Any trucked or hauled pollutants, except at points pre-designated by the Discharger.
- vi. The Discharger must implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:
- (a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or
  - (b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.
- b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that

has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 CFR part 503.

- i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes must be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in CCR, title 27, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, storage, disposal, or reuse at sites (e.g., landfill, composting sites, or soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Water Board will satisfy these specifications.
- ii. Sludge and solid waste must be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.
- iii. The treatment of sludge generated at the Facility must be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate applicable groundwater objectives. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property must be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate applicable groundwater objectives.
- iv. The use, disposal, storage, and transportation of biosolids must comply with existing federal, state, and local laws and regulations, including permitting requirements and technical standards included in 40 CFR part 503. If the State Water Board and the Water Board are given the authority to implement regulations contained in 40 CFR part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards.
- v. The Discharger must comply with the MRP, section IX.A., Biosolids, Attachment E.
- vi. Any proposed change in biosolids use or disposal practice from a previously approved practice must be reported to the Executive Officer and USEPA Regional Administrator at least 90 days in advance of the change.
- vii. By **November 18, 2020**, the Discharger must review and update its existing biosolids use or disposal plan and submit it to the Water Board. The updated plan must describe at a minimum:
  - (a) Sources and amounts of biosolids generated annually.

- (b) Location(s) of on-site storage and description of the containment area.
- (c) Plans for ultimate disposal. For landfill disposal, include the Water Board's waste discharge identification number that regulate the particular landfill; the present classification of the landfill; and the name and location of the landfill.
- (d) The Discharger must submit to the Water Board a copy of the annual biosolids report submitted to USEPA.

## 6. Other Special Provisions

**Flow Increase Requests.** Future requests for any increase in permitted effluent flow greater than 14 MGD to surface waters must be accompanied by a **revised ROWD**, including an antidegradation analysis that demonstrates consistency with State Water Board Resolution No. 68-16. Any antidegradation analysis must consider, and be representative of, current and future anticipated treatment technologies and capabilities of the Facility.

## 7. Compliance Schedules – Not Applicable

# VII. COMPLIANCE DETERMINATION

Compliance with effluent limitations must be determined by using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting limit.

### A. Multiple Sample Data

When determining compliance with an annual average effluent limitation (AAEL), AMEL, average weekly effluent limitation (AWEL), or MDEL and more than one sample result is available, the Discharger must compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Discharger must compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set must be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set must be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
3. For fecal coliform organisms, the log mean MPN and percent of times fecal coliform results exceed 40 MPN per 100 mL must be determined for the last



30 days. The running 30-day log mean value and the running percent of times fecal coliform results exceed 40 MPN per 100 mL during any 30-day period must be reported for each day along with the results from each individual sample.

4. For coliform organisms, the median must be determined for the last seven days for which coliform results have been obtained. This seven-day median value must be reported for each day along with the results from each individual sample.
5. The average turbidity values, the percent of the time that the turbidity exceeds 5 NTUs, and the number of times that the turbidity exceeds 10 NTUs must be reported for each monthly monitoring period.
6. Compliance evaluation for TDS must be included in the annual report. The compliance evaluation must account for all of the average monthly concentrations for the prior calendar year to assess that the average monthly effluent limitation is not exceeded.

**B. Average Monthly Effluent Limitation (AMEL)**

If the average (or when applicable, the median determined by section VII.A.2 above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month. Additional samples, above the specified minimum, may be collected to demonstrate compliance.

**C. Average Weekly Effluent Limitation (AWEL)**

If the average (or when applicable, the median determined by section VII.A.2 above for multiple sample data) of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in seven days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

**D. Maximum Daily Effluent Limitation (MDEL)**

If a daily discharge (or when applicable, the median determined by section VII.A.2 above for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for

that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

**E. Instantaneous Minimum Effluent Limitation**

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken at different times within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation). Duplicate samples taken at the same time and location for quality assurance/quality control (QA/QC) purposes will not be subject to duplicate fines. QA/QC includes splitting a sample and/or collection of duplicate samples for analysis by a different laboratory. Re-analysis of samples after re-calibration and maintenance of field test instruments will not be subject to duplicate fines.

**F. Instantaneous Maximum Effluent Limitation**

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken at different times within a calendar day that both exceed the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation). Duplicate samples taken at the same time and location for QA/QC purposes will not be subject to duplicate fines. QA/QC includes splitting a sample and/or collection of duplicate samples for analysis by a different laboratory. Re-analysis of samples after re-calibration and maintenance of field test instruments will not be subject to duplicate fines. The Discharger will calculate and report whether the influent supply water concentration equals or exceeds the instantaneous maximum effluent limitation.

**G. Average Annual Effluent Limitation (AAEL)**

If the average of daily discharges over a calendar year exceeds the AAEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that year for that parameter (e.g., resulting in 365 or 366 days of non-compliance in a calendar year). If only a single sample is taken during the calendar year and the analytical result for that sample exceeds the AAEL, the Discharger will be considered out of compliance for that calendar year. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar year during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar year.

**H. Six-Month Median for Chlorine Residual**

If the median of the daily total chlorine residual measurements taken over any six-month period exceed 0.002 mg/L, the Discharger will be out-of-compliance for each day of the six-month period. If any total chlorine residual measurement exceeds 0.003

mg/L on any day, the Discharger will be out of compliance for the day. A six-month period is defined for this Order as the first and second semesters of a calendar year.

**I. Mass and Concentration Limitations**

Compliance with mass effluent limitations and concentration effluent limitations for the same parameter must be determined separately. When the concentration for a parameter in a sample is reported as ND or DNQ, the corresponding mass emission rate determined using that sample concentration must also be reported as ND or DNQ.

## ATTACHMENT A – DEFINITIONS

### Arithmetic Mean ( $\mu$ )

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean =  $\mu = \Sigma x / n$       where:  $\Sigma x$  is the sum of the measured ambient water concentrations, and  $n$  is the number of samples.

### Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

### Best Management Practices (BMPs)

Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, and solids or waste disposal.

### Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

### Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

### Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

### Cold Water Species

Cold water aquatic animals include, but are not limited to, the *Salmonidae* family of fish, e.g., trout and salmon.

### Daily Discharge

Daily discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

### **Detected, Not Quantified (DNQ)**

DNQ are those sample results less than the reporting limit (RL), but greater than or equal to the laboratory's method detection limit (MDL). Sample results reported as DNQ are estimated concentrations.

### **Dilution Credit**

Dilution credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing-zone study or modeling of the discharge and receiving water.

### **Effluent Concentration Allowance (ECA)**

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the CV for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA), as used in USEPA guidance (*Technical Support Document for Water Quality-based Toxics Control*, March 1991, second printing, EPA/505/2-90-001).

### **Enclosed Bays**

Enclosed bays mean indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

### **Estimated Chemical Concentration**

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the minimum level (ML) value.

### **Estuaries**

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in the California

Water Code (CWC), section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

### **Inland Surface Waters**

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

### **Instantaneous Maximum Effluent Limitation**

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

### **Instantaneous Minimum Effluent Limitation**

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

### **Maximum Daily Effluent Limitation (MDEL)**

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

### **Median**

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements ( $n$ ) is odd, then the median =  $X_{(n+1)/2}$ . If  $n$  is even, then the median =  $(X_{n/2} + X_{(n/2)+1})/2$  (i.e., the midpoint between the  $n/2$  and  $n/2+1$ ).

### **Method Detection Limit (MDL)**

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in the Code of Federal Regulations (CFR), title 40, part 136 (40 CFR 136), Attachment B, revised as of July 3, 1999.

### **Minimum Level (ML)**

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

### **Mixing Zone**

Mixing zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

### **Not Detected (ND)**

Sample results which are less than the laboratory's MDL are considered "not detected."

### **Off-line Settling Basins**

A constructed retention basin that receives wastewater from cleaning of aquaculture facility rearing/holding units, or quiescent zones, or both, for the retention and treatment of wastewater through settling of solids.

### **Persistent Pollutants**

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

### **Pollutant Minimization Program (PMP)**

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP is to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC, section 13263.3(d), shall be considered to fulfill the PMP requirements.

### **Pollution Prevention**

Pollution prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in the CWC, section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Water Board.

### **Qualifying Rain Event**

Any event that produces 0.5 inches or more precipitation. A rain event is defined as separate from a second rain event if at least 48 hours separates the two events.

### **Reporting Level (RL)**

The RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor, if applicable, as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Water Board either from the State Implementation Plan (SIP), Appendix 4, in accordance with the SIP, Section 2.4.2 or established in accordance with the SIP, Section 2.4.3. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of

ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

**Source of Drinking Water**

Any water designated as municipal or domestic supply (MUN) in a Water Board’s Basin Plan.

**Standard Deviation ( $\sigma$ )**

Standard deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

$\sum$  is the sum;

$x$  is the observed value;

$\mu$  is the arithmetic mean of the observed values; and

$n$  is the number of samples.

**Toxicity Reduction Evaluation (TRE)**

TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and BMPs. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases [characterization, identification, and confirmation] using aquatic organism toxicity tests.)



# ATTACHMENT B – FACILITY MAPS

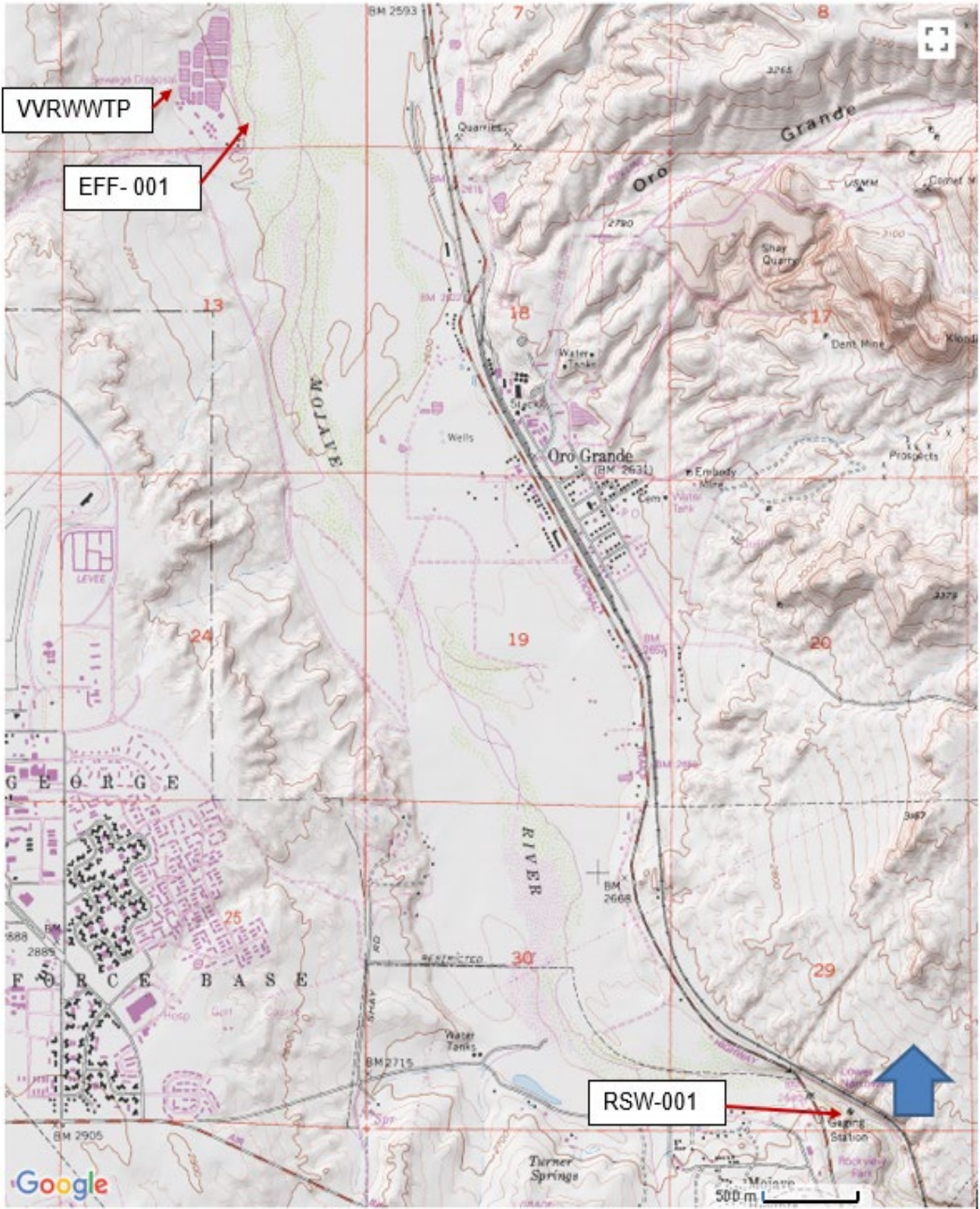
## ATTACHMENT B-1 – SITE MAP



Victor Valley Regional Wastewater Treatment Plant  
 NPDES No. CA0102822

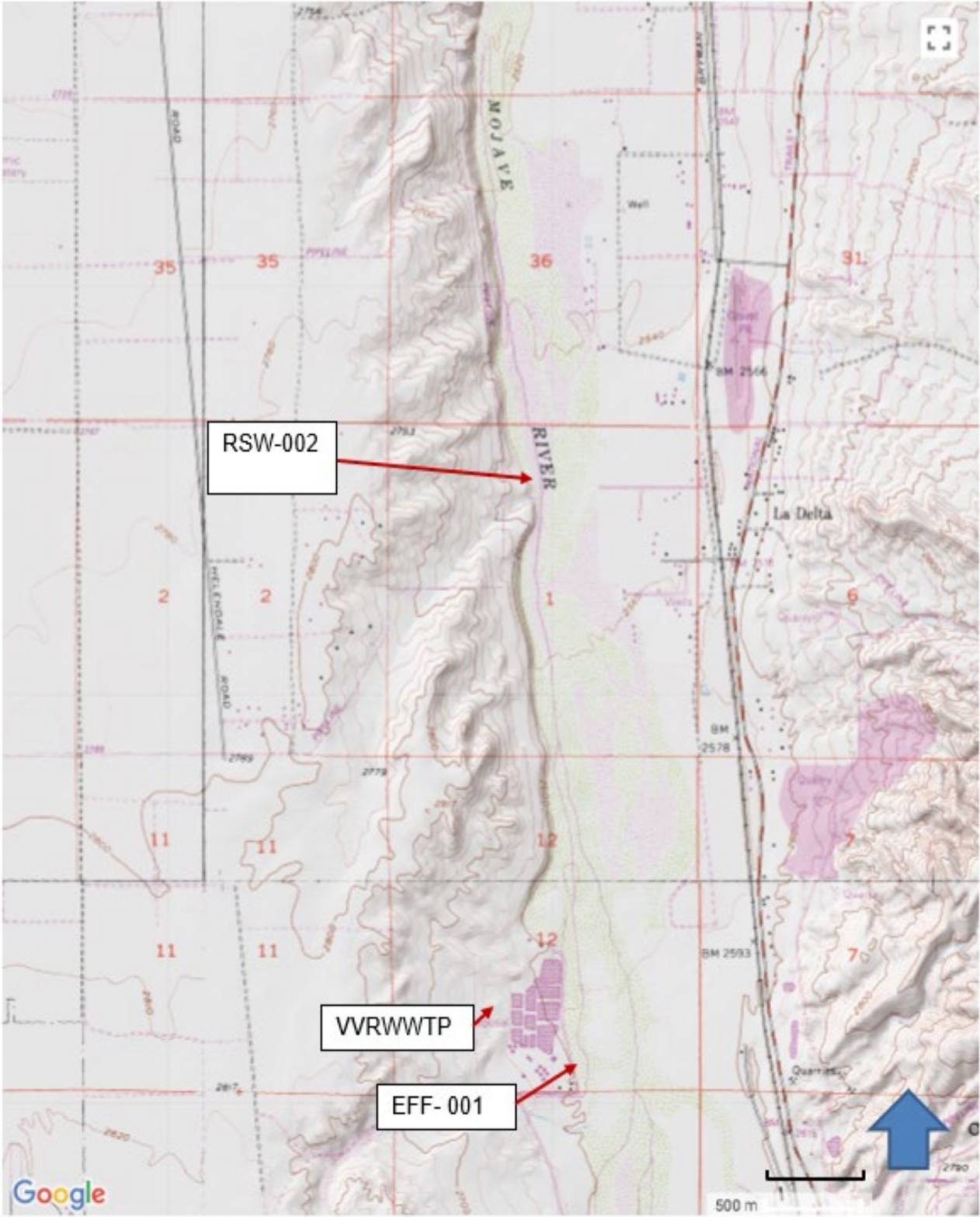
- Legend:**
- Mojave River Discharge (EFF-001)
  - D1-11: Drying beds
  - N1-6: North percolation ponds, WDR discharge, (EFF-002)
  - S7-13: South percolation ponds WDR discharge, (EFF-002)
  - S14: South percolation ponds owned by Victorville
  - GB: Gravity belt thickener
  - EB1-2: Primary effluent equalization basins
  - EB3: Raw influent equalization basin
  - B1-2: Biosolids equalization basins
  - DT: Filtrate treatment tank
  - BS: Biosolids storage pad
  - Not shown – Recycled water storage tank, (EFF-003)

# ATTACHMENT B-2 – UPSTREAM RECEIVING WATER MONITORING LOCATION

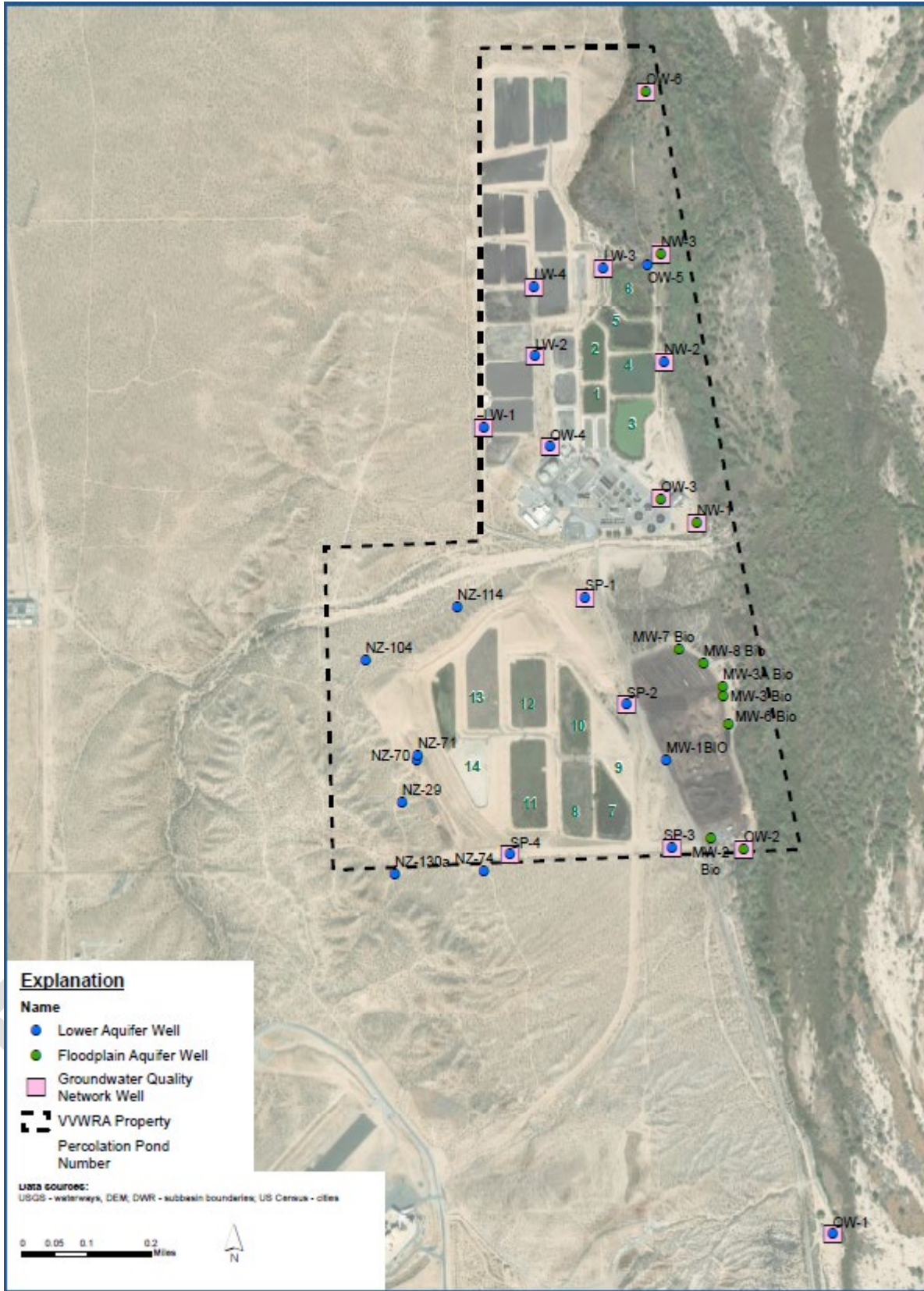




**ATTACHMENT B-3 – DOWNSTREAM RECEIVING WATER MONITORING LOCATION**

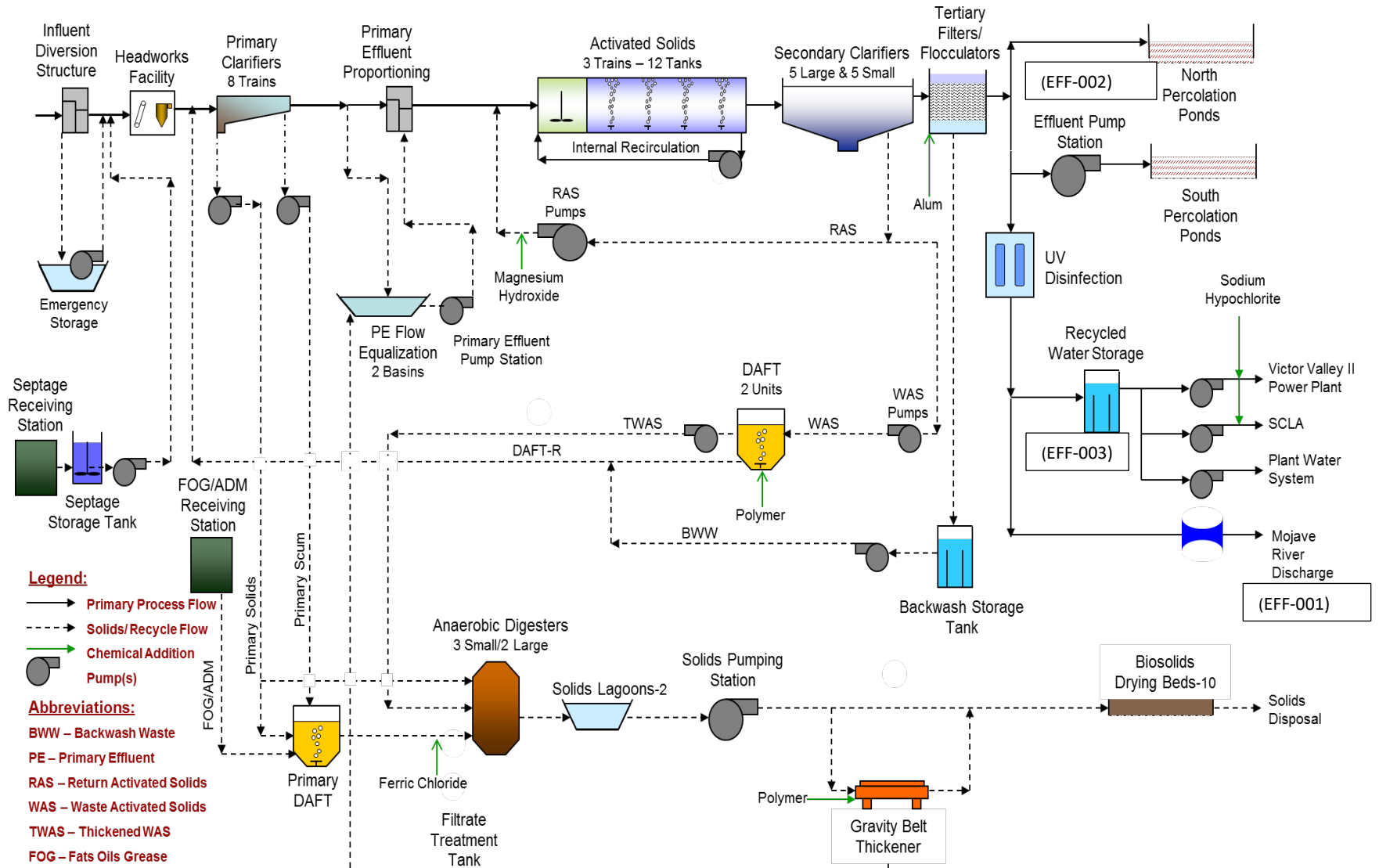


# ATTACHMENT B-4 – GROUNDWATER MONITORING WELL LOCATIONS





**ATTACHMENT C – FLOW SCHEMATIC**



## ATTACHMENT D – STANDARD PROVISIONS

### I. STANDARD PROVISIONS – PERMIT COMPLIANCE

#### A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. [Code of Federal Regulations (CFR), Title 40, section (§) 122.41(a) (40 CFR 122.41(a), CWC sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, and 13385.]
2. The Discharger must comply with effluent standards or prohibitions established under the CWA, section 307(a) for toxics within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 CFR § 122.41(a)(1)]

#### B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 CFR § 122.41(c)]

#### C. Duty to Mitigate

The Discharger must 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. [40 CFR § 122.41(d)]

#### D. Proper Operation and Maintenance

The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [40 CFR § 122.41(e)]

#### E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. [40 CFR § 122.41(g)]
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. [40 CFR § 122.5(c)]

## F. Inspection and Entry

The Discharger must allow the Water Board, State Water Board, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to: [United States Code (USC), Title 33, § 1318(a)(4)(B)(i and ii); 40 CFR § 122.41(i)(1 through 4); and CWC sections 13267 and 13383].

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location.

## G. Bypass

### 1. Definitions

- a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. [40 CFR § 122.41(m)(1)(i)]
- b. "Severe property damage" means substantial physical damage to property; damage to the treatment facilities, which causes them to become inoperable; or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR § 122.41(m)(1)(ii)].

2. **Bypass not exceeding limitations.** The Discharger may allow any bypass to occur that does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance, sections I.G.3, I.G.4, and I.G.5 below. [40 CFR § 122.41(m)(2)]

3. **Prohibition of bypass.** Bypass is prohibited, and the Water Board may take enforcement action against a Discharger for bypass, unless: [40 CFR § 122.41(m)(4)(i)(A through C)]

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of

reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

- c. The Discharger submitted notice to the Water Board as required under Standard Provisions – Permit Compliance, section I.G.5 below.
4. The Water Board may approve an anticipated bypass, after considering its adverse effects, if the Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance, section I.G.3 above. [40 CFR § 122.41(m)(4)(ii)]

#### 5. Notice

- a. **Anticipated bypass.** If the Discharger knows in advance of the need for a bypass, it must submit prior notice to the Water Board, if possible, at least 10 days before the date of the bypass. As of December 21, 2020, all notices must also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting, section V.J below. Notices must comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127 [40 CFR § 122.41(m)(3)(i)].
- b. **Unanticipated bypass.** The Discharger must submit notice to the Water Board of an unanticipated bypass as required in Standard Provisions – Reporting, section V.E below (24-hour notice). As of December 21, 2020, all notices must also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting, section V.J below. Notices must comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127 [40 CFR § 122.41(m)(3)(ii)].

#### H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. [40 CFR § 122.41(n)(1)]

1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance, section I.H.2 below, are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR § 122.41(n)(2)].
2. **Conditions necessary for a demonstration of upset.** A Discharger who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR § 122.41(n)(3)(i through iv)]:



- a. An upset occurred and that the Discharger can identify the cause(s) of the upset;
- b. The permitted facility was, at the time, being properly operated;
- c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting, section V.E.2.b below (24-hour notice); and
- d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance, section I.C above.

**Burden of proof.** In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. [40 CFR § 122.41(n)(4)]

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. [40 CFR § 122.41(f)]

### B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. [40 CFR § 122.41(b)]

### C. Transfers

This Order is not transferable to any person except after notice to the Water Board. The Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code [40 CFR §§ 122.41(l)(3), 122.61].

## III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. [40 CFR § 122.41(j)(1)]
- B. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
  1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that

the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or otherwise required under 40 CFR chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. [40 CFR §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv)]

#### **IV. STANDARD PROVISIONS – RECORDS**

- A. The Discharger must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Water Board Executive Officer at any time. [40 CFR § 122.41(j)(2)]
- B. Records of monitoring information must include: [40 CFR § 122.41(j)(3)(i through vi)]
  1. The date, exact place, and time of sampling or measurements;
  2. The individual(s) who performed the sampling or measurements;
  3. The date(s) analyses were performed;
  4. The individual(s) who performed the analyses;
  5. The analytical techniques or methods used; and
  6. The results of such analyses.
- C. Claims of confidentiality for the following information will be denied: [40 CFR § 122.7(b)(1 and 2)]
  1. The name and address of any permit applicant or Discharger; and
  2. Permit applications and attachments, permits and effluent data.

#### **V. STANDARD PROVISIONS – REPORTING**

##### **A. Duty to Provide Information**

The Discharger must furnish to the Water Board, State Water Board, or USEPA within a reasonable time, any information that the Water Board, State Water Board, and/or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger must also furnish to the Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [40 CFR § 122.41(h); CWC, sections 13267 and 13383].

## **B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Water Board, State Water Board, and/or USEPA must be signed and certified in accordance with Standard Provisions – Reporting, sections, V.B.2, V.B.3, V.B.4, and V.B.5 below [40 CFR § 122.41(k)].
2. All permit applications must be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA) [40 CFR § 122.22(a)(3)].
3. All reports required by this Order and other information requested by the Water Board, State Water Board, and/or USEPA must be signed by a person described in Standard Provisions – Reporting, section V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions – Reporting, section V.B.2 above [40 CFR § 122.22(b)(1)];
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR § 122.22(b)(2)]; and
  - c. The written authorization is submitted to the Water Board and State Water Board. [40 CFR § 122.22(b)(3)]
4. If an authorization under Standard Provisions – Reporting, section V.B.3 above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting, section V.B.3 above, must be submitted to the Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR § 122.22(c)].
5. Any person signing a document under Standard Provisions – Reporting, sections V.B.2 or V.B.3 above, must make the following certification:

“I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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.” [40 CFR § 122.22(d)]

6. Any person providing the electronic signature for documents described in Standard Provisions – Reporting, sections V.B.1, V.B.2, or V.B.3, that are submitted electronically must meet all relevant requirements of Standard Provisions – Reporting, section V.B, and must ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. [40 CFR § 122.22(e)]

### **C. Monitoring Reports**

1. Monitoring results must be reported at the intervals specified in the Monitoring and Reporting Program (MRP) Attachment E, to this Order. [40 CFR § 122.41(l)(4)]
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting, section V.J, and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. [40 CFR § 122.41(l)(4)(i)]
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR chapter 1, subchapters N, the results of such monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Water Board. [40 CFR § 122.41(l)(4)(ii)]
4. Calculations for all limitations, that require averaging of measurements, must use an arithmetic mean unless otherwise specified in this Order. [40 CFR § 122.41(l)(4)(iii)]

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, must be submitted no later than 14 days following each schedule date. [40 CFR § 122.41(l)(5)]

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report to the Water Board any noncompliance which may endanger health or the environment. Information shall be provided to the Water Board orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times (if the noncompliance has not been corrected the anticipated time it is expected to continue shall be reported); and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR § 122.41(l)(6)(i)]

Noncompliance reports for events related to combined sewer overflows, sanitary overflows, or bypass must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of **December 21, 2023**, all noncompliance reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting, section V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. [40 CFR § 122.41(l)(b)(i)]

2. The following information must be reported to the Water Board within 24 hours:
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. [40 CFR § 122.41(l)(6)(ii)(A)]
  - b. Any upset that exceeds any effluent limitation in this Order [40 CFR § 122.41(l)(6)(ii)(B)].
3. The Water Board may waive the above-required written report on a case-by-case basis if an oral report has been received within 24 hours. [40 CFR § 122.41(l)(6)(iii)].

#### **F. Planned Changes**

The Discharger must give notice to the Water Board as soon as possible of any planned physical alterations or additions to the permitted Facility. Notice is required under this provision only when [40 CFR § 122.41(l)(1)(i through iii)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR, section 122.29(b);
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged (this notification applies to pollutants that are subject neither to effluent limitations in this Order); or
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

#### **G. Anticipated Noncompliance**

The Discharger must give advance notice to the Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. [40 CFR § 122.41(l)(2)]

#### **H. Other Noncompliance**

The Discharger must report all instances of noncompliance not reported under Standard Provisions – Reporting, sections V.C, V.D, and V.E above, at the time monitoring reports are submitted. The reports must contain the information listed in Standard Provision – Reporting, section V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must contain the information described in Standard Provision – Reporting, section V.E, and the applicable required data in Appendix A to 40 CFR part 127. The Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. [40 CFR § 122.41(l)(7)]

#### **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Water Board, State Water Board, and/or USEPA, the Discharger must promptly submit such facts or information. [40 CFR § 122.41(l)(8)]

#### **J. Initial Recipient for Electronic Reporting Data**

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in Appendix A to 40 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 CFR section 127.2(c)]. USEPA will update and maintain this listing. [40 CFR § 122.41(l)(9)]

### **VI. STANDARD PROVISIONS – ENFORCEMENT**

The Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, CWC sections 13268, 13350, 13385, 13386, and 13387.

### **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

#### **A. Publicly Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Water Board of the following:  
[40 CFR § 122.42(b)]

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA, sections 301 or 306, if it were directly discharging those pollutants [40 CFR § 122.42(b)(1)]; and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. [40 CFR § 122.42(b)(2)]

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. [40 CFR § 122.42(b)(3)]

## ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (CFR), Title 40, section (§) 122.48 (40 CFR § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC), sections 13267 and 13383 also authorize the Water Board to require technical and monitoring reports. Pursuant to CWC, section 13223, this MRP may be amended by the Water Board Executive Officer. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A.** Samples and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations must not be changed without notification to and the approval from the Water Board's Executive Officer.
- B.** Effluent samples must be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples must be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- C.** Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure accuracy and reliability for measuring discharge volumes. The flow measurement devices must be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. All flow measurement devices must be calibrated at least once per year to ensure continued accuracy of the devices. Devices selected must be capable of measuring flows with a maximum deviation of less than (plus or minus) 10 percent from true discharge rates throughout the range of expected discharge volumes.
- D.** Data produced and reports submitted to satisfy 40 CFR part 136 must be generated by a laboratory accredited by the State of California Environmental Laboratory Accreditation Program. The laboratory must hold a valid certificate of accreditation for the analytical test methods specified in 40 CFR part 136 or equivalent analytical test methods validated for intended use and approved by the Water Board. The laboratory must include QA/QC data in all data reports and submit electronic data as required by the Water Board. Data generated using field tests is exempt pursuant to CWC, section 13176.
- E.** Monitoring results, including non-compliance, must be reported at intervals and in a manner specified in this MRP.
- F.** The results of all monitoring required by this Order must be reported to the Water Board and must be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows must be reported in terms of the monthly average and the daily maximum discharge flows.



- G.** The Discharger must ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually (by February 1 of each year) to the State Water Board at the following address:

State Water Resources Control Board  
 Quality Assurance Program Officer  
 Office of Information Management and Analysis  
 1001 I Street  
 Sacramento, CA 95814

**II. MONITORING LOCATIONS**

The Discharger must establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Discharge Location Number	Monitoring Location Description
Influent	INF-001	At the location of the headworks, prior to the primary clarifiers, where a representative sample of the influent into the Facility can be collected.
Effluent	EFF-001	At a location immediately after ultraviolet (UV) disinfection and prior to being discharged to the Mojave River, former Discharge Point 001.
Percolation Ponds	EFF-002	At a location before disposal at the north and south percolation ponds.
Recycled Water	EFF-003	For turbidity, a point downstream of filtration prior to disinfection. For bacteria, a point downstream of the UV system before recycled water is delivered for use.
Receiving Water	RSW-001	Upstream of Old National Trails Bridge on Route 66, near the United States Geological Survey (USGS) Gaging Station at Latitude 34° 34' 22" N and Longitude -117° 19' 13" W.
Receiving Water	RSW-002	1.75 miles downstream of Discharge Point 001 at a point west of the intersection of Robertson Ranch Road and National Trails Highway at Latitude 34° 38' 27" N and Longitude -117° 21' 24" W.
Biosolids	BIO-001	A location where a representative sample of the biosolids can be obtained.

**III. INFLUENT MONITORING REQUIREMENTS**

The Discharger shall monitor the influent to the Facility at monitoring location INF-001 as follows:

**Table E-2. Influent Monitoring – Monitoring Locations INF-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Volume <sup>1</sup>	MG	Meter	1/Day	NA
Average Monthly Flow <sup>1</sup>	MGD	Meter	1/Day	NA
Maximum Influent Flow <sup>1</sup>	MGD	Meter	1/Day	NA

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Septage Flow Volume <sup>1</sup>	Gallons or MG	Meter	1/Month	NA
Biochemical Oxygen Demand (5-day @ 20°C [BOD <sub>5</sub> ])	mg/L	24-hr Composite <sup>2</sup>	4/Week	3
pH	Standard Units	Continuous	1/Day	3
Total Suspended Solids (TSS)	mg/L	24-hr Composite <sup>2</sup>	4/Week	3

<sup>1</sup>Flow Volume: The total volume of wastewater flow to the Facility for each day.

Average Monthly Flow: The average flow rate of wastewater to the Facility calculated for each month.

Maximum Influent Flow: The maximum instantaneous flow rate of wastewater to the Facility that occurs each day.

Septage Flow Volume: The volume, in gallons, of septic tank pumping (septage) discharged to the Facility each day.

All flow monitoring results shall be recorded in a permanent logbook maintained on site.

<sup>2</sup>24-Hour flow proportional composite.

<sup>3</sup>Pollutants must be analyzed using the analytical methods described in 40 CFR part 136. Where no methods are specified for a given pollutant, pollutants shall be analyzed by a method proposed by the Discharger and approved by the Executive Officer.

MG = Million gallons.

MGD = Million gallons per day.

mg/L = Milligrams per liter.

NA = Not applicable.

#### IV. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor UV disinfected wastewater effluent at monitoring location EFF- 001 as follows.

**Table E-3. Effluent Monitoring – Monitoring Location EFF-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Volume <sup>1</sup>	MG	Meter	1/Month	NA
Average Monthly Flow <sup>1</sup>	MGD	Meter	1/Month	NA
Flow	MGD	Meter	1/Month	NA
<b>Conventional Pollutants</b>				
BOD <sub>5</sub>	mg/L	24-hour Composite	4/Week <sup>2</sup>	3
	lbs/day <sup>4</sup>	Calculate	4/Week	NA
	Percent Removal	Calculate	4/Week <sup>2</sup>	NA
Escherichia coli (E. coli)	cfu / 100 mL	Grab	1/Quarter <sup>5</sup>	USEPA 1603 or approved equal
Fecal Coliform	MPN/ 100 mL	Grab	5/Month	3
pH	Standard Units	Meter	1/Day <sup>6</sup>	3
TSS	mg/L	24-hour Composite	4/Week <sup>2</sup>	3
	lbs/day <sup>4</sup>	Calculate	4/Week	NA

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
	Percent Removal	Calculate	4/Week <sup>2</sup>	NA
<b>Priority Pollutants</b>				
Copper, Total Recoverable	µg/L	Grab	1/Month	3
	lbs/day <sup>4</sup>	Calculate	1/Month	NA
Cyanide, Total (as CN)	µg/L	Grab	1/Quarter <sup>7</sup>	3
Bis(2-ethylhexyl) phthalate	µg/L	Grab	1/Quarter <sup>7</sup>	3
Remaining CTR/NTR Priority Pollutants <sup>8</sup>	µg/L	Grab	1/Year <sup>9</sup>	3
<b>Non-Conventional Pollutants</b>				
Ammonia Nitrogen, Total (as Nitrogen [N])	mg/L	Grab	2/Month	3
	lbs/day <sup>4</sup>	Calculate	2/Month	NA
Boron, Total Recoverable	mg/L	Grab	1/Quarter	3
	lbs/day <sup>4</sup>	Calculate	1/Quarter	NA
Chloride	mg/L	Grab	1/Quarter	3
	lbs/day <sup>4</sup>	Calculate	1/Quarter	NA
Chlorine, Total Residual	mg/L	Grab	1/Quarter	3
	Lbs/day <sup>4</sup>	Calculate	1/Quarter <sup>7</sup>	--
Dissolved Oxygen	mg/L	Grab	1/Week	3
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Day	3
Fluoride, Total	mg/L	Grab	1/Quarter	3
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	Grab	1/Quarter	3
Iron, Total Recoverable	µg/L	Grab	1/Quarter	3
Manganese, Total Recoverable	µg/L	Grab	1/Quarter	3
Methylene Blue Active Substances (MBAS)	mg/L	Grab	1/Quarter	3
Nitrate Nitrogen, Total (as N)	mg/L	Grab	2/Month	3
	lbs/day <sup>4</sup>	Calculate	2/Month	NA
Nitrite Nitrogen, Total (as N)	mg/L	Grab	2/Month	3
	lbs/day <sup>4</sup>	Calculate	2/Month	NA
Nitrogen, Total (as N)	mg/L	Grab	2/Month	3
	lbs/day <sup>4</sup>	Calculate	2/Month	NA
Oil and Grease	mg/L	Grab	1/Quarter	3, 10
Phenols, Total	mg/L	Grab	1/Quarter	3
Sodium, Total	mg/L	Grab	1/Month	3
Sulfate	mg/L	Grab	1/Quarter	3
	lbs/day <sup>4</sup>	Calculate	1/Quarter	NA
Temperature	°C	Grab	1/Week	3
Total Dissolved Solids (TDS)	mg/L	24-hr Composite	1/Month	3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	2/Month	3
	lbs/day <sup>4</sup>	Calculate	2/Month	NA
Acute Toxicity	Percent Survival	NA	1/ Quarter	3, 11
Chronic Toxicity	TUc	NA	1/Year	3, 11

<sup>1</sup>Flow Volume: the volume of wastewater flow to the Mojave River each day.

Average Monthly Flow: the average flow rate of wastewater to the Mojave River calculated for each month.

<sup>2</sup>The percent removal for BOD<sub>5</sub> and TSS must be reported each calendar month in accordance with Effluent Limitation IV.A.1. of the Order. Samples for BOD<sub>5</sub> and TSS shall be collected simultaneously with influent samples.

<sup>3</sup>Pollutants must be analyzed using the analytical methods described in 40 CFR part 136. Where no methods are specified for a given pollutant, pollutants must be analyzed by a method proposed by the Discharger and approved by the Executive Officer.

<sup>4</sup>The mass emission (lbs/day) for the discharge must be calculated and reported using the limitation concentration and the actual flow rate measured at the time of discharge using the formula:

$$M = 8.34 \times C_e \times Q$$

where: M = mass discharge for a pollutant, in lbs/day

C<sub>e</sub> = reported concentration for a pollutant

Q = actual discharge flow rate.

<sup>5</sup>A six week rolling Geometric Mean not to exceed 100 cfu/100 mL calculated weekly and a Statistical Threshold Value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

<sup>6</sup>If pH is monitored continuously, the minimum and maximum pH values for each day must be reported in monthly Self-Monitoring Reports (SMRs).

<sup>7</sup>The Discharger must monitor at the frequency specified in the table, however, if after 4 quarters there is no detectable traces of this pollutant, monitoring may be reduced to once per year upon request. If the pollutant is detected, monitoring must return to the frequency specified in the table for the remainder of the permit term.

<sup>8</sup>National Toxics Rule (NTR) and California Toxics Rule (CTR), as specified in 40 CFR section 131.36 and the Federal Register, Volume 65, pages 31682-31719 (65 Fed. Reg [31682-31719], May 18, 2000).

<sup>9</sup>Effluent priority pollutant monitoring must be conducted concurrently with receiving water priority pollutant monitoring (see section VIII.A. below). For 2,3,7,8-Tetrachloro-dibenzo-p-dioxin (TCDD), the Discharger shall use USEPA Method 1613.

<sup>10</sup>Each oil and grease sampling and analysis event must be conducted in accordance with USEPA Method 1664.

<sup>11</sup>See section V of this MRP. TUc is Chronic Toxicity Units.

In addition to the monitoring and reporting requirements in section IV., above, the Discharger must calculate and report the results in California Integrated Water Quality System (CIWQS) as provided in the table below. An assessment by the Discharger must be included in the data analysis.

**Table E-4. Effluent Reporting Requirements for Multiple Sample Results**

Parameter	Units	Sample Type	Calculation Type
BOD <sub>5</sub>	mg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Escherichia Coli (E. coli)	CFU/100 ml	Calculate	6-Week rolling geometric mean not to exceed 100 cfu/100 mL. STV of 320 CFU/100 mL not to exceed >10% of samples in a calendar month
Fecal Coliform	MPN/100 mL	Calculate	Log Mean for rolling 30-day period <sup>3</sup>
	Count	Calculate	Number of samples exceeding 40 MPN/100 mL within a rolling 30-day period <sup>4</sup>
TSS	mg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Copper, Total Recoverable	µg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>

Parameter	Units	Sample Type	Calculation Type
Ammonia Nitrogen, Total (as N)	mg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Iron, Total Recoverable	µg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Manganese, Total Recoverable;	µg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Nitrogen, Total	mg/L	Calculate	Average Monthly <sup>1</sup>
	lbs/day	Calculate <sup>2</sup>	Average Monthly <sup>1</sup>
Total Dissolved Solids	mg/L	Calculate	Average Annual <sup>5</sup>
	lbs/day	Calculate <sup>2</sup>	Average Annual <sup>5</sup>
Turbidity	Percent	Calculate	Percentage of time within a 24-hour period in which results exceed 5 NTUs

<sup>1</sup>Average monthly concentration is calculated and reported as described in section VII.A and B of the Order and section X.B.6 of this MRP.

<sup>2</sup>Mass is calculated and reported as described in section VII.I of the Order and section X.B.8 of this MRP.

<sup>3</sup>Log mean fecal coliform is calculated and reported as described in section VII.A.3 of the Order and section X.B.6.c of this MRP.

<sup>4</sup>The 7-day median is calculated as described in section X.B.6.d of this MRP.

<sup>5</sup>Average annual concentration and mass are calculated and reported as described in section VII.G of the Order and section X.B.7 of this MRP.

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Acute Toxicity Testing – Monitoring Location EFF-001

1. The presence of acute toxicity must be determined as specified in USEPA’s acute toxicity test methods in 40 CFR part 136 for the *Pimephales promelas* survival test.
2. The Discharger must conduct acute whole effluent toxicity (WET) tests on grab samples of undiluted effluent and an appropriate control water, as specified in the test method, a minimum of once per calendar quarter.
3. Where possible, the Discharger must perform both acute WET testing and chemical-specific testing for parameters limited by this Order for which a grab sample is required using a split sample.
4. Acute WET results must be reported in percent survival.
5. Concurrent testing with reference toxicants must be conducted using the same test conditions as the effluent toxicity test (i.e., same test duration, etc.).
6. If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria, as specified in in USEPA’s *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms*, 5th Edition (EPA-821-R-02-012), the Discharger must re-sample and re-test within 14 days of receiving the results of the failed test.
7. The Discharger must submit with the monthly report in which WET test results are due, a full report of acute WET testing that includes: (1) toxicity test results; (2) dates of sample collection and initiation of each toxicity test; and (3) flow rate at the time of sample collection.

8. If survival is less than 90 percent in two consecutive quarterly samples, the Discharger must increase the frequency of acute WET testing to one time per month. When three consecutive monthly tests demonstrate a survival rate of greater than 90 percent of the test organisms, the Discharger may resume acute WET testing at a frequency of one time per calendar quarter. If three consecutive sample median is less than 90 percent, the Discharger must initiate a TRE in accordance with the requirements of section VI.C.2.c through e of the Order.
9. If any of the accelerated (monthly) tests demonstrate a survival rate of less than 70 percent, the Discharger must initiate a Toxicity Reduction Evaluation (TRE) in accordance with the requirements of section VI.C.2.c through e of the Order.

**B. Chronic WET Testing – Monitoring Location EFF-001**

1. The presence of chronic toxicity must be determined as specified in USEPA's short-term chronic toxicity test methods in 40 CFR part 136 for Ceriodaphnia dubia survival and reproduction and Pimephales promelas larval survival and growth.
2. The Discharger must conduct chronic WET tests on undiluted (100% effluent) grab samples a minimum of once per calendar year and must use an appropriate control water, as specified in the test method.
3. Where possible, the Discharger must perform both chronic WET testing and chemical-specific testing for parameters limited by this Order for which a grab sample is required using a split sample.
4. For routine testing, Analysis of Variance (ANOVA, defined as  $\alpha$ ) with  $\alpha = 0.05$  must be used to determine whether differences between control and effluent data are significant.
5. If a chronic toxicity test indicates a statistically significant difference between a sample of 100% effluent and a control, the Discharger must initiate accelerated chronic WET testing at a frequency of one time per month.
6. Accelerated chronic WET results must be reported in TUC where:

$$TUC = 100 / NOEC$$

NOEC = No Observed Effect Concentration: the highest concentration of effluent to which organisms are exposed in a chronic test that causes no observable adverse effect on the test organisms (e.g., the highest concentration of effluent to which the values for the observed response show no statistically significant difference from a control).

Accelerated chronic WET testing must use a series of five dilutions and a control. The dilutions must be 12.5, 25, 50, 75, and 100 percent effluent, along with the control (0 percent effluent). Concurrent testing with reference toxicants must be conducted using the same test conditions as the effluent toxicity test (i.e., same test duration, etc.).

7. When three consecutive accelerated monthly tests demonstrate no chronic toxicity, which is defined as WET test results not exceeding 1.0 TUC, the

Discharger may resume routine chronic WET testing at a frequency of one time per calendar year.

8. If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the Discharger must re-sample and re-test within 14 days of receiving the results of the failed test.
9. The Discharger must submit with the monthly report in which WET test results are due, a full report of chronic WET testing that includes: (1) toxicity test results; (2) dates of sample collection and initiation of each toxicity test; and (3) flow rate at the time of sample collection.
10. If any of the accelerated (monthly) tests demonstrate chronic toxicity ( $TU_c > 1.0$ ), the Discharger must initiate a TRE in accordance with the requirements of section VI.C.2.c through e of the Order.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**

**VII. RECYCLED WATER DELIVERY MONITORING REQUIREMENTS**

**A. Effluent Monitoring - CCR, Title 22 Parameters**

The Discharger shall monitor discharges at monitoring location EFF-003 for CCR, title 22 parameters as follows:

**Table E-5. Effluent Monitoring for CCR, Title 22 Parameters**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method	Effluent Sample Location	Reported Results
Total Coliform	MPN, No. of Samples	Grab	1/Day	1	Point downstream of disinfection prior to recycled water delivery	<ul style="list-style-type: none"> <li>• Daily Value</li> <li>• 7-Day median<sup>2</sup>,</li> <li>• Number of samples exceeding 23 MPN in 30-day period</li> </ul>
Turbidity	NTU, %	Grab	1/Day	1	Point downstream of filtration prior to disinfection	<ul style="list-style-type: none"> <li>• Instantaneous maximum,</li> <li>• 24-hour average percent exceedance of 5 NTUs within a 24-hour period</li> </ul>

<sup>1</sup>Pollutants must be analyzed using the analytical methods described in 40 CFR part 136; for priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in the CTR, State Implementation Plan (SIP), Attachment 4; where no methods are specified for a given pollutant, use methods approved by the Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding MLs.

<sup>2</sup>Based on the results of the last seven days for which analyses have been completed.

**B. Recycled Water – Flow and Ultra-Violet (UV) Dosage Monitoring and Reporting**

1. Flow - The Discharger shall monitor and report daily flow of delivered recycled water when recycled water is produced.

2. Dosage – The Discharger shall monitor the UV dosage on a continuous basis at all times. The Discharger shall report the lowest UV dosage value for each day of the month. If the lowest UV dosage value is less than 100 milli-joules per square centimeter (mJ/cm<sup>2</sup>), then an explanation shall accompany the reporting value.
3. The Discharger shall calculate and report monthly the running 7-day median for total coliform for each day of the month.

**VIII. RECEIVING WATER MONITORING REQUIREMENTS**

**A. Monitoring Locations RSW-001 and RSW-002**

The Discharger shall monitor the Mojave River at monitoring locations RSW-001 and RSW-002 as follows:

**Table E-6. Receiving Water Monitoring – Monitoring Locations RSW-001 and RSW-002**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard Units	Meter	1/Quarter <sup>1</sup>	2
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter <sup>1</sup>	2
Chlorine, Total Residual	mg/L	Grab	1/Year <sup>1</sup>	2, 3
Dissolved Oxygen	mg/L	Grab	1/Quarter <sup>1</sup>	2
Total Coliform	MPN/100 mL	Grab	1/Quarter	2
Escherichia coli (E. coli)	CFU / 100 mL	Grab	1/Quarter <sup>1</sup>	USEPA 1603 or approved equal
Fecal Coliform	MPN/100 mL	Grab	1/Quarter	2
Hardness, Total (as CaCO <sub>3</sub> )	mg/L	Grab	1/Quarter <sup>1</sup>	2
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter <sup>1</sup>	2
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Quarter <sup>1</sup>	2
Temperature	°C	Grab	1/Quarter <sup>1</sup>	2
TDS	°C	Grab	1/Quarter <sup>1</sup>	2
Turbidity	°C	Grab	1/Quarter <sup>1</sup>	2
Iron	°C	Grab	1/Quarter <sup>1</sup>	2
Manganese	°C	Grab	1/Quarter <sup>1</sup>	2
Remaining NTR/CTR Priority Pollutants	°C	Grab	1/Year <sup>1</sup>	4

<sup>1</sup>RWM Pollutants listed in this table must be sampled concurrently with effluent samples (see MRP section IV. in the Effluent Monitoring Requirements).

<sup>2</sup>Pollutants must be analyzed using the analytical methods described in 40 CFR part 136. Where no methods are specified for a given pollutant, pollutants must be analyzed by a method proposed by the Discharger and approved by the Executive Officer.

<sup>3</sup>The Discharger must ensure the reporting limit for total residual chlorine is not greater than 0.001 mg/L.

<sup>4</sup>NTR and CTR, as specified in 40 CFR §131.36 and 65 Fed. Reg. 31682-31719 (May 18, 2000).

**B. Groundwater**

Groundwater monitoring requirements are not applicable.



**IX. OTHER MONITORING REQUIREMENTS**

**A. Biosolids**

**1. Monitoring Location BIO-001**

- a. The following biosolids monitoring must be recorded monthly and reported with monthly monitoring reports:
  - i. Total quantity of biosolids generated during the monitoring period.
  - ii. Date and quantity of biosolids removed off-site, location of use, recipient (including name and address), and biosolids disposal method (including crops grown if appropriate) for all biosolids removed off-site.
  - iii. Cumulative total quantity of biosolids currently on-site including the quantity of biosolids added during the monitoring period.
- b. A single representative sample of biosolids must be analyzed and reported as follows:

**Table E-7. Biosolids Monitoring Requirements at Monitoring Location BIO-001**

Parameter	Units	Sample Type	Minimum Sampling Frequency
Arsenic	mg/kg	Meter	1/Year
Cadmium	mg/kg	Grab	1/Year
Copper	mg/kg	Grab	1/Year
Lead	mg/kg	Grab	1/Year
Mercury	mg/kg	Grab	1/Year
Molybdenum	mg/kg	Grab	1/Year
Nickel	mg/kg	Grab	1/Year
Selenium	mg/kg	Grab	1/Year
Zinc	mg/kg	Grab	1/Year
Fecal Coliform (most probable number per gram)	MPN/g	Grab	1/Year
Nitrogen, Total (as Nitrogen)	mg/kg	Grab	1/Year
Phosphate, Total (as Phosphorous)	mg/kg	Grab	1/Year

- c. In addition to the monitoring requirements in section IX.A.1.b, above, the Discharger must sample annually for the parameters listed in CCR, title 22, section 66261.24, subdivision (a)(2)(A), Table II and CCR, title 22, section 66261.24, subdivision (a)(2)(B), Table III. The Discharger shall submit a proposed protocol for sample collection to the Executive Officer for review prior to sample collection and analysis. The Discharger must make a determination whether the analyses indicate that the biosolids shall be considered a hazardous material. Results of the annual sampling will be submitted with the results of all other annual monitoring requirements by March 1 of each year.

## **B. Visual Observations**

1. The Discharger must conduct visual monitoring at a frequency of once per quarter to observe and record the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, and source(s) of any observed pollutants. Although not visually observable, the Discharger must note any odors present. These observations shall be made at the outfall location to the Mojave River. Additionally, if storm water co-mingles with effluent flows, the Discharger must include the point of co-mingling in its observations. Visual observations shall be submitted in the next quarterly SMR after the observations and summarized in the annual report.
2. Quarterly visual inspections of the Facility must be made to identify any non-storm water discharge and its sources to ensure that BMPs are being implemented and are effective. Any non-storm water discharges observed, and their sources must be reported and described in the next quarterly report following the discharge and summarized in the annual report.

## **X. REPORTING REQUIREMENTS**

### **A. General Monitoring and Reporting Requirements**

1. The Discharger must comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. By **September 21, 2020**, the Discharger must revise the Sampling and Analysis Plan (SAP) and submit the revision to the Water Board. The revised SAP must reflect the requirements of this Order for sampling for all media (effluent, surface waters, and biosolids). At a minimum, the SAP must include sampling locations, sampling schedule, sampling procedures, sample handling procedures, analytical methods, method detection limits (MDLs), MLs, QA/QC protocols, and sampling criteria methods, and maps showing all monitoring points. The Discharger must periodically update the SAP as needed to keep it current.
3. The Discharger must calculate and report the result of compliance with average monthly effluent limitations, as necessary. Additional samples may be collected to demonstrate compliance.
4. For each parameter with an effluent limitation listed in section IV of this Order, the Discharger must determine and report compliance with respect to the effluent limitation.
5. As part of the ROWD submitted in accordance with Table 3 on the cover page of this Order, the Discharger must provide all reported data in an Excel tabular format that can be used to evaluate compliance with interim and/or final effluent limitations and conduct a reasonable potential analysis. Electronic submittal of data is required to be uploaded into CIWQS. If the State Water Board's Permit Entry Tool does not allow data to be submitted, it must be provided separately.
6. An annual status report that must be sent to the Water Board including:
  - a. All Pollutant Minimization Program (PMP) monitoring results for the previous year;

- b. A list of potential sources of the reportable priority pollutant(s);
- c. A summary of all actions undertaken pursuant to the control strategy; and
- d. A description of actions to be taken in the following year.

**B. Self-Monitoring Reports (SMRs)**

1. The Discharger must electronically submit SMRs using the State Water Board’s CIWQS Program web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger must report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger must submit quarterly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring must be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring must be completed according to the following schedule:

**Table E-8. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	November 1 February 1 of the following year May 1 Aug 1
1/Day	Permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	November 1 February 1 of the following year May 1 Aug 1
1/Week	Permit effective date	Sunday through Saturday	November 1 February 1 of the following year May 1 Aug 1
1/Month or 2/Month	Permit effective date	First day of calendar month through last day of calendar month	November 1 February 1 of the following year May 1 Aug 1
1/Quarter	Permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	November 1 February 1 of the following year May 1 Aug 1
1/Year	Permit effective date	January 1 through December 31	March 1 of following year

- 4. Reporting Protocols.** The Discharger must report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR part 136.

The Discharger must report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL must be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, must be reported as "detected, but not quantified," or DNQ. The estimated chemical concentration of the sample must also be reported.

For the purposes of data collection, the laboratory must write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (plus or minus a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "not detected," or ND.
  - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
  - e. Sample collection date and time, sample analysis date and time, the name of individual(s) who collected the sample, the name of individual(s) who analyzed the sample, sample collection method(s) as listed in 40 CFR part 136, sample analysis method(s) as listed in 40 CFR part 136, sample preservation method(s) used between sample collection and analysis, and applicable QA/QC data will be included with reported analytical results.
- 5. Compliance Determination.** Compliance with effluent limitations must be determined using sample reporting protocols defined above and procedures described in the definitions of Attachment A of this Order. For purposes of reporting and administrative enforcement by the Water Board and State Water Board, the Discharger must be deemed out of compliance with effluent limitations if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation established in this Order and greater than or equal to the reporting level RL.
- 6. Multiple Sample Data.** When determining compliance with an average monthly effluent limitation (AMEL) or MDEL and more than one sample result is available, the Discharger must compute the arithmetic mean unless the data set contains

one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- a. The data set must be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set must be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
  - c. For fecal coliform organisms, the log mean MPN and percent of times fecal coliform results exceed 40 per 100 mL must be determined for the last 30 days. The running 30-day log mean value and the running percent of times fecal coliform results exceed 40 per mL during any 30-day period must be reported for each day along with the results from each individual sample.
  - d. For coliform organisms, the median must be determined for the last seven days for which coliform results have been obtained. This seven-day median value must be reported for each day along with the results from each individual sample.
  - e. The average turbidity values, the percent of the time that the turbidity exceeds 5 NTUs, and the number of times that the turbidity exceeds 10 NTUs must be reported for each monthly monitoring period.
  - f. Compliance evaluation for TDS must be included in the annual report. The compliance evaluation must account for all the average monthly concentrations for the prior calendar year to assess that the average monthly effluent limitation is not exceeded.
- 7. Compliance Determination for Average Annual Effluent Limitation (AAEL).** If the average of daily discharges over a calendar year exceeds the AAEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that year for that parameter (e.g., resulting in 365 or 366 days of non-compliance in a calendar year). If only a single sample is taken during the calendar year and the analytical result for that sample exceeds the AAEL, the Discharger will be considered out of compliance for that calendar year. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar year during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar year.
- 8. Mass and Concentration Limitations.** Compliance with mass effluent limitations and concentration effluent limitations for the same parameter must be determined separately. When the concentration for a parameter in a sample is

reported as ND or DNQ, the corresponding mass emission rate determined using that sample concentration must also be reported as ND or DNQ.

9. The Discharger must submit SMRs in accordance with the following requirements:
  - a. The Discharger must arrange all reported data in a tabular format. The data must be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger must electronically submit the data in a tabular format as an attachment.
  - b. The Discharger must attach a cover letter to the SMR. The information contained in the cover letter must clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

### C. eDischarge Monitoring Reports

Electronic Discharge Monitoring Reports (eDMRs) are USEPA reporting requirements. The Discharger must electronically certify and submit eDMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about eDMR submittal is available at the DMR website at:

[http://www.waterboards.ca.gov/water\\_issues/programs/discharge\\_monitoring](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring)

### D. Other Reports

1. **Annual Pretreatment Reporting Requirements.** The Discharger must submit annually a report to the Water Board, with copies to USEPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months. In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger must also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements. An annual report must be submitted by **March 1** of each year and include at least the following information:
  - a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the POTW's influent and effluent for those pollutants USEPA has identified under CWA, section 307(a) that are known or suspected to be discharged by industrial users.

Sludge, as defined in section VI.C.5.b of the Order, shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed must be a

composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis must be performed at least annually. The Discharger must also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to interference, pass-through, or adversely impacting sludge quality. Sampling and analysis must be performed in accordance with the techniques prescribed in 40 CFR part 136 and amendments thereto.

- b.** A discussion of upset, interference, or pass-through incidents, if any, at the treatment plant, which the Discharger knows, or suspects were caused by industrial users of the POTW. The discussion must include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion must also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent pass through, interference, or noncompliance with sludge disposal requirements.
- c.** The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d.** An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger must provide a brief explanation for each deletion. The list must identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list must indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Discharger must also list the noncategorical industrial users that are subject only to local discharge limitations. The Discharger must characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
  - i.** Complied with baseline monitoring report requirements (where applicable);
  - ii.** Consistently achieved compliance;
  - iii.** Inconsistently achieved compliance;
  - iv.** Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
  - v.** Complied with schedule to achieve compliance (include the date final compliance is required);
  - vi.** Did not achieve compliance and not on a compliance schedule; and
  - vii.** Compliance status unknown.

A report describing the compliance status of each industrial user characterized by the descriptions in items iii through vii above must be submitted for each calendar quarter **within 21 days** of the end of the quarter. The report must identify the specific compliance status of each such industrial user and must also identify the compliance status of the POTW with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report must be included as part of the annual report. This quarterly reporting requirement commences upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users. The summary must include:
  - i. The names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
  - ii. The conclusions or results from the inspection or sampling of each industrial user.
- f. A summary of the compliance and enforcement activities during the past year. The summary must include the names and addresses of the industrial users affected by the following actions:
  - i. Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.
  - ii. Administrative orders regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iii. Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iv. Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - v. Assessment of monetary penalties. For each industrial user identify the amount of the penalties.
  - vi. Restriction of flow to the POTW.



- vii.** Disconnection from discharge to the POTW.
- g.** A description of any significant changes in operating the pretreatment program which differ from the information in the Discharger's approved pretreatment program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.
- h.** A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
- i.** A summary of public participation activities that involve and inform the public.
- j.** A description of any changes in biosolids disposal methods and a discussion of any concerns not described elsewhere in the report.
- k.** Duplicate signed copies of these pretreatment program reports shall be submitted to the following:

State Water Resources Control Board  
Division of Water Quality  
1001 I Street or P.O. Box 100  
Sacramento, CA 95812

and the

California Regional Water Quality Control Board  
Lahontan Region  
15095 Amargosa Road, Bldg. 2, Suite 210  
Victorville, CA 92394

and the

Regional Administrator  
U.S. Environmental Protection Agency W-5  
75 Hawthorne Street  
San Francisco, CA 94105

## **2. Operation and Maintenance**

A brief summary of any operational problems and maintenance activities must be submitted to the Water Board with each monthly SMR. This summary must discuss:

- a.** Any modifications or additions to the wastewater conveyance system, treatment facilities, or disposal facilities;
- b.** Any major maintenance conducted on the wastewater conveyance system, treatment facilities, or disposal facilities;
- c.** Any major problems occurring in the wastewater conveyance system, treatment facilities, or disposal facilities; and
- d.** The calibration or any wastewater flow measuring devices.

**3. Offsite Disposal**

The Discharger must include in each monthly monitoring report the volume and type of all waste hauled offsite for disposal. The person or company doing the hauling and the legal point of disposal must also be recorded.

**4. Annual Facility Monitoring Report**

By **March 1** of each year, the Discharger must submit an Annual Report that summarizes in tabular and graphical format the monitoring data collected for the previous year. This report must include plant influent and effluent data and time plots of related receiving water data. Included shall be the names and grades of all certified operators. Include also a summary of the compliance status and implement the schedule any non-compliance situation.

**5. Sewage and Hazardous Substance Spill Report**

In addition to any other reporting requirements, pursuant to CWC section 13271, the Discharger must immediately notify the Governor's Office of Emergency Services (OES) of any sewage or hazardous substance discharged into or onto State waters. Pursuant to CWC section 13267, the Discharger must also notify the Water Board's Victorville office of any spills reported to OES within 24 hours by telephone. CWC section 13271(a)(3) states that OES will immediately notify the Water Board, local health officer, and administrator of environmental health. Immediately means: (1) as soon as there is knowledge of the discharge, (2) as soon as notification is possible, and (3) when notification can be provided without substantially impeding cleanup or other emergency measures. For the purposes of CWC section 13271, CCR, title 23, section 2250, defines a reportable quantity of sewage to be any unauthorized discharge up to 1,000 gallons or more. The reportable quantities for hazardous substances are those developed by the USEPA contained in 40 CFR part 302.

**6. Report of Waste Discharge**

The Discharger must file a Report of Waste Discharge (ROWD) in accordance with CCR, title 23, as application for re-issuance of WDRs no later than specified in Table 3 of the Order. The ROWD must include a delimited formatted file, such as Excel®, that contains all monitored data that include, for each value, constituent, measurement date, measured value, MDL/RL, measurement units, and analyses method (for the previous permit cycle). In addition, the ROWD will also include average monthly flow at effluent discharge point EFF-001. The data date range is from **July 31, 2019** through the month before the ROWD due date.

7. By **December 15, 2023**, calculations for iron and manganese, including an assessment of the data collected quarterly at upstream station RSW-001, must be submitted.

8. The discharger must upload all receiving water data (Note: do not upload effluent data) into the *California Environmental Data Exchange Network (CEDEN)*; a database that aggregates surface water data and makes it accessible to environmental managers and the public. The website for uploading data is:

<http://www.ceden.org/>. Each self-monitoring report must state the status of uploading this data for the prior reporting period.

**E. Summary of Reports**

The following table summarizes all reports the Discharger is required to submit.

**Table E-9. Summary of Reports**

Report Name	Location of Requirement	Monitoring Period	Due Date
Monthly Monitoring Reports	MRP sections III, IV, V, VII, and VIII	First day of calendar month through last day of calendar month	November 1 February 1 of the following year May 1 Aug 1
Annual Influent, Effluent, and Receiving Water Monitoring Report	MRP section X.D.4	January 1 through December 31	March 1 of following year
Annual Pretreatment Report	MRP section X.D.1	January 1 through December 31	March 1 of each year
Initial Toxicity Reduction Evaluation (TRE) Workplan	Order section VI.C.2.b	N/A	90 Days after the effective date of this Order
Accelerated Monitoring Results	Order section VI.C.2.d	Sunday through Saturday	Submit with monthly SMR
Discharge Monitoring Report Quality Assurance Study	N/A	N/A	February 1 of each year
Operation and Maintenance	MRP section X.D.2	Sunday through Saturday	Submit with monthly SMR
Offsite Disposal	MRP section X.D.3	Sunday through Saturday	Submit with monthly SMR
Report of Waste Discharge	MRP section X.D.6	N/A	180 days before Order expiration date
Pollutant Minimization Program	Order section VI.C.3.a	N/A	Upon notification by Water Board
Sewage and Hazardous Substance Spill Report	MRP section X.D.5	N/A	Immediately
Sampling and Analysis Plan	MRP section X.A.2	N/A	September 21, 2020
Toxicity Reduction Evaluation Workplan	Order section VI.C.2.b	N/A	October 5, 2020
Biosolids Use and Disposal Plan	Order section VI.C.5.b.vii	N/A	January 6, 2021
Calculations & assessment of data collected at RSW-001	MRP section X.D.7	Quarterly	December 15, 2023

**ATTACHMENT F – FACT SHEET**

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**ATTACHMENT F – FACT SHEET**

As described in section II.B of this Order, the Water Board incorporates this Fact Sheet as findings of the Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

WDID	6B360109001
Discharger	Victor Valley Wastewater Reclamation Authority
Name of Facility	Victor Valley Regional Wastewater Treatment Plant
Facility Address	20111 Shay Road
	Victorville, CA 92394
	San Bernardino County
Facility Contact, Title and Phone	Brad Adams, Plant Superintendent, (760) 246-8638 Ext. 282
Authorized Person to Sign and Submit Reports	Brad Adams, Plant Superintendent, (760) 246-8638 Ext. 282
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Recycling Requirements	Yes, Production of Recycled Water up to 22 million gallons per day (MGD)
Facility Permitted Flow	14 MGD, Annual Average
Facility Design Flow	18 MGD
Watershed	Mojave River Hydrologic Area (HA)
Receiving Water	Mojave River
Receiving Water Type	Inland Surface Water and Groundwater

- A.** Victor Valley Wastewater Reclamation Authority (hereinafter Discharger) is the owner and operator of the Victor Valley Regional Wastewater Treatment Plant (hereinafter Facility), a Publicly Owned Treatment Works (POTW).

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

- B.** The Facility discharges wastewater to the Mojave River, a water of the United States, within the Upper Mojave River Hydrologic Area in the Mojave Hydrologic Unit and to a series of percolation ponds. This Order also establishes the recycled water production requirements in compliance with the California Code of Regulations (CCR), title 22, Division 4, Chapter 3 for recycled water produced from the regional wastewater treatment plant.

Recycled water from the Facility is used onsite for in-plant processes and limited landscape irrigation and is exempt from water recycling requirements under CCR, title 22, section 60303. The Discharger is an authorized Recycled Water Administrator under a Notice of Applicability, dated January 11, 2017, for Order No. WQO 2016-0068-DDW. The Discharger then issues individual recycled water use permits to other users.

Tertiary undisinfected wastewater is discharged to on-site percolation ponds and sludge slurry is discharged to onsite sludge drying beds covered under Order No. R6V-2012-0058. Direct discharges to the Mojave River from the Facility were previously regulated by Order No. R6V-2013-0038 (National Pollutant Discharge Elimination System [NPDES] Permit No. CA0102822) adopted on **July 17, 2013** and expired on September 5, 2018.

- C.** Attachment B-1 provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- D.** When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights, and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under the California Water Code (CWC), section 1211. This is not an NPDES permit requirement.
- E.** The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and NPDES permit on **March 8, 2018**. Supplemental information was provided on **April 4, 2018**. The application was deemed complete on **May 2, 2018**.
- F.** The Code of Federal Regulations, Title 40, section 122.46 (40 CFR 122.46) limits the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to CCR, title 23, section 2235.4, (Title 23) the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.
- G.** WDRs do not expire; thus, state requirements for the Facility are in effect, covered under sections IV.B, IV.C, and V.B. The provisions and requirements in this Order, sections IV.B, IV.C, and V.B are included to implement state law only. These provisions and requirements are not required or authorized under the federal CWA since they pertain to land discharges and recycling water requirements. Consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are available for NPDES violations.

## II. FACILITY DESCRIPTION

The Discharger is a four-member joint powers authority established in 1977. The Facility, located within the City of Victorville, provides tertiary treatment of domestic and commercial wastewater for the City of Victorville, Town of Apple Valley, and the City of Hesperia, along with two San Bernardino County Service Areas (No. 42, Oro Grande, and No. 64, Spring Valley Lakes). The Facility also receives discharges from septage tank hauling companies and anaerobically digestible material for energy recovery. The service area population is approximately 284,380.

The Facility service area includes both sewered customers and unsewered septic tank dischargers. Sewered customers discharge to the Facility through a raw sewage collection system that includes gravity sewers, sewage lift stations and sewage force mains from the City of Victorville, Spring Valley Lake (San Bernardino County Service Area No. 64), Southern California Logistics Airport (formerly George Air Force Base), Town of Apple Valley, Oro Grande (San Bernardino County Service Area No. 42), and City of Hesperia. The Discharger maintains approximately 40 miles of trunk interceptor lines that receive sewage from an approximately 216 square mile service area. The Discharger obtained coverage for the VVWRA sewer collection trunk interceptor system under the State General Permit for Sanitary Sewers (State Water Board Order 2006-0003-DWQ).

The Discharger is required to implement an industrial waste pretreatment program as required by 40 CFR 403. The Water Board first approved the Discharger's Industrial Wastewater Pretreatment Program Plan, dated January 1, 1995, in Board Order No. 6-99-58. This program is intended to prevent the pass-through or interference of pollutants affecting treatment plant performance. The Discharger currently regulates one Categorical Industrial User, 11 Non-Categorical Significant Industrial Users, and numerous other industrial users.

During the term of Board Order No. R6V-2013-0038, the Discharger constructed two sub-regional reclamation plants: The Apple Valley Sub-Regional Reclamation Plant and the Hesperia Sub-Regional Reclamation Plant. The plants are undergoing pilot testing. Waste activated sludge from the sub-regional plants is pumped to the Facility (Victor Valley Regional Wastewater Treatment Plant). Effluent from these two reclamation facilities are subject to separate orders and are not addressed under the Facility's NPDES permit. The Apple Valley Sub-Regional Reclamation Plant is regulated under Board Order No. R6V-2013-0004 and the Hesperia Sub-Regional Reclamation Plant is regulated under Board Order No. R6V-2013-0005.

The Facility has a treatment capacity of 18 MGD but is permitted to discharge only 14 MGD to the Mojave River on an average annual basis. The Facility is not requesting an increase in permitted flow to the Mojave River. The flow authorized by DDW for disinfecting recycled water is 22 MGD.

The disposal to land is regulated by Board Order No. R6V-2012-0058. The disposal facility consists of six north percolation ponds and seven south percolation ponds. There are 11 sludge drying beds and 2 sludge lagoons. The north percolation ponds are used when the plant cannot achieve the treatment quality required for direct river discharge. The south percolation ponds are the facility's main disposal site. These ponds can either be filled individually or in series. In 2015, the two sludge lagoons were lined. The sludge lagoons act as sludge thickeners. Liquid is returned to the plant for treatment, and the thickened



sludge, now called bio-solids, is applied off-site as a soil amendment for agricultural use. This permit covers discharges to surface waters only.

The Discharger is enrolled under State Water Board Order WQ 2016-0068-DDW as a Producer and Administrator of recycled water. Use of recycled water at the High Desert Power Project and West Winds Golf Course are regulated under separate Recycled Water Requirements, Board Order Nos. R6V-2009-0138 and R6V-2003-028, respectively.

The Facility process flow schematic is illustrated on Attachment C-1.

## **A. Description of Wastewater Treatment and Controls**

Treatment processes consist of screening, grit chambers, primary sedimentation, flow equalization, aeration basins, secondary clarification, cloth media filtration, and ultraviolet (UV) light disinfection. Solids undergo thickening, anaerobic digestion, dewatering, and on-site storage until transported off-site for fuel, land application, or composting. Prior to UV disinfection, wastewater may be diverted to percolation ponds on-site that are regulated under Board Order No. R6V-2012-0058. Remaining effluent is disinfected by the UV system and either delivered to recycled water users or discharged to the Mojave River.

### **1. Screening and Grit Chamber**

Influent wastewater undergoes screening (two influent channels) through bar screens, a.k.a. "aquascreens," prior to two parallel, aerated grit chambers. Debris from the bar screens is collected and disposed of in a municipal landfill. Grit that is removed passes through one of two hydrocyclones operated in parallel, and the separated solids are hauled off-site for disposal. The water removed from the hydrocyclones flows back to the grit chamber. For flow equalization, influent wastewater can be diverted to Equalization Basin 3 (EQ3). During peak flow, primary effluent can be diverted to Equalization Basin 1 and/or 2 (EQ1, EQ2).

### **2. Primary Sedimentation**

The facility has eight primary clarifiers. The primary clarifiers are equipped with helix skimmers that remove floating scum. Settled solids and scum from the primary clarifiers are pumped to anaerobic digesters.

### **3. Aeration Basins**

From the primary clarifiers, wastewater flow is split among 12 aerations basins. In November 2015, the Discharger completed equipment maintenance and upgrades to the air delivery system including a new diffuser system for more efficient cycling of anoxic and anaerobic conditions and larger air pipe headers for increased air delivery to the basins. Several dissolved oxygen probes are located throughout the aeration basins and are used for monitoring process conditions. The aeration basins are configured to allow for recirculation within the chambers to provide extended treatment. Effluent from the aeration basins flows through a mixed liquor channel that is equipped with a scum trough.

### **4. Secondary Clarifiers**

Wastewater in the mixed liquor channel flows to one of 10 secondary clarifiers for solids settling. The Facility preferentially uses five newer, larger clarifiers. During

high flows, five older, smaller clarifiers are used on an as-needed basis. Return activated sludge is pumped to the aeration basins. Waste activated sludge is pumped to a dissolved air flotation thickener (DAFT).

**5. Cloth Media Filtration**

Following secondary clarification, wastewater flows to a chamber formerly used for polymer addition. Although the Facility does not routinely add polymer, they have the capability to do so at this location. The Facility employs two Aqua Diamond filtration units operated in parallel. The filtration units provide cloth media filtration and are equipped with a travelling bridge backwash component.

Effluent from the filtration units may be diverted to the percolation ponds for disposal or may undergo further UV treatment for use as recycled water under Board Order No. R6V-2003-0028 or for discharge to the Mojave River under this NPDES permit (CA0102822).

**6. UV Disinfection**

An enclosed building contains the UV disinfection units. In the event of power failure, the Facility maintains backup power for the UV system or may alternatively discharge wastewater to the percolation ponds under Board Order No. R6V-2012-0058. Following UV disinfection, wastewater may be discharged to the Mojave River at Discharge Point 001.

**7. Solids Treatment and Disposal**

Waste activated sludge from the sub-regional wastewater treatment plants and fats, oils, and greases (FOG) collected from various entities, such as restaurants, is trucked in and fed to one of two DAFTs. Waste activated sludge from clarifiers is also pumped to the DAFTs. Polymer is added to sludge at the DAFTs for improved gas formation. Thickened sludge from the DAFTs as well as sludge from primary treatment is pumped to five anaerobic digesters. From the digesters, sludge is pumped to two sludge lagoons, then is dewatered by gravity belt thickener, then transferred to soil-cement lined solar drying beds.

**B. Discharge Points and Receiving Waters**

This Board Order regulates discharge tertiary treated wastewater from EFF-001 (formerly Discharge Point 001) to the Mojave River and the production of delivered recycled water at EFF-003 to use areas. This Board Order does not regulate discharges to onsite percolation ponds at EFF-002. The term EFF-001 and Discharge Point 001 are the same. To be consistent with State Water terminology, the term EFF-001 is now preferred.

**Table F-2. Discharge Point and Receiving Waters**

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
EFF-001	Advanced Disinfected Tertiary Treated Effluent	34.61694	-117.35333	Mojave River

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
EFF-003	Recycled Water Delivered Monitoring Station	34.61694	-117.35333	Recycled water use areas

The Mojave River originates in the San Bernardino Mountains and flows northeast, approximately 120 miles, to terminate in the desert at Soda Lake near Baker. Upstream of Discharge Point 001, surface flow decreases below the Mojave River Upper Narrows. From Discharge Point 001 downstream for about 10 miles to Helendale, the Facility discharge contributes to effluent dominated flow in the Mojave River. Past Helendale, the Mojave River typically flows below ground<sup>1</sup>. During heavy precipitation, surface flow may exist at the Facility location in addition to effluent from Discharge Point 001. Near Discharge Point 001, the discharge supports a riparian area with vegetation consisting of dense, mature cottonwood willow forest, an understory of dense willow brush and trees, and emergent vegetation (cattail, tule, and bulrush). This vegetation and the surface water provide habitat for many state and federally listed threatened or endangered species<sup>2</sup>. Because of the limited surface flow, the discharge of effluent from the Facility may enhance the surface water beneficial uses of freshwater habitat, wildlife, and wetlands. The California Department of Fish and Wildlife entered into a June 27, 2003 Memorandum of Understanding with the Discharger to guarantee that about 9,000 acre-feet per year of effluent is discharged to either Discharge Point 001 (Mojave River) or Discharge Point 002 (on-site percolation ponds regulated in separate WDRs). This discharge of a minimum quantity of treated wastewater to the Mojave River will ensure continuous flow in the effluent-dominated portion of the Mojave River downstream of Discharge Point 001 and maintain riparian habitat. Recycled water is produced at the Regional Wastewater Treatment Plant and delivered for use. The point of compliance is essentially the same for the Mojave River discharge (EFF-001) and delivered recycled water at (EFF-003). Discharge to the North and South Percolation Ponds (EFF-002) are regulated under separate Board Order No. R6V-2012-0058.

**C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

Effluent limitations contained in Board Order No. R6V-2013-0038 for discharges from Discharge Point 001 (measured at EFF-001 as defined in the Order, and representative monitoring data from the term of the Order) are presented in the table below.

<sup>1</sup> Lahontan Regional Water Quality Control Board Watershed Management Initiative (2002) p. 2.5-1.

<sup>2</sup> Habitat Water Supply Management Plan for the Adjudicated Area of the Mojave River Basin, San Bernardino County, California. Mojave Basin Area Adjudication, City of Barstow, et. al. v. City of Adelanto, et. al. Riverside County Superior Court Case No. 208568, Exhibit H, table H-1.

**Table F-3. Historical Effluent Limitations and Monitoring Data – EFF-001**

Parameter	Units	Effluent Limitation <sup>1</sup>			Monitoring Discharge Point Data (September 1, 2013 through July 31, 2019)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Range (pH) and Highest Maximum Daily Discharge
<b>Conventional Pollutants</b>							
Biochemical Oxygen Demand (5-day @ 20°C [BOD <sub>5</sub> ])	mg/L	10	15	30	10.5 <sup>2</sup>	NR <sup>4</sup>	3232
	lbs/day	1,170	1,750	3,500	490 <sup>2</sup>	NR <sup>4</sup>	1,347 <sup>2</sup>
	% Removal	85 (minimum)			92.2 <sup>2, 3</sup>		
pH	standard units	6.5-8.5 <sup>2</sup>			6.47-8.15 <sup>2</sup>		
Total Suspended Solids (TSS)	mg/L	10	15	30	2.8 <sup>2</sup>	NR <sup>4</sup>	16.5
	lbs/day <sup>1</sup>	1,170	1,750	3,500	172 <sup>2</sup>	NR <sup>4</sup>	601 <sup>2</sup>
	% Removal	85			97.2 <sup>2, 3</sup>		
<b>Priority Pollutants</b>							
Bis(2-ethylhexyl) Phthalate	µg/L	1.8	--	3.6	<3.0	--	<3.0
	lbs/day <sup>1</sup>	0.21	--	0.42	Not Detected	--	Not Detected
Chlorodibromomethane	µg/L	0.41	--	0.97	<0.55	--	<0.55
	lbs/day <sup>1</sup>	0.048	--	0.11	Not Detected	--	Not Detected
Cyanide, Total Recoverable	µg/L	3.6	--	9.6	5.0	--	5.0
	lbs/day <sup>1</sup>	0.42	--	1.1	01.276 <sup>2</sup>	--	1.276 <sup>2</sup>
Dichlorobromomethane	µg/L	0.56	--	0.87	<0.5	--	<0.5
	lbs/day <sup>1</sup>	0.065	--	0.10	Not Detected	--	Not Detected
<b>Non-Conventional Pollutants</b>							
Ammonia, Total (as Nitrogen)	mg/L	0.54	--	1.6	NR <sup>4</sup>	--	0.8 <sup>4</sup>
	lbs/day <sup>1</sup>	63	--	187	NR <sup>4</sup>	--	42 <sup>4</sup>
Chlorine, Total Residual	mg/L	0.002 <sup>5</sup>	--	0.003	<0.01	--	0.036 <sup>6</sup>
	lbs/day <sup>1</sup>	0.234 <sup>5</sup>	--	0.350	Not Detected	--	Not Detected
Nitrogen, Total	mg/L	10.3	--	12.3	NR <sup>4</sup>	--	10.9 <sup>4</sup>
	lbs/day <sup>1</sup>	1,203	--	1,436	NR <sup>4</sup>	--	1,608 <sup>4</sup>
Total Dissolved Solids	mg/L	460 <sup>7</sup>	--	580	399 <sup>2</sup>	--	650
	lbs/day <sup>1</sup>	53,710 <sup>7</sup>	--	67,721	17,603 <sup>2</sup>	--	32,722 <sup>2</sup>
Dissolved Oxygen	mg/L	6.5 <sup>8</sup>	5.0 <sup>8</sup>	4.0 <sup>8</sup>	NR <sup>4</sup>	NR <sup>4</sup>	6.35 <sup>8, 9</sup>
Fecal Coliform	MPN/100 mL	40 <sup>10</sup>	20 <sup>11</sup>	--	2 <sup>2, 11</sup>	--	17
Total Coliform	MPN/100 mL	23 <sup>12</sup>	2.2 <sup>13</sup>	240 <sup>14</sup>	NR <sup>4</sup>	2.0 <sup>13</sup>	900 <sup>14</sup>
Turbidity <sup>15</sup>	NTU	--	--	10 <sup>14</sup>	--	--	1.89 <sup>14</sup>
Acute Toxicity	% survival	Not less than 90% (Three consecutive Sample Median)			98		
		Not less than 70% (one sample)			98		
Chronic Toxicity	TU <sub>c</sub>	Narrative <sup>16</sup>			1.0		

Parameter	Units	Effluent Limitation <sup>1</sup>			Monitoring Discharge Point Data (September 1, 2013 through July 31, 2019)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Range (pH) and Highest Maximum Daily Discharge
<b>Interim Effluent Limitations</b>							
Ammonia, Total (as N)	mg/L	5.7	--	6.7	2.8 <sup>2, 17</sup>	--	9.2 <sup>17</sup>
	lbs/day <sup>1</sup>	666	--	783	56 <sup>2, 17</sup>	--	372 <sup>17</sup>
Dissolved Oxygen	mg/L	--	5.0 <sup>8</sup>	4.0 <sup>8</sup>	--	NR <sup>4</sup>	4.58 <sup>8, 18</sup>
Nitrogen, Total	mg/L	16.7	--	25.5	8.6 <sup>2, 17</sup>	--	18 <sup>17</sup>
	lbs/day <sup>1</sup>	1,950	--	2,977	405 <sup>2, 17</sup>	--	745 <sup>17</sup>

<sup>1</sup> Mass limits are based on a discharge flow (to the Mojave River) of 14 million gallons per day (MGD).  
<sup>2</sup> Based on prescription in the Basin Plan.  
<sup>3</sup> Lowest individual result for percent removal reported.  
<sup>4</sup> Observed data from April 1, 2016, to July 31, 2019, representative of the period after the final compliance date of March 31, 2016, in amended Time Schedule Order (TSO) No. R6V-2014-0039-A1. NR=Not Reported.  
<sup>5</sup> Effluent limitation is the median of all daily samples during any 6-month period.  
<sup>6</sup> Estimated result. The parameter was detected at a concentration above the method detection limit (MDL) and below the minimum level (ML).  
<sup>7</sup> To be applied as an annual average effluent limitation (AAEL).  
<sup>8</sup> Minimum concentration limitation.  
<sup>9</sup> Observed data from September 6, 2017, through July 31, 2019. This date range is representative of the period after the final compliance date in the compliance schedule in section VII of Board Order No. R6V-2013-0038.  
<sup>10</sup> Not more than 40 per 100 mL in more than 10 percent of all the samples collected in any 30-day period.  
<sup>11</sup> Log mean for any 30-day period.  
<sup>12</sup> Total coliforms in effluent must not exceed 23 Most Probable Number (MPN)/100 mL in more than one sample in any 30-day period.  
<sup>13</sup> Seven-day median.  
<sup>14</sup> Instantaneous maximum.  
<sup>15</sup> Effluent turbidity must not exceed an average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period  
 Effluent turbidity must not exceed 5 NTU more than 5 percent of the time within a 24-hour period.  
<sup>16</sup> Accelerated monitoring is triggered by a statistically significant difference between the effluent and a control. A requirement to conduct a Toxicity Reduction Evaluation (TRE) is triggered by a result greater than 1 Chronic Toxic Units (TUC).  
<sup>17</sup> Observed data from September 1, 2013, through March 31, 2016, the final compliance date in the amended TSO No. R6V-2014-0039-A1.  
<sup>18</sup> Observed data from September 3, 2013, through September 5, 2017. This date range is representative of the effective period and the interim effluent limitations in section IV.A.2. of Board Order No. R6V-2013-0038.

**D. Compliance Summary**

Monitoring data from September 1, 2013 through July 31, 2019 indicated that the Discharger has complied with the effluent limitations of Board Order No. R6V-2013-0038, except for the effluent limitation exceedances listed in the following table.

**Table F-4. Compliance Summary – Discharge Point EFF-001**

Date	Pollutant	Units	Effluent Concentration	Effluent Limitation	Violation Type
10/31/2013	Ammonia, Total (as N) <sup>1</sup>	mg/L	0.60	0.54	Monthly Average
12/02/2013	Ammonia, Total (as N) <sup>1</sup>	mg/L	3.2	1.6	Daily Maximum
12/02/2013	Ammonia, Total (as N) <sup>1</sup>	mg/L	1.9	0.54	Daily Maximum
12/31/2013	Ammonia, Total (as N) <sup>1</sup>	mg/L	1.16	0.54	Monthly Average

Date	Pollutant	Units	Effluent Concentration	Effluent Limitation	Violation Type
01/29/2014	Total Coliform Organisms	MPN/100 ml	50	23	More than once in a 30-day period
02/08/2014	Chlorine, Total Residual	mg/L	0.01	0.003	Daily Maximum
04/30/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	0.55	0.54	Monthly Average
06/04/2014	Dissolved Oxygen	mg/L	4.71	5	Average Weekly Minimum
06/10/2014	Dissolved Oxygen	mg/L	4.58	5	Average Weekly Minimum
07/15/2014	Dissolved Oxygen	mg/L	4.91	5	Average Weekly Minimum
08/31/2014	Ammonia, Total (as N)	mg/L, lb/day	NR	NR	Did not report Monthly Average
11/18/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.6	1.6	Daily Maximum
11/30/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	1.05	0.54	Monthly Average
12/02/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	1.9	1.6	Daily Maximum
12/09/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.5	1.6	Daily Maximum
12/09/2014	Nitrogen, Total (as N) <sup>1</sup>	mg/L	14.16	12.3	Daily Maximum
12/16/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.8	1.6	Daily Maximum
12/30/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	4.3	1.6	Daily Maximum
12/31/2014	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.328	0.54	Monthly Average
01/27/2015	Nitrogen, Total (as N)	mg/L	13.1	12.3	Daily Maximum
01/31/2015	Nitrogen, Total (as N)	mg/L, lbs/day	NR	NR	Did not report Monthly Average
01/31/2015	TSS	mg/L, lbs/day	NR	NR	Did not report Monthly Average
02/12/2015	Total Coliform	MPN/100 mL	280	240	Instantaneous Maximum
02/17/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	4.0	1.6	Daily Maximum
02/28/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	1.2875	0.54	Monthly Average
02/28/2015	BOD <sub>5</sub>	mg/L	10.529	10.0	Monthly Average
02/28/2015	Nitrogen, Total (as N) <sup>1</sup>	mg/L	10.73	10.3	Monthly Average
03/03/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	3.5	1.6	Daily Maximum
03/10/2015	Nitrogen, Total (as N) <sup>1</sup>	mg/L	18.43	12.3	Daily Maximum
03/12/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	9.2	1.6	Daily Maximum

Date	Pollutant	Units	Effluent Concentration	Effluent Limitation	Violation Type
03/31/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.784	0.54	Monthly Average
03/31/2015	Nitrogen, Total (as N) <sup>1</sup>	mg/L	11.52	10.3	Monthly Average
05/31/2015	Cyanide, Total (as CN)	µg/L	5.0	3.6	Monthly Average
09/22/2015	Ammonia, Total (as N) <sup>1</sup>	mg/L	2.0	1.6	Daily Maximum
03/11/2016	Total Coliform	MPN/100 mL	900	240	Instantaneous Maximum
03/31/2016	Ammonia, Total (as N) <sup>1</sup>	mg/L	0.55	0.54	Monthly Average
07/18/2016	TDS	mg/L	650	580	Daily Maximum
07/31/2016	BOD <sub>5</sub>	mg/L, lbs/day	NR	NR	Did not report Monthly Average
09/30/2016	TSS	mg/L, lbs/day	NR	NR	Did not report Monthly Average
02/15/2017	Bis(2-ethylhexyl) Phthalate	lbs/day	NR	NR	Did not report Mass
05/10/2017	Flow	MGD	14.033	14	Annual Average Flow
10/10/2017	Chlorine, Total Residual	mg/L	0.036	0.003	Daily Maximum
10/10/2017	Chlorine, Total Residual	lbs/day	NR	NR	Did not report Mass Daily Discharge
12/31/2017	Ammonia, Total (as N)	mg/L, lbs/day	NR	NR	Did not report Monthly Average
06/13/2018	BOD <sub>5</sub>	mg/L	32	30	Daily Maximum

<sup>1</sup> The exceedance occurred while TSO No. R6V-2013-0039 was in effect. The ammonia limitations shown in the table are the final limitations. The interim limitations for ammonia for the period of September 3, 2013 through March 31, 2016 are 5.7 ug/L (average monthly effluent limitation [AMEL]) and 6.7 (maximum daily effluent limitation [MDEL]).

NR= Not Reported.

In addition to the exceedances of numeric limitations in Table F-4, the Discharger had failed to provide lab analyses for required parameters on four dates and submitted a quarterly Time Schedule Order (TSO) progress report 15 days late.

On January 28, 2016, the Facility released 12,374 gallons of partially treated wastewater to the Mojave River. The Discharger cited the cause of the discharge as power failure, with non-responsive back-up.

During a May 5, 2016 compliance inspection, Water Board staff collected a sample for total coliform analysis during the site visit. The single sample total coliform count was higher than the monthly median result; therefore, the Discharger was required to collect additional samples and assess compliance with the total coliform monthly median limitation. Also based on this inspection, Water Board staff recommended improved frequency of cleaning algae off secondary clarifier weirs. Water Board staff

conducted a Pretreatment Inspection on June 9, 2015, that did not result in recommendations or violations.

Prior to the effective date of Board Order No. R6V-2013-0038, the Discharger was issued two TSOs: Nos. R6V-2008-0005 and R6V-2010-0027. TSO No. R6V-2008-0005 established interim limitations and final compliance dates to achieve effluent limits for cyanide, chlorodibromomethane, and dichlorobromomethane. TSO No. R6V-2010-0027 extended the final compliance date to January 31, 2013. Following upgrades to the treatment system, Water Board staff verified on April 25, 2013, that all status report submittals, interim effluent limitations, and final effluent compliance dates were achieved in compliance with the TSO, and TSO No. R6V-2010-0027 was rescinded on April 25, 2013. TSO No. R6V-2008-0005 was rescinded on June 19, 2013.

The Facility was issued TSO No. R6V-2014-0039 to address anticipated non-compliance with effluent limitations for total nitrogen and total ammonia. This TSO established interim limitations for these parameters with a final compliance date of June 30, 2015. On November 25, 2014, the Water Board extended the final compliance date to March 31, 2016. On January 10, 2017, the Water Board determined that all status report submittals, interim effluent limitations, and final effluent compliance dates were achieved in compliance with the TSO, and TSO No. R6V-2014-0039 was rescinded.

#### **E. Planned Changes – This section is not applicable**

### **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the requirements and authorities described in this section.

#### **A. Legal Authorities**

This Order serves as WDRs pursuant to CWC, article 4, chapter 4, division 7 (commencing with section 13260). This Order is also issued pursuant to the federal Clean Water Act (CWA), section 402, implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and CWC, chapter 5.5, division 7 (commencing with section 13370). It serves as an NPDES permit, authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

#### **B. California Environmental Quality Act**

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code, sections 21100, chapter 3 et seq.), pursuant to CWC, section 13389. Requirements to satisfy CEQA for the use of recycled water are addressed in the separate orders authorizing the use of recycled water.

#### **C. State and Federal Laws, Regulations, Policies, and Plans**

- 1. Water Quality Control Plan.** The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (hereinafter Basin Plan) on March 31, 1995, and as amended. The Basin Plan designates beneficial uses, establishes water quality



objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). The Basin Plan beneficial uses applicable to the Upper Mojave River are as follows:

**Table F-5. Surface Water Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
EFF-001	Upper Mojave River HA 628.20	<p>Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Groundwater Recharge (GWR); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Cold Freshwater Habitat (COLD); Warm Freshwater Habitat (WARM); Wildlife Habitat (WILD).</p> <p>On June 12, 2019, the Water Board approved amendments to the Basin Plan to remove the COLD beneficial use at this location. On October 3, 2019, the State Water Board approved the amendments which were subsequently approved on March 3, 2020, by the California Office of Administrative Law. Approval by USEPA is pending. The COLD beneficial use receiving water objectives at this location remain in effect until the USEPA approves the Basin Plan amendments.</p>

2. **National Toxics Rule and California Toxics Rule.** USEPA adopted the National Toxics Rule (NTR) on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR are applicable in California. On May 18, 2000, USEPA adopted the California Toxics Rule (CTR). The CTR promulgated new toxics criteria for California in addition to the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated through the NTR and to the priority pollutant objectives established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulations that specify when new and revised state and tribal water quality standards become effective for CWA purposes Federal Register, Volume 65, Number 82, page 24641 (65 Fed. Reg. 24641 [April 27, 2000]). New and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and

submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Federal regulation 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified, based on specific findings. The Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.
6. **Anti-Backsliding Requirements.** CWA, sections 402(o) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, section 2050 to 2097) or the Federal Endangered Species Act (United States Code, Title 16, sections 1531 to 1544 [16 U.S.C. 1531 to 1544]). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable State and Federal Endangered Species Act.
8. **Statewide Bacterial Provisions.** The State Water Board adopted statewide bacteria water quality objectives in Resolution 2018-0038, adopted on August 7, 2018. There are two Water Quality Objectives for surface waters in the Lahontan Region. The Water Quality Control Plan of the Lahontan Region (Basin Plan) includes a bacteria WQO of 20 colony forming units/100 milliliters (cfu/100 mL) fecal coliform. In August 2018, the State Water Resources Control Board adopted a new statewide bacteria WQO of 100 cfu/100 mL E.coli for surface waters with the REC-1 beneficial use designation (Resolution No. 2018-0038) and USEPA approved the new statewide bacteria WQO on March 22, 2019.

#### **D. Impaired Water Bodies on the CWA Section 303(d) List**

On June 26, 2015, USEPA gave final approval to California's 2012 list of impaired water bodies prepared pursuant to CWA, section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. The Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for applicable pollutants in impaired water bodies on the 303(d) list where it has not done so already.

TMDLs establish waste load allocations for point sources and load allocations for non-point sources and are established to achieve the water quality standards for the impaired water bodies.

The Mojave River at Discharge Point No. EFF-001 is not listed as an impaired water body. Upstream of Discharge Point 001, the Mojave River between the Upper Narrows and Lower Narrows is listed on the 2012 303(d) list as impaired for fluoride, sulfates, and total dissolved solids. Currently, there are no TMDLs applicable to the Facility.

## **E. Other Plans, Policies, and Regulations**

### **1. Recycled Water Requirements**

This Order establishes recycled water treatment (e.g., production) requirements pursuant to the CWC, section 13523, that incorporates State Water Board, Division of Drinking Water, recommendations based on an approved Engineering Report. Recycled Water Requirements incorporated into this Order are not subject to federal CWA authority, but are subject to CWC authority. The Facility produces recycled water for uses regulated under WQO 2016-0068-DDW.

In response to the VVWRA's request to maximize the production of recycled water, tests of the UV disinfection system were conducted to determine the maximum flow that the UV disinfection system can attain without affecting the disinfection criteria. The 16 MGD was the initial flow rate accepted before the request to expand the operational flow in each of the two channels of the installed UV system. The CDPH letter dated October 12, 2012 was amended by the CDPH letter dated September 26, 2013, to increase the flow to 22 MGD.

### **2. Watershed-Based Permitting**

In its March 8, 2018, letter filing its renewal for a NPDES permit, the Discharger proposed that this permit include findings and provisions for compliance with water quality standards for a watershed-based approach using the principles and guidance developed by the USEPA. This would include adaptive management and water-quality trading provisions that would allow actions taken by the Discharger elsewhere in the watershed to be considered as compliance with the new NPDES permit.

Water Board staff's April 4, 2018 response letter indicated that the Basin Plan does not contain provisions for water-quality trading and watershed-based permitting at this time. In addition to agreeing to continue collaborative discussions, that letter indicated the following tasks may need to be completed to accomplish this result.

- a.** Revising the Basin Plan to allow water-quality trading in accordance with state law and/or regulations.
- b.** Determining whether to implement water-quality trading as a single or multi-source watershed based general permit.
- c.** Establishing and collecting relevant information to define the watershed-trading process.

- d. Developing a detailed procedure describing watershed-based trading for the Mojave watershed.
- e. Identifying water quality parameter trade ratios, establishing baseline levels for point or non-point sources, quantifying ratios, determining a trading process, and developing enforcement provisions.
- f. Preparing work plans to implement these tasks.

These actions may begin during the next permit cycle and can be re-visited in the next permit.

#### IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR 122.44(a) requires that permits include applicable technology-based effluent limitations (TBELs), and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

##### A. Discharge Prohibitions

The discharge prohibitions established in this Order, section III, are from waste discharge prohibitions in the Basin Plan that apply to the entire Lahontan Region (section 4.1) or based on discharge prohibitions specified in the CWC.

1. **Discharge Prohibition III.A (Average annual flow shall not exceed 14.0 MGD).** This prohibition was established in Order No. R6V-2008-004 based on the Facility's design capacity. The design capacity at the Facility had increased to 18 MGD over the term of the subsequent Order No. R6V-2013-0038. The Discharger has not requested nor demonstrated a need for an increase in the permitted discharge flow to the Mojave River. Consistent with state and federal anti-degradation regulations, this Order retains a maximum permitted effluent flow of 14 MGD for Mojave River discharge.
2. **Discharge Prohibition III.B (Recycled water flow shall not exceed 22 MGD).** In a letter dated October 12, 2012 by DDW, recommendations of the minimum dosage for disinfection of treated wastewater were specified and further amended by the DDW letter dated September 26, 2013. Additionally, the specifications also stated that the UV disinfection equipment has the capacity to handle a flow up to 22 MGD through the UV reactors without affecting the disinfection criteria.
3. **Discharge Prohibition III.C (No discharge or application of waste other than that described in this Order).** This prohibition is based on 40 CFR 122.21(a), duty to apply, and CWC, section 13260, which require filing an application and ROWD before a discharge can occur. Discharges not described in the permit application and ROWD, and subsequently in this Order or other Orders, are prohibited. This prohibition is also included as Prohibition 5 in section 4.1 of the Basin Plan. This provision is retained from the previous Order.

4. **Discharge Prohibition III.D (No bypasses or overflow of untreated wastewater, except under the conditions at 40 CFR 122.41(m)[4]).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. This provision is retained from the previous Order.
5. **Discharge Prohibition III.E (No controllable condition shall create a nuisance).** This prohibition is based on the definition in CWC, section 13050, and is established for the prevention of nuisance within a specific area. This provision is retained from the previous Order.
6. **Discharge Prohibition III.F (No discharge of waste that causes violation of narrative water quality objectives).** This prohibition is based on Regional Waste Discharge Prohibition 1 from section 4.1 of the Basin Plan, which prohibits discharge of wastes that causes violation of any narrative water quality objective contained in the Basin Plan. This provision is retained from the previous Order.
7. **Discharge Prohibition III.G (No discharge of waste that causes violation of numeric water quality objectives).** This prohibition is based on Regional Waste Discharge Prohibition 1 from section 4.1 of the Basin Plan, which prohibits discharge of waste that causes violation in the water body of any numeric water quality objective contained in the Basin Plan. This provision is retained from the previous Order.
8. **Discharge Prohibition III.H (No discharge of waste that causes further degradation).** This prohibition is based on Regional Waste Discharge Prohibition 2 from section 4.1 of the Basin Plan, which prohibits discharge of waste that causes further degradation to a water body where a numeric or narrative water quality objective contained in the Basin Plan is already being violated. This provision is retained from the previous Order.
9. **Discharge Prohibition III.I (No discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes).** This prohibition is based on Regional Waste Discharge Prohibition 4 from section 4.1 of the Basin Plan, which prohibits discharge of untreated sewage, garbage, or other solid wastes, or industrial wastes into surface waters. This provision is retained from the previous Order.
10. **Discharge Prohibition III.J (No discharge containing chlorine or chlorine-containing compounds).** This prohibition is newly added because chlorine is no longer used as a backup for disinfection of wastewater discharges to the Mojave River. This Order prohibits the discharge of chlorine and chlorine-containing compounds. Annual monitoring is required to ensure that chlorine concentrations are not present in the discharge.
11. **Discharge Prohibition III.K (Pesticides).** The Regionwide prohibition No. 5 in the Basin Plan, section 4.1, prohibits the discharge of pesticides to receiving waters. The previous permit includes the protection against pesticide application under the water quality objectives, whereas this permit includes the protection against pesticides application under the prohibition section. A Basin Plan amendment was approved by the USEPA on September 10, 2015, that replaced a regionwide pesticide water quality objective with a regionwide waste discharge prohibition with

exemption criteria for aquatic pesticide application. This permit implements the Basin Plan.

- 12. Discharge Prohibition III.L (No discharge not authorized by the Regional Board).** This Order prohibits the discharge of waste that could affect the quality of waters of the state that is not authorized by the state or Regional Board through WDRs, NPDES, or other regulatory mechanism. This prohibition is based on the region-wide prohibitions section of the Basin Plan, section 4.1-1, under Waste Discharge Prohibitions.

## **B. Technology-Based Effluent Limitations (TBELs)**

### **1. Scope and Authority**

CWA, section 301(b) and implementing USEPA permit regulations at 40 CFR 122.44, require that permits include conditions meeting applicable TBELs at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Standards at 40 CFR Part 133.

Regulations promulgated in 40 CFR 125.3(a)(1) require TBELs for municipal dischargers to be placed in NPDES permits based on secondary treatment standards or equivalent to secondary treatment standards.

The CWA established the minimum performance requirements for POTWs (defined in section 304(d)[1]). CWA, section 301(b)(1)(B) requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD, TSS, and pH (see Table F-6). Note that more stringent WQBELs for BOD, pH, and TSS are applicable and are established as final effluent limitations in this Order (see section IV.C.4.b.i and ii of this Fact Sheet) based on the design average dry weather flow of 14 MGD.

### **2. Applicable TBELs**

- a. BOD and TSS.** Federal regulations, 40 CFR part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD and TSS. In addition, 40 CFR part 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. If 85 percent removal of BOD and TSS must be achieved by a secondary treatment plant, it must also be achieved by an advanced secondary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD and TSS over each calendar month.

As discussed in section IV.C.4.b.i of this Fact Sheet, this Order establishes WQBELs that are more stringent than the secondary technology-based treatment described in 40 CFR part 133 and are necessary to protect the beneficial uses of the receiving stream.

- b. **pH.** The secondary treatment regulations at 40 CFR part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order establishes a WQBEL for pH that are more stringent than the secondary technology-based treatment described in 40 CFR part 133 and are necessary to protect the beneficial uses of the receiving stream.

**Table F-6. Secondary Technology-Based Effluent Limitations (40 CFR part 133)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD	mg/L	30	45	--	--	--
	lbs/day	3,503	5,254	--	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0
TSS	mg/L	30	45	--	--	--
	lbs/day	3,503	5,254	--	--	--
	% Removal	85	--	--	--	--

**C. Water Quality-Based Effluent Limitations (WQBELs)**

**1. Scope and Authority**

CWA, section 301(b) and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The Water Board has considered the factors listed in CWC section 13241 in establishing these requirements.

40 CFR 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA, section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state’s narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs, when necessary, is intended to protect the designated uses of the receiving water, as specified in the Basin Plan, and achieve applicable water quality objectives and

criteria that are contained in other California plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

## 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The CWA, section 101(a)(2), states: *“it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.”* Federal regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal regulations, 40 CFR 131.2 and 131.10, require that all waters of the state be regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation.

40 CFR 131.3(e) defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they are included in the water quality standards. 40 CFR 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

### a. Receiving Water and Beneficial Uses

The Facility discharges wastewater to the Mojave River, a water of the United States. The beneficial uses applicable to the Mojave River are presented in Table F-5.

### b. Water Quality Objectives

The water quality objectives applicable to the receiving water for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have water quality objectives established by more than one of these sources.

- i. **Basin Plan.** The Basin Plan specifies numeric and narrative water quality objectives applicable to all water bodies in the Lahontan Region. The narrative toxicity objective states, *“All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* The narrative chemical constituents’ objective in this order states, *“Waters shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses.”*

In addition, the Basin Plan incorporates by reference objectives for chemical constituents that are equal to California primary and secondary



MCLs. On June 12, 2019, the Water Board adopted Basin Plan amendments removing the existing COLD beneficial use at this location. This change will not take effect until approved by the US EPA. Effluent limitations and provisions contained in this Order are designed to implement narrative and numeric objectives, based on available information.

- ii. **CTR.** The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries. Human health criteria are further identified as for “water and organisms” or for “organisms only.”
- iii. **NTR.** The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic organic pollutants.

### 3. Determining the Need for WQBELs

Assessing whether a pollutant has reasonable potential to exceed a water quality objective in the water body is the fundamental step in determining whether or not a WQBEL is required.

#### a. Reasonable Potential Analysis (RPA) Methodology

The RPA methodology is used for both priority and non-priority pollutants. According to the SIP section 1.3, the RPA begins with identifying the observed maximum effluent concentration (MEC) for each pollutant based on effluent concentration data. There are three triggers in determining reasonable potential:

- i. Trigger one is activated if the MEC is greater than or equal to the lowest applicable water quality objective ( $MEC \geq$  water quality objective), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted water quality objective, then that pollutant has reasonable potential, and a WQBEL is required.
- ii. Trigger two is activated if the observed maximum ambient background concentration (B) is greater than the adjusted water quality objective ( $B >$  water quality objective) and the pollutant is detected in any of the effluent samples.
- iii. Trigger three is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the water quality objective.

To maintain consistency in methodology for permitting discharges of various constituents, the Water Board used the same procedures required by the SIP for CTR constituents to evaluate reasonable potential and, where necessary, develop WQBELs for non-CTR constituents. For constituents with no promulgated numeric water quality criteria or objectives, the Water Board interpreted narrative objectives from the Basin Plan to establish the basis for reasonable potential and effluent limitation calculations.

**b. Data and Information Used for the RPA**

The following describes the data used to perform an RPA for discharges at EFF-001 formerly Discharge Point 001.

- i. **Effluent Data.** The effluent monitoring data collected by the Discharger during the term of Board Order No. R6V-2013-0038 and the nature of the discharge from Discharge Point 001 were analyzed to determine if the discharge has reasonable potential. The RPA was based on effluent monitoring data collected by the Discharger between September 2013 and July 31, 2019. To calculate ammonia limitations, the data used were from April 2016 (when treatment plant upgrades were completed) to July 31, 2019.
- ii. **Hardness.** Some freshwater metal objectives are hardness dependent. The lower the hardness, the more stringent is the resulting criterion objective. Because the receiving water may be effluent dominated at times, the hardness in both effluent and upstream receiving water were evaluated. The lowest effluent hardness observed was 59 mg/L (expressed as calcium carbonate, or CaCO<sub>3</sub>). Quarterly upstream receiving water hardness data was collected by the Discharger during the term of Order No. R6V-2013-0038. The results varied from 180 mg/L CaCO<sub>3</sub> to 240 mg/L CaCO<sub>3</sub>. The lowest downstream receiving water hardness concentration of 92 mg/L (as CaCO<sub>3</sub>) was selected as a conservative basis to conduct the RPA and to determine the objectives for this Order because the Mojave River is effluent dominated downstream of Discharge location 001.
- iii. **Ambient Background Data.** The receiving water data collected by the Discharger during the term of Board Order No. R6V-2013-0038 were analyzed to determine if the discharge has reasonable potential. The RPA was based on upstream receiving water monitoring data collected under trigger two by the Discharger between September 2013 and July 31, 2019.
- iv. **Assimilative Capacity/Mixing Zones.** The receiving water in the vicinity of the discharge location may at times be effluent dominated. A mixing zone and dilution credit have not been granted for this discharge.

**c. Reasonable Potential Analysis for Priority and Non-Priority Pollutants.**

The MECs and the most stringent applicable water quality objectives used in the RPA are presented in the following table, along with the RPA results for each pollutant. Reasonable potential was not determined for all pollutants because water quality objectives are not established for all pollutants, and monitoring data are unavailable for others. Based on a review of the effluent data collected during the term of Board Order No. R6V-2013-0038 (i.e., September 1, 2013 through July 31, 2019), the discharge exhibits reasonable potential to cause or contribute to an exceedance of the applicable CTR criteria or Basin Plan objectives for ammonia, copper, nitrate (as N), nitrite (as N), and TDS.

Data for pollutants determined to have reasonable potential are stated as “Limit Required” in Table F-7 and identified in **bold**. Pollutants determined to not have a reasonable potential are stated as “No Limit” required in the “RPA Results” column.

- i. **Constituents with Limited Data.** In some cases, reasonable potential cannot be determined because effluent data are limited, or ambient background concentrations are unavailable. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether numeric effluent limitations are necessary. This includes iron and manganese.
- ii. **Constituents with No Reasonable Potential.** WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the sources of the increases. Remedial measures are required if the increases pose a threat to receiving water quality.
- iii. **Toxicity Analyses**
  - (a) **Acute Toxicity**
    - (1) **Water Quality Objectives.** If survival is less than 90 percent in two consecutive quarterly samples, the Discharger must initiate accelerated acute WET testing consistent with the requirements of section V.A of the MRP.
    - (2) **RPA Results.** Based on 26 samples taken between October 2013 and April 2019, the lowest individual percent survival was 93 percent, and the lowest 3-sample average percent survival was 98 percent. Data indicates that all samples were greater than 70 percent survival and resulted in three sample averages greater than 90 percent. Based on these results, reasonable potential does not exist to cause or contribute to an exceedance of water quality criteria for Acute Toxicity.
    - (3) **WQBELs.** Since a reasonable potential does not exist, there is no effluent limitations included for Acute Toxicity.
    - (4) **Anti-backsliding.** The previous Board Order No. R6V-2013-0038, contains narrative limitations for Acute Toxicity. This Board Order does not contain limitations for Acute Toxicity, thus triggering anti-backsliding for this constituent. CWA, section 402 (o)(2)(A) Exceptions, states, “*Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation.*” The treatment plant underwent major upgrades to key components

of treatment after the issuance of Board Order R6V-2013-0038, thus satisfying the Anti-backsliding exception.

- (5) **Feasibility.** Based on the data from September 2013 through July 2019, the Discharger should be able to comply with the water quality objectives of the Basin Plan.

(b) **Chronic Toxicity.**

- (1) **Water Quality Objectives.** The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge.
- (2) **RPA Results.** The Discharger conducted Chronic Toxicity tests yearly during the previous order term. The maximum single-sample Chronic Toxicity result was less than 1 TUc, which is less than the translated Chronic Toxicity Objective (1.0 TUc). Therefore, there is no reasonable potential for Chronic Toxicity in the receiving water, and no WQBEL is required.
- (3) **WQBELs.** Since a reasonable potential does not exist, there is no effluent limitations included for Chronic Toxicity.
- (4) **Anti-backsliding.** The previous Board Order No. R6V-2013-0038, contains narrative limitations for Chronic Toxicity. This Board Order does not contain limitations for Chronic Toxicity, thus triggering anti-backsliding for this constituent. CWA, section 402 (o)(2)(A) Exceptions, states, *“Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation.”* The treatment plant underwent major upgrades to key components of treatment after the issuance of Board Order R6V-2013-0038, thus satisfying the Anti-backsliding exception.
- (5) **Feasibility.** Based on the data from September 2013 through July 2019, the Discharger should be able to comply with the water quality objectives of the Basin Plan.

iv. **Other Constituent Analyses**

The RPA for other constituents (priority and non-priority pollutants) is described in Table F-7

**Table F-7. Reasonable Potential Analysis Summary for Discharge Point 001**

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
<b>Priority Pollutants</b>						
1	Antimony	DWS <sup>4</sup> /USEPA – Primary MCL	6.0	<0.4	<0.4	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
2	Arsenic	DWS <sup>4</sup> / USEPA Primary MCL	10	1.4	<1.2	No Limit
3	Beryllium	DWS <sup>4</sup> /USEPA Primary MCL	4.0	<0.26	<0.26	No Limit
4	Cadmium	DWS <sup>4</sup> /USEPA Primary MCL	1.65	<0.26	<0.26	No Limit
5a	Chromium (III)	CTR Freshwater Aquatic Life based on Hardness; Cont. 4-day avg.	143	<0.4	<0.4	No Limit
5b	Chromium (VI)	Threshold value	No Criteria (10 µg/L. adopted in July 1, 2014, removed in 2017)	<0.013	<0.013	No Limit
6	Copper	DWS <sup>4</sup> /USEPA Primary MCL	8.7	11	1.9	<b>Limit Required</b>
7	Lead	DWS <sup>4</sup> /USEPA Primary MCL	15	0.20 <sup>4</sup>	<0.19	No Limit
8	Mercury	CTR Human Health Protection water & fish consumption USEPA	0.050	<0.055	<0.055	No Limit
9	Nickel	DWS <sup>4</sup> /USEPA Primary MCL	100	1.7 <sup>4</sup>	1.3 <sup>4</sup>	No Limit
10	Selenium	CTR Freshwater aquatic life protection USEPA	5.0	<1.4	<1.4	No Limit
11	Silver	DWS <sup>4</sup> /USEPA Secondary MCL	1.6	<0.22	<0.22	No Limit
12	Thallium	CTR Human Health Protection water & fish consumption USEPA	1.7	<0.2	<0.2	No Limit
13	Zinc	DWS <sup>4</sup> /USEPA Secondary MCL	5000	58	20	No Limit
14	Cyanide	CTR Human Freshwater aquatic life protection	5.2	5.0	<4.0	No Limit
15	Asbestos	Primary MCL DWS /USEPA & CTR human health protection	7.0 MFL (million fibers per liter > 10 micron)	<2.0	<2.0	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
16	2,3,7,8-Tetrachlorodibenzo-p-dioxin	CTR Human Health Protection USEPA	0.000000013	<0.05	<0.05	No Limit
--	Dioxin TEQ (Toxic Equivalency)	CTR Human Health Protection USEPA	0.000000013	Not Available	Not Available	No Limit
17	Acrolein	CTR Human Health Protection water & fish consumption USEPA	320	<1.1	4.22	No Limit
18	Acrylonitrile	CTR Human Health Protection water & fish consumption USEPA	0.059	<1.2	<0.59	No Limit
19	Benzene	Drink. Water Stds. – Primary MCL	1.0	<0.14	<0.14	No Limit
20	Bromoform	CTR Human Health Protection USEPA	4.3	<0.5	<0.5	No Limit
21	Carbon Tetrachloride	CTR Human Health Protection water & fish consumption USEPA	0.25	<0.15	<0.15	No Limit
22	Chlorobenzene	Drink. Water Stds. – Primary MCL/California public health goal Cal/EPA	70	<0.23	<0.23	No Limit
23	Chlorodibromomethane	CTR Human Health Protection water & fish consumption USEPA	0.41	<0.5	<0.18	No Limit
24	Chloroethane	No Criteria	No Criteria	<0.19	<0.19	Undetermined
25	2-Chloroethylvinyl Ether	No Criteria	No Criteria	<2.5	<1.3	Undetermined
26	Chloroform	No Criteria	No Criteria	<0.44	<0.44	Undetermined
27	Dichlorobromomethane	CTR Human Health Protection water & fish consumption USEPA	0.56	0.50	<0.11	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
28	1,1-Dichloroethane	DWS – Primary MCL	5.0	<0.098	<0.098	No Limit
29	1,2-Dichloroethane	CTR Human Health Protection water & fish consumption USEPA	0.38	<0.21	<0.12	No Limit
30	1,1-Dichloroethylene	CTR Human Health Protection water & fish consumption USEPA	0.057	<0.12	<0.12	No Limit
31	1,2-Dichloropropane	CTR Human Health Protection water & fish consumption USEPA	0.52	<0.19	<0.13	No Limit
32	1,3-Dichloropropylene	DWS – Primary MCL	0.50	<0.24	<0.25	No Limit
33	Ethylbenzene	DWS – Primary MCL	300	<0.26	<0.11	No Limit
34	Methyl Bromide	CTR Human Health Protection water & fish consumption USEPA	48	<0.15	<0.15	No Limit
35	Methyl Chloride	No Criteria	No Criteria	<0.25	<0.25	Undetermined
36	Methylene Chloride	CTR Human Health Protection water & fish consumption USEPA	4.7	<0.15	<0.15	No Limit
37	1,1,2,2-Tetrachloroethane	CTR Human Health Protection water & fish consumption USEPA	0.17	<0.29	<0.16	No Limit
38	Tetrachloroethylene	CTR Human Health Protection water & fish consumption USEPA	0.80	<0.12	<0.12	No Limit
39	Toluene	DWS – Primary MCL/Ca public health goal Cal/EPA	150	0.21	0.22 <sup>4</sup>	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Background or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
40	1,2-trans-Dichloroethylene	DWS – Primary MCL	10	<0.10	<0.10	No Limit
41	1,1,1-Trichloroethane	DWS/USEPA – Primary MCL	200	<0.12	<0.12	No Limit
42	1,1,2-Trichloroethane	CTR Human Health Protection water & fish consumption USEPA	0.60	<0.31	<0.14	No Limit
43	Trichloroethylene	CTR Human Health Protection water & fish consumption USEPA	2.7	<0.18	<0.18	No Limit
44	Vinyl Chloride	DWS – Primary MCL	0.50	<0.13	<0.13	No Limit
45	2-Chlorophenol	CTR Human Health Protection water & fish consumption USEPA	120	<1.8	<1.8	No Limit
46	2,4-Dichlorophenol	CTR Human Health Protection water & fish consumption USEPA	93	<1.8	<1.8	No Limit
47	2,4-Dimethylphenol	CTR Human Health Protection water & fish consumption USEPA	540	<1.7	<1.7	No Limit
48	2-Methyl- 4,6-Dinitrophenol	CTR Human Health Protection water & fish consumption USEPA	13.4	<1.8	<1.8	No Limit
49	2,4-Dinitrophenol	CTR Human Health Protection water & fish consumption USEPA	70	<1.6	<1.6	No Limit
50	2-Nitrophenol	No Criteria	No Criteria	<2.1	<2.1	Undetermined
51	4-Nitrophenol	No Criteria	No Criteria	<1.1	<1.1	Undetermined
52	3-Methyl 4-Chlorophenol	No Criteria	No Criteria	<1.6	<1.6	Undetermined



CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
53	Pentachlorophenol	CTR Human Health Protection water & fish consumption USEPA	0.28	<1.6	<1.6	No Limit
54	Phenol	CTR Human Health Protection water & fish consumption USEPA	21,000	<1.1	<1.1	No Limit
55	2,4,6-Trichlorophenol	CTR Human Health Protection water & fish consumption USEPA	2.1	<1.9	<1.9	No Limit
56	Acenaphthene	CTR Human Health Protection water & fish consumption USEPA	1,200	<0.01	<1.9	No Limit
57	Acenaphthylene	No Criteria	No Criteria	<0.02	<2.0	Undetermined
58	Anthracene	CTR Human Health Protection water & fish consumption USEPA	9,600	<0.01	<1.8	No Limit
59	Benzidine	CTR Human Health Protection water & fish consumption USEPA	0.00012	<5.7	<5.7	No Limit
60	Benzo(a)Anthracene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.01	<1.7	No Limit
61	Benzo(a)Pyrene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.02	<2.0	No Limit
62	Benzo(b)Fluoranthene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.02	<1.5	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Background or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
63	Benzo(ghi)Perylene	No Criteria	No Criteria	<0.02	<1.9	Undetermined
64	Benzo(k)Fluoranthene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.03	<2.2	No Limit
65	Bis(2-Chloroethoxy) Methane	No Criteria	No Criteria	<1.8	<1.8	Undetermined
66	Bis(2-Chloroethyl) Ether	CTR Human Health Protection water & fish consumption USEPA	0.031	<1.8	<1.8	No Limit
67	Bis(2-Chloroisopropyl) Ether	CTR Human Health Protection water & fish consumption USEPA	1,400	<1.9	<1.9	No Limit
68	Bis(2-Ethylhexyl) Phthalate	CTR Human Health Protection water & fish consumption USEPA	1.8	< 3.0	<2.3	No Limit
69	4-Bromophenyl Phenyl Ether	No Criteria	No Criteria	<1.6	<1.6	Undetermined
70	Butylbenzyl Phthalate	CTR Human Health Protection water & fish consumption USEPA	3,000	<1.6	<1.6	No Limit
71	2-Chloronaphthalene	CTR Human Health Protection water & fish consumption USEPA	1,700	<1.8	<1.8	No Limit
72	4-Chlorophenyl Phenyl Ether	No Criteria	No Criteria	<1.8	<1.8	Undetermined
73	Chrysene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.02	<1.6	No Limit
74	Dibenzo(a,h)Anthracene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.02	<2.0	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Background or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
75	1,2-Dichlorobenzene	DWS <sup>4</sup> Primary /USEPA – Secondary MCL	5	<0.2	<0.17	No Limit
76	1,3-Dichlorobenzene	CTR Human Health Protection water & fish consumption USEPA	400	<0.15	<0.15	No Limit
77	1,4-Dichlorobenzene	DWS <sup>4</sup> Primary /USEPA – Secondary MCL	5.0	0.19	<0.072	No Limit
78	3,3 Dichlorobenzidine	CTR Human Health Protection water & fish consumption USEPA	0.040	<2.1	<2.1	No Limit
79	Diethyl Phthalate	CTR Human Health Protection water & fish consumption USEPA	23,000	<1.8	<1.8	No Limit
80	Dimethyl Phthalate	CTR Human Health Protection water & fish consumption USEPA	313,000	<1.7	<1.7	No Limit
81	Di-n-Butyl Phthalate	CTR Human Health Protection water & fish consumption USEPA	2,700	<1.9	<1.9	No Limit
82	2,4-Dinitrotoluene	CTR Human Health Protection water & fish consumption USEPA Cal EPA Cancer Potency factor	0.11	<1.8	<1.8	No Limit
83	2,6-Dinitrotoluene	No Criteria	No Criteria	<1.9	<1.9	Undetermined
84	Di-n-Octyl Phthalate	No Criteria	No Criteria	<2.6	<2.6	Undetermined

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
85	1,2-Diphenylhydrazine	CTR Human Health Protection water & fish consumption USEPA Cal EPA Cancer Potency factor	0.040	<1.8	<1.8	No Limit
86	Fluoranthene	CTR Human Health Protection water & fish consumption USEPA	300	<2.0	<2.0	No Limit
87	Fluorene	CTR Human Health Protection water & fish consumption USEPA	1,300	<0.05	<2.0	No Limit
88	Hexachlorobenzene	CTR Human Health Protection water & fish consumption USEPA	0.00075	<1.6	<1.6	No Limit
89	Hexachlorobutadiene	CTR Human Health Protection water & fish consumption USEPA	0.44	<1.8	<1.8	No Limit
90	Hexachlorocyclopentadiene	DWS / USEPA-Primary MCL	50	<1.7	<1.7	No Limit
91	Hexachloroethane	CTR Human Health Protection water & fish consumption USEPA	1.9	<1.6	<1.6	No Limit
92	Indeno (1,2,3-cd) Pyrene	CTR Human Health Protection water & fish consumption USEPA	0.0044	<0.03	<2.0	No Limit
93	Isophorone	CTR Human Health Protection water & fish consumption USEPA	8.4	<1.9	<1.9	No Limit
94	Naphthalene	No Criteria	No Criteria	<2.0	<2.0	Undetermined

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
95	Nitrobenzene	CTR Human Health Protection water & fish consumption USEPA	17	<2.0	<2.0	No Limit
96	N-Nitrosodimethylamine	CTR Human Health Protection water & fish consumption USEPA	0.00069	<1.4	<1.4	No Limit
97	N-Nitrosodi-n-Propylamine	CTR Human Health Protection water & fish consumption USEPA Cal EPA Cancer Potency factor	0.0050	<1.7	<1.7	No Limit
98	N-Nitrosodiphenylamine	CTR Human Health Protection water & fish consumption USEPA	0.00069	<1.7	<1.7	No Limit
99	Phenanthrene	No Criteria	No Criteria	<0.02	<1.9	Undetermined
100	Pyrene	CTR Human Health Protection water & fish consumption USEPA	960	<0.02	<1.7	No Limit
101	1,2,4-Trichlorobenzene	DWS – Primary MCL	5.0	<2.0	<2.0	No Limit
102	Aldrin	CTR Human Health Protection water & fish consumption USEPA	0.00013	<1.6	<1.6	No Limit
103	Alpha (Benzene hexachloride) (BHC)	CTR Human Health Protection water & fish consumption USEPA	0.0039	<2.0	<2.0	No Limit
104	Beta-BHC	CTR Human Health Protection water & fish consumption USEPA	0.014	<2.0	<2.1	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Background or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
105	Gamma-BHC	CTR Human Health Protection water & fish consumption USEPA	0.019	<3.4	<3.4	No Limit
106	Delta-BHC	No Criteria	No Criteria	<1.9	<1.9	Undetermined
107	Chlordane	CTR Human Health Protection water & fish consumption USEPA	0.00057	<1.8	<1.8	No Limit
108	4,4'-Dichlorodiphenyltrichloro ethane DDT)	CTR Human Health Protection water & fish consumption USEPA	0.00059	<2.3	<2.3	No Limit
109	4,4'- (linked to DDE) Dichlorodiphenyldichloro ethylene	CTR Human Health Protection water & fish consumption USEPA	0.00059	<2.1	<2.1	No Limit
110	4,4'-Dichlorodiphenyldichloro ethane (DDD)	CTR Human Health Protection water & fish consumption USEPA	0.00083	<2.3	<2.3	No Limit
111	Dieldrin	C Human TR Health Protection water & fish consumption USEPA	0.00014	<2.6	<2.6	No Limit
112	Alpha-Endosulfan	CTR Freshwater Aquatic life protection; USEPA	0.056	<2.2	<2.2	No Limit
113	beta-Endosulfan	CTR Freshwater Aquatic life protection; USEPA	0.056	<2.8	<2.8	No Limit
114	Endosulfan Sulfate	CTR Human Health Protection water & fish consumption USEPA	110	<2.0	<2.0	No Limit

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>	
115	Endrin	CTR Human Health Protection water & fish consumption USEPA	0.036	<2.6	<2.6	No Limit	
116	Endrin Aldehyde	CTR Human Health Protection water & fish consumption USEPA	0.76	<10	<10	No Limit	
117	Heptachlor	CTR Human Health Protection water & fish consumption USEPA	0.00021	<1.9	<1.9	No Limit	
118	Heptachlor Epoxide	CTR Human Health Protection water & fish consumption USEPA	0.00010	<1.7	<1.7	No Limit	
119-125	Polychlorinated Biphenyls (PCBs)	CTR Human Health Protection water & fish consumption USEPA	0.00017	<9.9	<9.9	No Limit	
126	Toxaphene	CTR Freshwater Aquatic life protection; USEPA	0.00020	<18	<18	No Limit	
<b>Non-Priority Pollutants</b>							
N/A	Total Ammonia (mg/L)	Lahontan Basin Plan; Mojave Hydrologic Unit;	Cold	0.76	0.88	0.2	<b>Limit Required</b>
			Warm	1.07			
N/A	Aluminum	USEPA Sec MCL – Drinking Water STDS.	50	No Data	No Data	No Limit	
N/A	Chlorine, Total Residual	Lahontan Basin Plan	3	<0.00001	No Data	No Limit	
N/A	Fluoride (mg/L)	DWS – Primary MCL; USEPA Sec MCL – Drinking Water STDS.	2	0.5	0.7	No Limit	
N/A	Escherichia Coli (E. Coli)	Prt. 3 Bacti Prov.	cfu/100 mL	No Data	No Data	<b>Limit Required</b>	

CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Back-ground or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
N/A	Fecal Coliform	Lahontan Basin Plan	20 MPN/100 mL	17 MPN/100 mL	No Data	Limit Required <sup>9</sup>
N/A	Nitrate (as N) (mg/L)	DWS/USEPA Primary MCL	10	10.0	0.3	Limit Required <sup>6</sup>
N/A	Nitrite (as N) (mg/L)	DWS/USEPA Primary MCL	1.0	2.6	0.1	Limit Required <sup>6</sup>
N/A	Perchlorate	DWS Primary MCL	6.0	No Data	No Data	No Limit
N/A	cis-1,2-Dichloroethylene	DWS Primary MCL	6.0	<0.25	<0.1	No Limit
N/A	Dichloromethane	DWS/USEPA Primary MCL	5.0	<0.15	<0.25	No Limit
N/A	Methyl-tert-butyl-ether	Calif. Pri & Sec MCL – Drinking Water STDS	13.0	<0.43	<0.43	No Limit
N/A	Styrene	DWS/USEPA – Primary MCL	100	No Data	No Data	No Limit
N/A	Xylenes	DWS – Primary MCL	1750	<0.35	<0.28	No Limit
N/A	Alachlor	DWS/USEPA – Primary MCL	2.0	No Data	No Data	No Limit
N/A	Atrazine	DWS – Primary MCL	1.0	No Data	No Data	No Limit
N/A	Bentazon	DWS – Primary MCL	18	No Data	No Data	No Limit
N/A	Trichlorofluoromethane	DWS – Primary MCL	150	<0.16	<0.16	No Limit
N/A	1,1,2-Trichloro-1,2,2-Trifluoroethane	DWS – Primary MCL	1200	No Data	No Data	No Limit
N/A	Carbofuran	DWS – Primary MCL	18	No Data	No Data	No Limit
N/A	2,4-Dichlorophenoxyacetic Acid (D)	Calif. & USEPA Pri & Sec MCL – Drinking Water STDS	70	No Data	No Data	No Limit
N/A	Dalapon	DWS & USEPA Pri MCL –	200	No Data	No Data	No Limit
N/A	Dibromochloropropane	DWS & USEPA Pri MCL	0.20	No Data	No Data	No Limit
N/A	Di(2-ethylhexyl) Adipate	DWS & USEPA Pri MCL	400	No Data	No Data	No Limit
N/A	Di(2-ethylhexyl) Phthalate	DWS & USEPA Pri MCL	4.0	<3.0	<2.3	No Limit
N/A	Dinoseb	Calif. & USEPA Pri DWS	7.0	No Data	No Data	No Limit
N/A	Diquat	DWS & USEPA Pri & Sec MCL	20	No Data	No Data	No Limit



CTR No.	Constituent	Reference for governing Water Quality Objectives	Governing Water Quality Objective (µg/L)	MEC or MDL <sup>1,2</sup> (µg/L)	Maximum Background or MDL <sup>1,2</sup> (µg/L)	RPA Results <sup>3</sup>
N/A	Endothall	DWS & USEPA Pri & Sec MCL	100	No Data	No Data	No Limit
N/A	Ethylene Dibromide	DWS / USEPA Pri & Sec MCL	0.050	No Data	No Data	No Limit
N/A	Glyphosate	DWS / USEPA Pri & Sec MCL	700	No Data	No Data	No Limit
N/A	Methoxychlor	DWS Pri MCL	30	No Data	No Data	No Limit
N/A	Molinate	DWS Pri MCL	20	No Data	No Data	No Limit
N/A	Oxamyl	DWS Pri MCL	50	No Data	No Data	No Limit
N/A	Picloram	DWS & USEPA Pri MCL	500	No Data	No Data	No Limit
N/A	Simazine	DWS & USEPA Pri MCL	4.0	No Data	No Data	No Limit
N/A	Thiobencarb	DWS Pri MCL	70.0	No Data	No Data	No Limit
N/A	2,4,5-TP (Silvex)	DWS & USEPA Pri MCL	50	No Data	No Data	No Limit
N/A	Methyl Blue Active Substances (MBAS)	DWS / USEPA Sec MCL	500	200	No Data	No Limit
N/A	Iron	DWS / USEPA Sec MCL	300	71	400	Limit Required, Not Imposed per SIP § 1.2, Additional Data Recommended
N/A	Manganese	DWS / USEPA Sec MCL	50	13	510	Limit Required, Not Imposed per SIP § 1.2, Additional Data Recommended
N/A	Total Dissolved Solids (TDS [mg/L])	DWS / USEPA Primary MCL	500	650	530	<b>Limit Required<sup>7</sup></b>
N/A	Specific Conductance (uS/cm [Micro-siemens per centimeter])	DWS Sec MCL	900	1,908	No Data	<b>Limit Required<sup>7</sup></b>
N/A	Chloride (mg/L)	DWS / USEPA Sec MCL STDS	250	75	7171	No Limit
N/A	Sulfate (mg/L)	DWS. Sec MCL/USEPA Primary MCL	250	46	36	No Limit
N/A	Barium	DWS/USEPA Primary MCL	1000	18	75	No Limit

<sup>1</sup>The MEC and maximum background concentration are the actual detected concentrations unless preceded by a “<” sign, in which case the value shown is the minimum detection level (MDL).

<sup>2</sup>The MEC or maximum background concentration is “not available” when there are no monitoring data for the constituent.

<sup>3</sup>RPA Results = Limit Required, if MEC > WQO, B > WQO and MEC is detected, or Trigger 3;  
= No Limit, if MEC and B are < WQO or all effluent data are undetected; or  
= Undetermined, if no criteria have been promulgated or there are insufficient data.

<sup>4</sup>Drinking Water Standards.

<sup>5</sup>Estimated result detected at a concentration greater than the MDL and lower than the ML.

<sup>6</sup>Limit is applied as total nitrogen.

<sup>7</sup>The criteria specified for TDS and specific conductance in CCR, title 22, Table 64449-B specify TDS or specific conductance. This Order implements the TDS and specific conductance objective using an effluent limitation for TDS. Therefore, there is no need for a specific conductance effluent limitation. This Order does not include a limitation for specific conductance.

<sup>8</sup>FS = Fact Sheet.

<sup>9</sup>Even though the MEC does not exceed the Governing Water Quality Objective, a limitation is required due to the type and nature of the discharge. Not specifying a limit will not require disinfection that will induce this constituent to be present.

#### 4. WQBEL Calculations

##### a. Pollutants with Reasonable Potential

This Order includes WQBELs for copper, ammonia, total nitrogen, and TDS; at Discharge Point 001. Effluent data did not indicate whole effluent toxicity was present in the effluent during the term of the current permit. SIP section 1.3.3. WQBELs were developed for the pollutants determined to have reasonable potential to cause or contribute to exceedances of water quality objectives. The WQBELs for total nitrogen were calculated based on the procedures described below. The water quality objectives used for each pollutant with reasonable potential are discussed below.

- i. **Effluent Concentration Allowance (ECA).** For each water quality criterion/objective for which the SIP procedures were used to calculate effluent limitations, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

$$\begin{aligned} \text{ECA} &= C + D(C-B) && \text{where } C > B, \text{ and} \\ \text{ECA} &= C && \text{where } C \leq B \end{aligned}$$

Where:

- ECA = effluent concentration allowance
- D = dilution credit
- C = the priority pollutant criterion/objective
- B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum, with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECAs based on maximum contaminant levels (MCLs) that implement the Basin Plan's chemical constituent objectives and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

- ii. **Aquatic Toxicity Criteria.** WQBELs based on acute and chronic aquatic toxicity criteria are calculated in accordance with section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e.,  $LTA_{\text{acute}}$  and  $LTA_{\text{chronic}}$ ) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

As an example, the effluent limitations for copper were calculated as follows:

- (a) Identify applicable criteria:

Acute criteria = 12.9 µg/L  
Chronic criteria = 8.7 µg/L

- (b) Determine the appropriate ECA as discussed above.

Because there is no dilution, the ECA was set equal to the criteria:

$$ECA_{\text{acute}} = 12.9 \text{ µg/L}$$

$$ECA_{\text{chronic}} = 8.7 \text{ µg/L}$$

- (c) Calculate the applicable long-term average (LTA). The LTA is calculated by multiplying the ECA by an ECA multiplier used to find the 99th percentile occurrence probability:

$$LTA = ECA \times ECA \text{ multiplier}$$

The appropriate ECA multiplier is determined as specified in the formula provided in Step 3 of section 1.4 of the SIP (ECA multipliers are provided in the SIP, section 1.4, Table 1). The calculations for the ECA multiplier are based on the coefficient of variation (CV) of the applicable data set. The CV is the \*standard deviation divided by the mean of the data. If less than 10 data points are available, or more than 80 percent of the data is reported as non-detect, a default of 0.6 is used as the CV.

$$ECA \text{ multiplier}_{\text{acute}} = e^{(0.5\sigma^2 - z\sigma)}$$

$$ECA \text{ multiplier}_{\text{chronic}} = e^{(0.5(\sigma_4)^2 - z\sigma_4)}$$

Where:

$\sigma$  = \*standard deviation

$$\sigma = [\ln(CV^2 + 1)]^{0.5}$$

$$\sigma^2 = \ln(CV^2 + 1)$$

$$\sigma_4 = [\ln(CV^2/4 + 1)]^{0.5}$$

$$\sigma_4^2 = \ln(CV^2/4 + 1)$$

$z$  = 2.326 for 99th percentile probability basis.

For copper, the CV was 0.6, resulting in an acute ECA multiplier of 0.32 and a chronic ECA multiplier of 0.53.

$$LTA_{\text{acute}} = 12.9 \text{ µg/L} \times 0.32 = 4.16 \text{ µg/L}$$

$$LTA_{\text{chronic}} = 8.7 \text{ µg/L} \times 0.53 = 4.58 \text{ µg/L}$$

- (d) Select the lowest (most limiting) of the LTAs.

$$\text{Lowest } LTA_{\text{copper}} = 4.16 \text{ µg/L}$$

- (e) Calculate water quality-based effluent limitations by multiplying the LTA by a multiplier that adjusts for the averaging periods and exceedance frequencies of the criteria/objectives.

The multiplier is calculated as specified in the SIP, section 1.4, Step 5 and based on the CV of recent data and the required monitoring frequency. For calculating the AMEL, a 95th percentile probability basis is used. For calculating the MDEL, a 99th percentile probability basis is used.

Applicable multipliers for AMELs and MDELs are provided in the SIP, section 1.4, Table 2.

$$\text{AMEL} = \text{LTA} \times \text{AMEL multiplier}$$

$$\text{MDEL} = \text{LTA} \times \text{MDEL multiplier}$$

$$\text{AMEL}_{\text{multiplier95}} = e^{(z\sigma_n - 0.5\sigma_n^2)}$$

Where:

$$\sigma_n = [\ln(\text{CV}^2/n + 1)]^{0.5}$$

$$\sigma_n^2 = \ln(\text{CV}^2/n + 1)$$

$z = 1.645$  for 95th percentile probability basis

$n =$  number of samples per month

$$\text{MDEL}_{\text{multiplier99}} = e^{(z\sigma - 0.5\sigma^2)}$$

Where:

$$\sigma = [\ln(\text{CV}^2 + 1)]^{0.5}$$

$$\sigma^2 = \ln(\text{CV}^2 + 1)$$

$z = 2.326$  for 99th percentile probability basis

For copper, based on a CV of 0.6 and a monitoring frequency of four or less times per month, an AMEL multiplier of 1.55 and a MDEL multiplier of 3.11 have been calculated.

$$\text{AMEL} = 4.16 \mu\text{g/L} \times 1.55 = 6.5 \mu\text{g/L}$$

$$\text{MDEL} = 4.16 \mu\text{g/L} \times 3.11 = 12.9 \mu\text{g/L}$$

- (f) These effluent limitations are then compared to TBELs, human health-based effluent limitations, and current effluent limitations. The most protective of the applicable effluent limitations are established in this Order to ensure protection of human health, aquatic life, and ensure consistency with state and federal anti-backsliding regulations. Table G-1 of Attachment G of this Order includes the acute and chronic criteria objectives, including the daily and monthly effluent limitations for copper.

- iii. **Human Health Criteria.** WQBELs, based on human health (HH) criteria, are also calculated in accordance with the SIP, section 1.4. The ECAs are set equal to the AMEL, and a statistical multiplier was used to calculate the MDEL.

$$\text{AMEL} = \text{mult}_{\text{AMEL}} \left[ \min \left( M_A \text{ECA}_{\text{acute}}, M_C \text{ECA}_{\text{chronic}} \right) \right] \text{LTA}_{\text{acute}}$$

$$MDEL = \text{mult}_{MDEL} \left[ \min \left( M_A ECA_{acute}, M_C ECA_{chronic} \right) \right] LTA_{chronic}$$

$$MDEL_{HH} = \frac{\text{mult}_{MDEL}}{\text{mult}_{AMEL}} AMEL_{HH}$$

where:

min = mult<sub>AMEL</sub> = statistical multiplier converting minimum LTA to AMEL  
 mult<sub>MDEL</sub> = statistical multiplier converting minimum LTA to MDEL  
 M<sub>A</sub> = statistical multiplier converting acute ECA to LTA<sub>acute</sub>  
 M<sub>C</sub> = statistical multiplier converting chronic ECA to LTA<sub>chronic</sub>

As an example, the effluent limitations for copper were calculated as follows:

- (a) Identify applicable criteria. For copper, the CTR human health criteria for consumption of water and organisms is 1,300 µg/L; however, for the purpose of evaluating Basin Plan objectives, the secondary MCL of 1,000 is used instead.

Human Health<sub>water&organisms</sub> criteria = 1,000 µg/L

- (b) Determine the appropriate ECA as discussed above because there is no dilution, the ECA was set equal to the criteria:

ECA = 1,000 µg/L

- (c) The ECA equals the AMEL.

AMEL = 1,000 µg/L

- (d) The MDEL is calculated by multiplying the ECA by a MDEL/AMEL multiplier.

MDEL = ECA x MDEL/AMEL multiplier

The MDEL/AMEL multiplier is calculated by dividing the MDEL multiplier discussed in the aquatic toxicity criteria above, by the AMEL multiplier. Applicable MDEL/AMEL multipliers are provided in the SIP, section 1.4, Table 2. For copper, the applicable MDEL/AMEL multiplier is 2.006.

MDEL = 1,000 µg/L x 2.006 = 2,006 µg/L

- (e) These effluent limitations are then compared to technology-based effluent limitations, aquatic life-based effluent limitations, and current effluent limitations. For copper, the aquatic life limitations are the most protective of the applicable effluent limitations and are established in this Order to ensure protection of human health, aquatic life, and ensure consistency with state and federal anti-backsliding regulations.

## b. WQBEL Development

### i. BOD<sub>5</sub> and TSS

- (a) **Water Quality Objectives.** The Basin Plan contains narrative objectives for BOD and TSS as follow:

BOD (biostimulatory substances): Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

TSS (suspended materials): Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses. For natural high-quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

Federal regulations, 40 CFR part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD and TSS. The principal design parameter for wastewater treatment plants is the daily BOD and TSS loading rate and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD and TSS than the secondary standards currently prescribed in 40 CFR part 133. The BOD and TSS concentrations resulting from tertiary treatment are determined to be the levels necessary to maintain the beneficial uses of the receiving water. Applicable to both BOD and TSS, the minimum 30-day average, weekly average, and maximum daily level of effluent quality attainable by tertiary treatment are 10 mg/L, 15 mg/L, and 30 mg/L, respectively.

- (b) **RPA Results.** The discharge is determined, through Trigger 3, to have reasonable potential to cause or contribute to an exceedance of the narrative water quality objectives. Insufficiently treated wastewater is commonly a source of high BOD and TSS. The highest reported daily BOD and TSS concentrations between September 2013 and December 2017 were 18 mg/L and 16.5 mg/L, respectively. The presence of elevated BOD and TSS concentrations show the possibilities of insufficiently treated wastewater impacting beneficial uses; therefore, there is a reasonable potential to cause or contribute to an exceedance of a narrative WQO.
- (c) **WQBELs.** Consistent with Board Order No. R6V-2013-0038, this Order contains AMELs and average weekly effluent limitations (AWELs) for BOD and TSS of 10 mg/L and 15 mg/L, respectively, which are based on the capability of tertiary treatment. Board Order No. R6V-2013-0038 also contained MDELs for BOD and TSS of 30

mg/L that are retained in this Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for BOD and TSS are the same as those in the previous Order.
- (e) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.

## ii. pH

- (a) **Water Quality Objectives.** The Basin Plan contains a water quality objective for fresh waters with designated beneficial uses of COLD or WARM, which states, "...changes in normal ambient pH levels shall not exceed 0.5 pH units." The Basin Plan further states that, "For all other waters of the Region, the pH shall not be depressed below 6.5 nor raised above 8.5."
- (b) **RPA Results.** Effluent limitations for pH are required in this Order based on secondary treatment standards discussed in section IV.B.2.b of this Fact Sheet. Effluent limitations must be protective of water quality, thus WQBELs for pH must be developed and compared to the applicable secondary treatment standards, and the most stringent of the two limitations applied. Further, the Facility is a POTW that treats domestic wastewater. The pH for the Facility's influent varies due to the nature of municipal sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's objective for pH in the receiving water. Therefore, WQBELs for pH are required in this Order.
- (c) **WQBELs.** WQBELs for pH were established in the previous order based on the objective in the Basin Plan. The previous order found that an instantaneous maximum of 8.5 Standard Units (SU) and an instantaneous minimum of 6.5 SU were protective of water quality. Further, the previous order established a receiving water limitation prohibiting changes in the normal ambient pH levels greater than 0.5 SU. These effluent limitations and receiving water limitations are retained in this Order and are consistent with the requirements of the Basin Plan.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for pH are the same as those in the previous Order.

- (e) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.

### iii. Total Recoverable Copper

- (a) **Water Quality Objectives.** The CTR contains hardness-based acute and chronic aquatic life freshwater water quality objectives for copper. Using downstream receiving water hardness (92 mg/L as CaCO<sub>3</sub>, see section IV.C.3.b.ii. of this Fact Sheet), the criteria are calculated as 12.99 µg/L (acute) and 8.77 µg/L (chronic), expressed as total recoverable copper. The CTR also contains a human health water quality objective for copper equal to 1,300 µg/L. However, the Basin Plan objective for copper as a chemical constituent is the secondary MCL, equal to 1,000 µg/L.
- (b) **RPA Results.** This Order establishes effluent limitations for copper because the MEC (11 µg/L) exceeds the governing water quality objective (8.77 µg/L), demonstrating reasonable potential by Trigger 1.
- (c) **WQBELs.** WQBELs for copper, calculated according to the SIP procedures with an effluent data CV of 0.6 and no dilution, are an AMEL of 6.55 µg/L and a MDEL of 12.9 µg/L.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for copper are new.
- (e) **Feasibility.** A total of 707 samples were analyzed for copper from September 2013 through July 2019. Only one result was above the calculated effluent limitations. Based on this data, the Discharger should be able to comply with the limitations in most instances.

### iv. Chlorodibromomethane

- (a) **Water Quality Objectives.** The CTR contains human health-based water quality objectives for chlorodibromomethane for the consumption of water and organisms of 0.41 µg/L.
- (b) **RPA Results.** Per section 1.2 (page 5) of the 2005 SIP, this Order does not establish an effluent limitation for chlorodibromomethane because the Facility has ceased the use of chlorine or chlorine-compound solutions in the disinfection process since UV technology was initiated at the plant in October 2012 for disinfecting treated effluent prior to discharging into the Mojave River.
- (c) **WQBELs.** WQBEL for chlorodibromomethane is not included in this permit. Instead, a new Prohibition is included as a Discharge Prohibition, section III.J. to this Order, which states that the



discharge of chlorine or chlorine-containing compounds is prohibited.

- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this permit prohibits the discharge of chlorine or chlorine-containing compounds, which is more stringent than establishing an effluent limitation.
- (e) **Feasibility.** This section is not applicable since this permit does not include a limitation for this constituent.

**v. Total Ammonia**

- (a) **Objectives.** The Basin Plan contains water quality objectives for un-ionized ammonia based on receiving water conditions for pH and temperature. Because the Mojave River is perennial upstream and downstream of the discharge and the receiving water is often effluent dominated, effluent conditions at sampling point EFF-001 were evaluated in place of upstream data to determine the appropriate pH and temperature to be used in determining the applicable numeric water quality objectives for un-ionized ammonia. At the completion of treatment plant upgrades required by TSO No. R6V-2014-0039 and Amended TSO No. R6V-2014-0039-A1, the Facility improved its effluent quality with respect to nitrogen constituents. These upgrades were completed in March 2016; therefore, the temperature and pH effluent data were collected from April 1, 2016 to July 31, 2019 and used for the total ammonia calculations. Using the formulas provided in Chapter 3 of the Basin Plan and paired effluent pH and temperature data from April 1, 2016 through July 31, 2019, the un-ionized ammonia criteria was determined.

The entire length of the Mojave River is designated for both COLD and WARM freshwater habitat beneficial uses. This designation will remain in effect until the USEPA approves the amendment to remove the COLD beneficial use in the Basin Plan. The fish currently found downstream of the Mojave River Lower Narrows are warm water non-native species. In a letter dated September 30, 2015, VVWRA requested a re-evaluation of the COLD designation downstream of the discharge point below the Mojave River Lower Narrows to Helendale. The VVWRA letter states that none of the species known to live in the Mojave River require cold water habitats. The Water Board approved an amendment to the Basin Plan on June 11, 2019, to remove the COLD beneficial use water quality objective from portions of the Mojave River. The State Water Board approved this Basin Plan amendment on October 3, 2019. On March 3, 2020, the California Office of Administrative Law approved the Water Board's Basin Plan amendments removing the COLD as applied to the requisite segments of the Mojave River. Figure 2-1.1 (Map showing locations

where COLD and WARM freshwater habitat beneficial uses apply for the Mojave River) of the Basin Plan amendment shows that the COLD beneficial use would not apply at and downstream of the VVWRA discharge location. This change to the Basin Plan is pending approval from the USEPA.

Herein, the ammonia objectives are calculated using equations protective of both COLD and WARM beneficial uses. This Order establishes effluent limitations protective of both COLD and WARM beneficial uses. Upon notification to VVWRA by the Water Board’s Executive Officer of the approval of the amendment to remove the COLD beneficial use, the VVWRA must only comply with the total ammonia effluent limitation protective of the WARM beneficial use.

For both the COLD and WARM beneficial uses, the most conservative paired data set was used to calculate the applicable 1-hour acute criteria for un-ionized ammonia. Data from July 13, 2017, resulted in the most conservative 1-hour criteria for un-ionized ammonia. Based on an effluent temperature of 29.4 °C and a pH result of 8.15, an un-ionized acute criteria of 0.26 mg/L for the COLD beneficial use and 0.37 mg/L for the WARM beneficial use were calculated. The un-ionized 1-hour criteria were translated to total ammonia as specified in Chapter 3 of the Basin Plan, resulting in 1-hour criteria of 2.65 mg/L and 3.74 mg/L, respectively (Table F-8).

Based on paired pH and temperature data from April 1, 2016 through July 31, 2019, the minimum calculated 4-day running average total ammonia objective for the COLD beneficial use was 0.76 mg/L and the minimum calculated 4-day running average total ammonia objective for the WARM beneficial use was 1.07 mg/L. The values from August 2018 shown in Table F-9 below, represent the lowest (most conservative) running average of total ammonia concentrations for 4 consecutive days.

**Table F-8. Acute 1-Hour Average Ammonia Criteria Objective**

Date	Temperature	pH	Un-ionized Ammonia (mg/L)	Total Ammonia (mg/L)
<b>WARM</b>				
7/13/2017	29.4	8.15	0.37	3.74
<b>COLD</b>				
7/13/2017	29.4	8.15	0.26	2.65

**Table F-9. Minimum Running 4-Day Running Average Ammonia Criteria<sup>1</sup>**

Date	Temperature (°c)	pH	Un-ionized Ammonia (mg/L)	Total Ammonia (mg/L)
<b>WARM</b>				
8/04/2018	30.7	7.79	0.0526	1.066
8/05/2018	30.2	7.37	0.0231	1.234
8/06/2018	30.2	7.52	0.0326	1.243

Date	Temperature (°c)	pH	Un-ionized Ammonia (mg/L)	Total Ammonia (mg/L)
8/07/2018	30.4	8.03	0.0593	0.729
Average				1.07 mg/L
<b>COLD</b>				
8/04/2018	30.7	7.79	0.0373	0.7548
8/05/2018	30.2	7.37	0.0164	0.8734
8/06/2018	30.2	7.52	0.0231	0.8801
8/07/2018	30.4	8.03	0.0420	0.5165
Average				0.76 mg/L

<sup>1</sup>The Water Quality Objectives for total ammonia were determined using effluent data collected from April 1, 2016 through July 31, 2019.

- (b) **RPA Results.** In accordance with TSO No. R6V-2014-0039, the Discharger installed upgrades to the treatment plant to meet effluent limitations for ammonia and total nitrogen. The upgrades were completed by March 2016, when the Discharger achieved final compliance with ammonia limitations. Since March 2016, the maximum effluent concentration for total ammonia was 0.8 mg/L, below the most stringent objective protective of the COLD beneficial use. However, ammonia is a common pollutant in wastewater and reasonable potential is determined through Trigger 3.

The Water Board compared effluent ammonia concentrations to ammonia objectives calculated based on equations for both the WARM and COLD beneficial uses. Trigger 3 rendered a reasonable potential analysis for total ammonia since a WQBEL is required to protect beneficial uses, even though both the maximum effluent and background concentrations are less than the water quality objective.

- (c) **WQBELs.** WQBELs for total ammonia are shown below. The WARM and COLD limitations shown were calculated according to the SIP procedures with an effluent data CV of 0.969 and no dilution. The existing effluent limitations and the calculated effluent limitations are as follows:

Existing:	1.6 mg/L (MDEL)	0.54 mg/L (AMEL)
New:		
WARM:	1.94 mg/L (MDEL)	0.78 mg/L (AMEL)
COLD:	1.38 mg/L (MDEL)	0.55 mg/L (AMEL)

- (d) **Anti-backsliding.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits, with certain exceptions. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

Prior to USEPA approval of the Water Board’s Basin Plan amendment removing the COLD beneficial use downstream of VVWRA’s discharge location and the Water Board’s Executive Officer notifies VVWRA of this effect, the discharger must comply

with the total ammonia effluent limitation protective of the COLD beneficial use. After which, VVWRA must comply with the total ammonia effluent limitation protective of the WARM beneficial use.

The effluent limitations in this Order for total ammonia (MDEL and AMEL) are less restrictive than in the previous permit. Relaxation of WQBELs may be allowed if such backsliding is consistent with exceptions in CWA section 402(o) or with provisions in CWA section 303(d)(4).

CWA section 303(d)(4)(B) allows backsliding for waters where the water quality equals or exceeds levels necessary to protect the designated use or otherwise meets water quality standards, when the relaxation of the WQBWL is consistent with the antidegradation policy.

The relaxation of the ammonia WQBELs in this Order satisfies the anti-backsliding exception set forth in CWA section 303(d)(4)(B) because the Mojave River is not impaired for ammonia and the relaxation of the effluent limitation is consistent with the antidegradation policy. Existing in stream uses and the level of water quality necessary to protect the beneficial uses would be maintained if the WQBELs were changed from the previous permit. Even though there might be some discharges of ammonia to the Mojave River, the relaxation is not expected to result in an increase of these pollutants in the discharge.

Prior to 2016, VVWRA had numerous violations of the ammonia effluent limitations. Subsequent to facility upgrades, VVWRA had only one effluent limitation violation for ammonia (March 31, 2016 at 0.55 mg/L). New and improved changes at the aeration basins of the treatment plant have been implemented that improved the effluent water quality. In addition, the Facility will continue to provide tertiary treatment to achieve other permit limitations. Therefore, the relaxation will not result in a decreased level of treatment or an increase in pollutants discharged. This Order does not provide for an increase in the permitted design flow or allow for an increase in mass or concentration of any pollutant. Furthermore, continued monitoring for ammonia ensures that any adverse changes in water quality with respect to ammonia will be caught and quickly corrected. Therefore, the issuance of this permit is consistent with the State's antidegradation policy, and therefore meets an exception to the prohibition against relaxation of effluent limitations.

- (e) **Feasibility.** Since the effluent data has demonstrated a more efficient treatment process, along with re-calculated objectives and appropriate effluent limits re-calculated following SIP procedures, the Discharger should be able to comply with the ammonia limitations stated in this permit.

**vi. Chlorine**

- (a) **Water Quality Objective.** The Basin Plan contains a water quality objective for total residual chlorine with a median value of 0.002 mg/L and a maximum value of 0.003 mg/L. The Basin Plan further states that median values shall be based on daily measurements taken within any six-month period.
- (b) **RPA Results.** The MEC detected at station EFF-001 was < 0.01 mg/L and there was no data from upstream station RSW-001. The facility has ceased the use of chlorine or chlorine-compound solutions in the disinfection process since the use of UV technology at the plant began in October 2012.
- (c) **WQBELs.** WQBEL for chlorine is not included in this permit because Discharge Prohibition section III.J. is added to this permit, which states that discharge of chlorine or chlorine-containing compounds is prohibited. The Discharger now uses UV treatment to disinfect effluent discharged to the receiving water. In the event of power failure or equipment failure, the Discharger can divert flow to the percolation ponds, which is regulated under Order No. R6V-2013-0058. Chlorine is not used as a backup for disinfection of wastewater to the Mojave River. In consideration of the data qualifiers and the low chlorine levels (equal to or below the ML), as well as the lack of chlorine used at the Facility, this Order discontinues the effluent limitations for chlorine. Instead, this Order prohibits the discharge of chlorine and chlorine-containing compounds. Quarterly monitoring is required to ensure that chlorine concentrations are not present in the discharge.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order prohibits the discharge of chlorine compounds and is more stringent than the previous Order.
- (e) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the previous permit within the time frame period from September 1, 2013 through July 31, 2019. Based on this data, the Discharger should be able to comply with the new prohibition because the Facility no longer uses chlorine to disinfect treated wastewater.

**vii. Dissolved Oxygen**

- (a) **Water Quality Objectives.** The Basin Plan contains water quality objectives for dissolved oxygen in waters with a designated beneficial use of COLD including a daily minimum of 4.0 mg/L, a 7-day mean minimum of 5.0 mg/L, and a 30-day mean minimum of 6.5 mg/L.

- (b) **RPA Results.** The Discharger is a POTW and discharges biochemical oxygen demanding substances, which may lower oxygen levels in the receiving water causing toxicity to fish if not controlled. Effluent data from September 2013 through December 2017 indicates dissolved oxygen weekly median levels as low as 4.58 mg/L, indicating reasonable potential to exceed water quality objectives for dissolved oxygen. Effluent limitations for dissolved oxygen are required.
- (c) **WQBELs.** A 1-day minimum of 4.0 mg/L, a minimum 7-day mean of 5.0 mg/L, and a minimum 30-day mean of 6.5 mg/L are retained from the previous Order and are protective of the current Basin Plan objectives.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for dissolved oxygen are the same as those in the previous Order.
- (e) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit, since the Discharger has upgraded the air distribution system, dissolved oxygen deficiencies should not be a problem.

#### viii. Pathogens

##### (a) Fecal Coliform

- (1) **Water Quality Objectives.** The Basin Plan contains water quality objectives for fecal coliform, including a 30-day log mean of 20 Most Probable Number (MPN)/100 mL and the Basin Plan requires that no more than 10 percent of all samples collected during any 30-day period shall exceed 40 MPN/100 mL.
- (2) **RPA Results.** The beneficial uses of the Mojave River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, no dilution. To protect these beneficial uses, the Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's bacteria objective. Therefore, the discharge has reasonable potential for fecal coliform and WQBELs are required.
- (3) **WQBELs.** WQBELs for fecal coliform are based on the water quality objectives contained in the Basin Plan and include a

30-day log mean of 20 MPN/100 mL and require that no more than 10 percent of all samples collected during any 30-day period shall exceed 40 MPN/100 mL.

- (4) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for fecal coliform are the same as those in the previous Order.
- (5) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.

(b) **Total Coliform**

- (1) **Water Quality Objectives.** The Basin Plan includes a narrative objective which states that water shall not contain concentrations of coliform organisms attributable to anthropogenic sources, including human and livestock wastes. The beneficial uses of the Mojave River include water contact recreation. In accordance with the requirements of CCR, title 22, the total coliform organisms in an effluent must not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.
- (2) **RPA Results.** The beneficial uses of the Mojave River include water contact recreation and there is, at times, no dilution. To protect this beneficial use, the Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's bacteria objective. Therefore, the discharge has reasonable potential for total coliform and WQBELs are required.
- (3) **WQBELs.** Wastewater must be treated to a level equivalent to that recommended by DDW. In accordance with the requirements of CCR, title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.

- (4) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for total coliform are the same as those in the previous Order.
  - (5) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.
- (c) **Escherichia coli (E. coli)**
- (1) **Water Quality Objectives.** In August 2018, the State Water Board adopted a new statewide bacteria water quality objective of 100 cfu/100 mL E. coli for surface waters with REC-1 beneficial use designation (Resolution No. 2018-0038). USEPA approved the new statewide bacteria WQO on March 22, 2019.
  - (2) **RPA Results.** The beneficial uses of the Mojave River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, no dilution. To protect these beneficial uses, the Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an exceedance of the Basin Plan's bacteria objective. Therefore, the discharge has reasonable potential for E. coli and WQBELs are required.
  - (3) **WQBELs.** WQBELs for E. coli are based on the State Water Board statewide bacteria water quality objectives of 100 cfu/100 mL for surface waters.
  - (4) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitation for E. coli is new.
  - (5) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with the effluent limitation prescribed in the permit for fecal coliform which are correlated with E. coli. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.

#### ix. Turbidity

- (a) **Water Quality Objectives.** The Basin Plan contains water quality objectives for turbidity, which prohibit changes in turbidity that cause a nuisance or adversely affect the water for beneficial uses and



result in increases in turbidity of more than 10 percent more than natural levels. This constituent satisfies CCR, title 22 recycled water requirements, and not Clean Water Act criteria.

- (b) **RPA Results.** Upstream receiving water quality data indicate turbidity varies between 0 and 16.5 NTUs. Maintaining compliance with the specified turbidity effluent limitations will be protective of the water quality objective for turbidity specified in the Basin Plan.
- (c) **WQBELs.** In addition to coliform limitations, an operational specification for turbidity has been included to monitor the effectiveness of treatment filter performance and to assure compliance with the required level of treatment. The CCR, title 22 treatment process used at the Facility is capable of reliably treating wastewater to a turbidity level of 2 NTUs. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. In accordance with DDW recommendations, this Order includes operational specifications for turbidity of 2 NTUs as a daily average, 5 NTUs not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTUs as an instantaneous maximum.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for turbidity are the same as those in the previous Order.
- (e) **Feasibility.** The Discharger has demonstrated compliance with effluent limitations prescribed in the permit within the time frame period from September 1, 2013 through December 31, 2017. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit.

**x. Iron and Manganese**

- (a) **Water Quality Objectives.** The Basin Plan objectives for chemical constituents includes the secondary MCLs for iron (300 µg/L) and manganese (50 µg/L) in CCR, title 22.
- (b) **RPA Results.** Total recoverable iron and total recoverable manganese were detected in the effluent at concentrations below the MCLs (71 µg/L and 13 µg/L, respectively). The maximum upstream concentrations of iron and manganese were 400 µg/L and 510 µg/L, respectively, which are greater than the MCLs. There are only two upgradient samples from the discharge to the Mojave River available. Having this limited data for manganese and iron is insufficient and not statistically valid to determine the ambient

background concentrations and evaluate whether Trigger 2 of the reasonable potential analysis is qualified for these constituents. There is insufficient upgradient sample data to complete the RPA (see SIP, sections 1.2 and 1.3, step 8). Therefore, this permit requires additional monitoring for iron and manganese. Because there is limited data for these constituents, there is no reasonable potential and a water quality-based effluent limitation is not warranted for these two constituents.

- (c) **WQBELs.** Additional monitoring will be collected to include effluent and upgradient monitoring so that adequate data may be available in the next permit cycle.
- (d) **Anti-backsliding.** Not applicable because no effluent limitation is proposed at this time.
- (e) **Feasibility.** Not applicable because no effluent limitation is proposed at this time.

**xi. Nitrite and Nitrate (Applied as Total Nitrogen)**

- (a) **Water Quality Objectives.** The Basin Plan states that waters designated as MUN shall not contain concentrations of chemical constituents more than MCLs, including a nitrite concentration of 1.0 mg/L and a nitrate plus nitrite (as N) concentration of 10 mg/L.
- (b) **RPA Results.** Effluent limitations for nitrite and nitrate are necessary because the MECs for nitrite (2.6 mg/L) and nitrate as nitrogen (10.0 mg/L) equaled or exceed the governing water quality objectives of 1.0 mg/L and 10.0 mg/L, respectively, demonstrating reasonable potential by Trigger 1.
- (c) **WQBELs.** Effluent limitations for total nitrogen established in Order No. R6V-2013-0038 were based on treatment plant performance during the term of the Order, including monitoring data associated with Order No. R6V-2012-0058. Because total nitrogen includes nitrate, nitrite, ammonia and organic nitrogen, the effluent limitation for total nitrogen is protective of the MCLs for nitrite (1.0 mg/L) and nitrate plus nitrite (10 mg/L). This limitation should be re-evaluated with respect to plant performance during the next permit renewal.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for total nitrogen that include nitrate plus nitrite are the same as in the previous Order.
- (e) **Feasibility.** Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with effluent limitations prescribed in the permit after treatment plant upgrades were completed in November 2015 for total nitrogen. Based on this data, the Discharger should be able to comply with the limitations prescribed in this permit

## xii. Total Dissolved Solids (TDS)

- (a) **Water Quality Objectives.** The Basin Plan objective for chemical constituents includes the secondary MCL for TDS (500 mg/L) in CRR, title 22.
- (b) **RPA Results.** The MEC for TDS is 650 mg/L, exceeding the MCL of 500 mg/L. Therefore, the effluent exhibits reasonable potential to exceed the water quality criteria by Trigger 1. TDS is a non-priority pollutant. Therefore, the Water Board is exercising discretion and is not using the SIP methodology for conducting the RPA or developing a WQBEL for TDS. Further, the Discharger has replaced chlorine disinfection with UV disinfection, thus reducing TDS in the effluent. Results since 2012 have shown a reduction of TDS effluent concentrations. An exceedance of the Maximum Daily Effluent limitation occurred on July 18, 2016, when a TDS discharge of 650 mg/L exceeded the maximum daily concentration of 580 mg/L.
- (c) **WQBELs.** Order No. R6V-2013-0038 retained the TDS MDEL of 580 mg/L and the annual average effluent limitation of 460 mg/L from the previous Order. The annual average of 460 mg/L results in a long-term average discharge below 500 mg/L and is protective of water quality. The TDS effluent limitations from the previous Order have been retained in this Order.
- (d) **Anti-backsliding.** Anti-backsliding requirements are satisfied because this Order's effluent limitations for TDS are the same as those in the previous Order.
- (e) **Feasibility.** Because there has been only a 1-time exceedance of the TDS MDEL and because the Water Board has no information that the discharge containing TDS has caused an adverse impact to beneficial uses in the Mojave River, this permit retains the TDS effluent limitation from the previous Order. Based on the data in Table F-3, Historic Effluent Limitations and Monitoring Data – EFF-001, the Discharger has demonstrated compliance with the average monthly (applied as annual average) effluent limitation prescribed in the permit within the time frame period from September 1, 2013 through July 31, 2019. Based on this data, the Discharger should generally be able to comply with the limitations prescribed in this permit.

## 5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct acute and chronic WET testing, as specified in the Monitoring and Reporting Program. This Order requires the Discharger to implement best management practices to investigate the causes of and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in*

*concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance," dated February 1994 (USEPA Guidance). In USEPA Guidance, section B.2, Toxicity Requirements, (pgs. 14-15), it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median." Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:*

Minimum for any one bioassay:	70%
Median for any three consecutive bioassays:	90%

- b. Chronic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* The receiving water limitation for toxicity (this Order, Section V.A.19) states, *“All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.”*

Compliance with this objective is determined by use of indicator organisms, analysis of species diversity, population density, growth anomalies, bioassays of appropriate duration, and other appropriate methods as specified by the Water Board. The Order also includes requirements for chronic toxicity monitoring to ensure attainment of the Basin Plan narrative water quality objective and a monitoring “trigger” for initiation of accelerated monitoring requirements, when exceeded. The Discharger is required to implement a chronic toxicity reduction evaluation (TRE) when a result is greater than 1 Chronic Toxicity Units (TUc). The discharge must not contain chronic toxicity at a level that would cause or contribute to toxicity in the receiving water. Chronic toxicity is a detrimental biological effect of growth rate, reproduction, fertilization success, larval development, or any other relevant measure of the health of an organism population or community. Analysis of indicator organisms and toxicity tests are measured in samples from Discharge Point 001 (at monitoring location EFF-001) as described in the MRP.

- c. TRE Workplan.** This Order includes a requirement for Discharger to review, and update if necessary, the TRE Workplan by February 18, 2020, to ensure a current methodology exists should a TRE be necessary.

#### **D. Final Effluent Limitation Considerations**

##### **1. Mass-Based Effluent Limitations**

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, are employed to comply with the final effluent concentration limitations.

40 CFR 122.45(f)(1) requires that all permit limitations, standards, or prohibitions be expressed in terms of mass units, except under the following conditions: (1) for pH, temperature, radiation, or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitation on a case-by-case basis, limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production.

Mass-based effluent limitations are established using the following formula:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where:        Mass = mass limitation for a pollutant (lbs/day)  
                  Effluent limitation = concentration limitation for a pollutant (mg/L)  
                  8.34 = conversion factor  
                  Flow rate = 14 MGD

## 2. Anti-Backsliding Requirements

CWA, sections 402(o) and 303(d)(4) and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. This Order does not include effluent limitations for bis(2-ethylhexyl) phthalate, cyanide, chlorodibromomethane, and dichlorobromomethane. Based on the effluent data collected during the term of Order No. R6V-2013-0038, these constituents were not detected at concentrations exceeding the CTR criteria, and in accordance with SIP methods, did not demonstrate reasonable potential to exceed the CTR criteria. The previous Board Order No. R6V-2013-0038, contains effluent limitations for acute and chronic toxicity. This Board Order does not contain limitations for Chronic Toxicity, thus triggering anti-backsliding for this constituent. The relaxation satisfies the anti-backsliding exception set forth in CWA section 402 (o)(2)(A).

The relaxation of the ammonia WQBELs in this Order satisfies the anti-backsliding exception set forth in CWA section 303(d)(4)(B) because the Mojave River is not impaired for ammonia and the relaxation of the effluent limitation is consistent with the antidegradation policy.

## 3. Antidegradation Policies

40 CFR 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

This Order allows for relaxation of effluent limitations for bis(2-ethylhexyl) phthalate, cyanide, chlorodibromomethane, and dichlorobromomethane, and ammonia;

however, the relaxation is not expected to result in an increase of these pollutants in the discharge. This Order requires continued monitoring for these constituents to ensure they remain below CTR criteria and water quality objectives. In addition, the Facility will continue to provide tertiary treatment to achieve other permit limitations. Therefore, the relaxation will not result in a decreased level of treatment or an increase in pollutants discharged. This Order does not provide for an increase in the permitted design flow or allow for an increase in mass or concentration of any pollutant. Therefore, the issuance of this permit is consistent with the State’s antidegradation policy. Also, since the treatment plant disinfects the treated wastewater with UV and no longer uses chlorine compounds for disinfection purposes, chlorodibromomethane and dichlorobromomethane are no longer a disinfection by-product threat to water quality. Not having these compounds present satisfies the anti-backsliding criteria.

**4. Stringency of Requirements for Individual Pollutants**

This Order includes WQBELs for BOD, TSS, pH, copper, ammonia, dissolved oxygen, fecal coliform, total coliform, Escherichia coli (E. coli), whole effluent toxicity (WET), total dissolved solids, total nitrogen, and turbidity at Discharge Point No. 001. WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to state and federal law and are the applicable water quality standards. The scientific procedures for calculating the WQBELs for priority pollutants are based on the SIP method, which was approved by USEPA on May 18, 2000, and amended in 2005.

This Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and recycling water requirements.

Table F-10 provides a summary of the final effluent limitations at Discharge Point No. 001.

**Table F-10 Summary of Final Effluent Limitations – Discharge Point 001**

Constituent	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Basis <sup>1</sup>
<b>Conventional Pollutants</b>							
Biochemical Oxygen Demand (5-day @ 20°C) (BOD <sub>5</sub> )	mg/L	10	15	30	NA	NA	TTC, E
	lbs/day <sup>2</sup>	1,170	1,750	3,500	NA	NA	
	Percent Removal	85 <sup>3</sup>	NA	NA	NA	NA	CFR, E
Escherichia Coli (E. coli)	cfu/100 mL	Footnote <sup>4</sup> & <sup>5</sup>					BP
Fecal Coliform	MPN/100 mL	20 <sup>6</sup>	NA	40 <sup>7</sup>	NA	NA	BP, E
pH	Standard Units	NA	NA	NA	6.5 <sup>8</sup>	8.5 <sup>8</sup>	BP, E
Total Suspended Solids (TSS)	mg/L	10	15	30	NA	NA	TTC, E
	lbs/day <sup>2</sup>	1,170	1,750	3,500	NA	NA	
	Percent Removal	85 <sup>3</sup>	NA	NA	NA	NA	CFR, E

Constituent	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Basis <sup>1</sup>
<b>Priority Pollutants</b>							
Copper, Total Recoverable	µg/L	6.5	NA	12.9	NA	NA	CTR
	lbs/day <sup>2</sup>	0.76	NA	1.5	NA	NA	
<b>Non-Conventional Pollutants</b>							
Total Ammonia-N Protective of Warm ben. use <sup>9</sup>	mg/L	0.78	NA	1.94	NA	NA	BP, E
	lbs/day <sup>2</sup>	91	NA	227	NA	NA	
Total Ammonia-N Protective of Cold ben. use <sup>9</sup>	mg/L	0.55	NA	1.38	NA	NA	BP, E
	lbs/day <sup>2</sup>	64	NA	161	NA	NA	
Dissolved Oxygen	mg/L	6.5 <sup>10</sup>	5.0 <sup>10</sup>	4.0 <sup>10</sup>	NA	NA	BP, E
Nitrogen, Total	mg/L	10.3	NA	12.3	NA	NA	BP, E
	lbs/day <sup>2</sup>	1,203	NA	1,436	NA	NA	
Total Dissolved Solids (TDS)	mg/L	460 <sup>11</sup>	NA	580	NA	NA	BP, E
	lbs/day <sup>2</sup>	53,710 <sup>11</sup>	NA	67,721	NA	NA	
<b>Effluent Limitations based on CCR, Title 22</b>							
Total Coliform	MPN/100 mL	--	2.2 <sup>12</sup>	23 <sup>13</sup>	NA	240	Title 22, E
Turbidity	NTU	--	5 <sup>14</sup>	2 <sup>15</sup>	NA	10	Title 22, E

<sup>1</sup>TTC=Based on treatment capability.

E=Based on effluent limitations contained in the previous Board Order No. R6V2013-0038.

CFR=Secondary treatment standards from 40 CFR part 133.

CTR=Based on water quality criteria contained in the CTR and applied as specified in the SIP.

BP=Based on water quality objectives contained in the Basin Plan.

Title 22 = Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

BP1=Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy, Aug. 7, 2018.

<sup>2</sup>Based upon a design average dry weather flow of 14 MGD.

<sup>3</sup>The average monthly percent removal shall be at least 85 percent.

<sup>4</sup>Six week rolling Geometric Mean not to exceed 100 colony forming units (cfu) per 100 mL.

<sup>5</sup>Statistical Threshold Value (STV) of 320 cfu/100 mL not to be exceeded in >10% of samples collected in a calendar month.

<sup>6</sup>Log mean for any 30-day period.

<sup>7</sup>Not more than 40 MPN per 100 mL in more than 10 percent of all the samples collected in any 30-day period.

<sup>8</sup>Range of instantaneous minimum-instantaneous maximum.

<sup>9</sup>VVWRA must comply with one total ammonia effluent limitation. VVWRA must comply with the total ammonia effluent limitation protective of the COLD beneficial use until USEPA approves the Water Board' Basin Plan amendment removing the COLD beneficial use downstream of VVWRA's discharge location and the Water Board's Executive Officer notifies VVWRA of this effect. The total ammonia effluent limitation protective of the COLD beneficial use no longer applies when the USEPA approves the Water Board' Basin Plan amendment removing the COLD beneficial use downstream of VVWRA's discharge location and the Water Board's Executive Officer notifies VVWRA of this effect. Upon notification to VVWRA by the Water Board's Executive Officer of the approval of the amendment to remove the COLD beneficial use downstream of VVWRA's discharge location, VVWRA must comply with the total ammonia effluent limitation protective of the WARM beneficial use.

<sup>10</sup>Dissolved oxygen limitations are minimum monthly mean/minimum weekly mean/minimum daily concentration.

<sup>11</sup>To be applied as an annual average effluent limitation (AAEL).

<sup>12</sup>Applied as a 7-day median effluent limitation.

<sup>13</sup>Total coliforms in effluent must not exceed 23 MPN/100 mL in more than one sample in any 30-day period.

<sup>14</sup>Effluent turbidity must not exceed 5 NTUs more than 5 percent of the time in a 24-hour period.

<sup>15</sup>Effluent turbidity must not exceed an average of 2 NTUs within a 24-hour period.

lbs/day = Pounds per day.

mg/L = Milligrams per liter.

MPN/100 mL = Most probable number per 100 milliliters.

TUa = Acute toxicity.

TUc = Chronic toxicity.

µg/L = Micrograms per liter.

## **E. Interim Effluent Limitations**

This section is not applicable.

## **F. Land Discharge Specifications**

Land discharge specifications are included under Order No. R6V-2012-0058.

## **G. Recycling Specifications**

1. All the water recycling production specifications are based on the technical capabilities of the wastewater treatment system and levels required by CCR, title 22. The Discharger has obtained coverage under the Recycled Water General Order to distribute recycled water to authorized use sites, (described in section I.B of this Fact Sheet); therefore, this Order does not include specifications or requirements for uses of recycled water.
2. **UV Disinfection Operational Provisions.** The disinfection requirements of this Order, section IV.C. (Recycling Specifications), are retained from Order No. R6V-2013-0038 and are based on recommendations from the California Department of Public Health (CDPH), now Division of Drinking Water, specified in an October 12, 2012 letter, with the subject Victor Valley Wastewater Reclamation Authority Westside WRF – UV Disinfection Field Commissioning Test Results (System No. 3690013). These provisions maximize compliance with CCR, title 22, based on site-specific equipment and conditions at the Facility.
3. **Total Coliform Bacteria and Turbidity.** Consistent with Board Order No. R6V-2013-0038, this Order includes effluent limitations at Discharge Point 001 for total coliform bacteria and turbidity that reflect the standards for tertiary treated recycled water adopted by the DDW and in CCR, title 22, and are included to ensure that the discharge is protective of human health.

## **V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

The receiving water limitations in this Order are based upon the water quality objectives contained in the Basin Plan.

### **A. Surface Water**

1. Surface water limitations in this Order are included to ensure protection of beneficial uses of the receiving waters (see section V of this Order).
2. In August 2018, the State Water Board adopted a new statewide bacteria water quality objective of 100 colony forming units/100 mL for surface waters with REC-1



beneficial use designation. State Water Board Resolution No. 2018-0038 and USEPA approved the new statewide bacteria WQO on March 22, 2019.

3. The receiving waters collectively have the following beneficial uses: municipal and domestic supply (MUN); agricultural supply (AGR); groundwater recharge (GWR); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); cold freshwater habitat (COLD); warm freshwater habitat (WARM); and wildlife habitat (WILD). The Basin Plan amendment approved by USEPA in September 2015 approved the removal of a water quality objective and created a new prohibition on pesticides with exemption criteria.

The Water Board approved amendments to the Basin Plan on June 12, 2019 removing the COLD beneficial use along portions of the Mojave River to its terminus. Subsequently, on October 3, 2019, the State Water Board approved these amendments. On March 3, 2020, the California Office of Administrative Law approved the Water Board's Basin Plan amendments removing the COLD beneficial use at the VVWRA discharge location. Approval of the Basin Plan Amendments by USEPA are pending.

#### **B. Groundwater**

This section is not applicable.

### **VI. RATIONALE FOR PROVISIONS**

#### **A. Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC, section 13387(e).

#### **B. Special Provisions**

##### **1. Reopener Provisions**

These provisions are based on 40 CFR 122.62 and allow modification, reissuance, or revocation of this Order and its effluent limitations, as necessary, in response to updated water quality objectives, regulations, or other new relevant information that may be established in the future and other circumstances as allowed by law.

## 2. Special Studies and Additional Monitoring Requirements

- a. **Whole Effluent Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" This Order retains from the previous Order a trigger for accelerated chronic toxicity monitoring.
- b. **TRE Workplan.** This provision is based on the SIP, section 4, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.

The Discharger is required to prepare a TRE Workplan in accordance with USEPA guidance. Numerous USEPA guidance documents are available, as identified below:

*Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.

*Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.

*Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition*, EPA 600/6-91/003, February 1991.

*Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, May 1992.

*Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA/600/R-92/080, September 1993.

*Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity, Second Edition*, EPA 600/R-92/081, September 1993.

*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, EPA-821-R- 02-012, October 2002.

*Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA-821-R- 02-013, October 2002.

*Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

- c. **Accelerated Monitoring.** This provision requires accelerated WET testing when a regular WET test result exceeds an accelerated monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring

should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. USEPA Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-Based Toxics Control*, EPA/505/2-90-001, March 1991 (TSD). The TSD, at page 118, states "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.*" Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e., toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

- d. **TRE Implementation.** A TRE must be initiated as required in the WDRs, section VI.C.2.d. This requirement is necessary to control toxicity in a discharge so that it does not cause or contribute to exceedances of the Basin Plan objectives for toxicity.

### 3. **Best Management Practices and Pollution Prevention**

- a. **Pollutant Minimization Program (PMP).** The PMP required in this Order is necessary to address pollutants for which there is evidence (e.g., sample results reported as "detected, not quantified" [DNQ] when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
  - i. A sample result is reported as DNQ and the effluent limitation is less than the reporting limit (RL); or
  - ii. A sample result is reported as "not detected" (ND) and the effluent limitation is less than the method detection limit (MDL), using definitions described in Attachment A and reporting protocols described in Attachment E, MRP, section X.B.4
- b. **Best Management Practices.** This Order references the requirement for the Discharger to identify, implement, and monitor BMPs in accordance with a site-specific Storm Water Pollution Prevention Plan (SWPPP), as required under the General Industrial Storm Water Permit. The Discharger has applied for coverage under this permit and is regulated under Waste Discharge Identification Number 6B36I005756.

#### **4. Construction, Operation, and Maintenance Specifications**

These provisions are based on the requirements in 40 CFR 122.41(e) and the existing Order.

#### **5. Special Provisions for Municipal Facilities (POTWs Only)**

- a. Pretreatment Program Requirements.** The CWA, section 307(b) and 40 CFR part 403 require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants that will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards, or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR part 403 and are based on the previous Order.
- b. Sludge/Biosolids Treatment or Discharge Specifications.** Sludge treatment disposal and discharge specifications are based on biosolids requirements in 40 CFR part 503 and consistent with specifications of the previous Order.

#### **6. Other Special Provisions**

- a. Removed Provisions.** Order No. R6V-2013-0038 contained provisions in section VI.6.a, for Order Continuation after Expiration Date, section VI.6.b. for Land Ownership Change or Control, and section VI.6.c. for Succeeding Owner or Operator. These requirements are now addressed in section VI.A.2.n, Standard Provisions, and Attachment D, (Standard Provisions-Permit Action), section II.C. (Transfers) of this Order.
- b. Flow Increase Requests.** State Water Board Resolution No. 68-16 requires that existing high-quality waters be maintained to the maximum extent possible; however, it allows for change that is consistent with the maximum benefit to the people of the State, does not unreasonably affect present and potential beneficial uses, and will not result in water quality lower than applicable standards. Future requests for any increase in permitted effluent flow greater than 14 MGD to surface waters must be accompanied by a revised report of waste discharge including an antidegradation analysis that demonstrates consistency with State Water Board Resolution No. 68-16 and considers current and future anticipated capabilities of the Facility.

#### **7. Compliance Schedules**

This section is not applicable.

### **VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

CWA, section 308 and 40 CFR 122.41(h) & (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. CWC, sections 13267 and 13383 also authorize the Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The MRP, Attachment E of this Order, establishes monitoring, reporting, and recordkeeping requirements that implement federal and state

requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

#### **A. Influent Monitoring**

Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD and TSS reduction requirements). The monitoring frequencies for flow, BOD, pH, and TSS have been retained from Order No. R6V-2013-038.

#### **B. Effluent Monitoring**

Pursuant to the requirements of 40 CFR 122.44(i)(2), effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations and to assess the impacts of the discharge on the receiving stream.

##### **1. Monitoring Location EFF-001**

Effluent monitoring is established at Monitoring Location EFF-001 to allow the Discharger to demonstrate that the effluent is in compliance with effluent limitations and requirements of this Order immediately after UV disinfection and prior to being discharged to Mojave River via Discharge Point 001.

- a.** Effluent monitoring frequencies and sample types for all parameters with effluent limitations have generally been retained from Order No. R6V-2013-0038 to determine compliance with effluent limitations for these parameters.
- b.** The effluent monitoring frequencies and sample type for all parameters without limitations have been retained from Order No. R6V-2013-0038 to assess the quality of the effluent for these pollutants, with exceptions described in VII.B.1.c below.
- c.** The required monitoring frequency for cyanide, bis(2-ethylhexyl) phthalate, chlorodibromomethane, and dichlorobromomethane is reduced in this Order from the previously established frequency of once per month to once per quarter. If the pollutant is not detected in the first three samples, then the frequency is reduced to once per year. The reduced frequency is appropriate considering that these constituents have not demonstrated reasonable potential and effluent limitations have been discontinued.
- d.** This Order includes new monitoring requirements for Escherichia Coli (E. Coli) bacteria. The State Water Board has adopted new bacteria standards as Part 3 of the *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, Bacteria Provisions, and a Water Quality Standards Variance Policy (August 2018, [Inland Surface Waters Plan]). Waters must not contain concentrations of E. coli exceeding 100 colony forming units/100 mL (CFU/100 mL) E. coli for surface waters with the REC-1 beneficial use designation. The Inland Surface Waters Plan includes E. coli as the indicator organism for the protection of water contact recreation (REC-1). The Water Board Basin Plan contains a numeric fecal coliform bacteria water quality objective that is generally applicable to all

surface waters within the region and is not expressly established for the protection of the REC-1 beneficial use. The Inland Surface Waters Plan does not supersede the fecal coliform objective established generally for all surface waters in the region. This Order includes monitoring for *E. coli*.

- e. The MRP increases effluent monitoring requirements for total recoverable iron and total recoverable manganese in order to collect additional data that may be utilized in the RPA for the next permit term.

### **C. WET Testing Requirements**

WET monitoring requirements are included in this Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short time period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth.

#### **1. Acute Toxicity.**

Annual 96-hour bioassay testing is retained in this order.

#### **2. Chronic Toxicity.**

Annual chronic WET testing is retained in this order.

### **D. Receiving Water Monitoring**

#### **1. Surface Water**

##### **a. Monitoring Locations RSW-001 and RSW-002**

Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream. Upstream monitoring location RSW-001, located about three miles upstream of the effluent discharge point EFF-001 at the Mojave River Lower Narrows, is the closest upstream location with generally perennial surface water flow in the Mojave River. Due to increase groundwater withdrawal in the Mojave River flood plain aquifer for the last two decades, there is only ephemeral surface water flow downstream of this location to effluent discharge point EFF-001 following major storm events. Downstream of discharge point EFF-001, the Mojave River has perennial effluent-dominated surface flow for approximately eight miles.

- i. Receiving water monitoring requirements for ammonia, pH, chlorine, dissolved oxygen, hardness, nitrate, nitrite, temperature, total dissolved solid, total coliform, and turbidity at monitoring locations RSW-001 and RSW-002 have been retained from Order No. R6V-2013-0038.
- ii. This Order includes new receiving water monitoring for *E. coli* at monitoring locations RSW-001 and RSW-002.
- iii. In accordance with the SIP section 1.3, periodic monitoring for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established is required. This Order

requires annual monitoring for priority pollutants (including copper) and other pollutants of concern, performed concurrently with effluent monitoring, in order to collect data to conduct an RPA for the next permit renewal.

- iv. Receiving water monitoring frequency for chlorine has been decreased from once per quarter to once per year. The Discharger does not chlorinate wastewater, and a frequency of once per year is sufficient for conducting an RPA.
- v. The MRP increases receiving water monitoring requirements for total recoverable iron and total recoverable manganese in order to collect additional data that may be utilized in the RPA for the next permit term. The RPA analysis for manganese and iron will be re-evaluated for the next permit term based on data collected on a quarterly basis to assess the reasonable potential.

## **2. Groundwater**

This section is not applicable.

## **E. Other Monitoring Requirements**

### **1. Visual Observations**

This Order requires quarterly visual observations at Discharge Point 001 to determine compliance with section III. Discharge Prohibitions, Prohibition E, and section V, Receiving Water Limitations V.A.7, 9, and 11 in this Order. Additionally, qualitative observations of odor are required per Receiving Water Limitations, section V.A.16, under Waste Discharge Requirements section.

### **2. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program**

Under the authority of CWA, section 308 (33 USC § 1318), USEPA requires all major dischargers only, under the NPDES Program, to participate in an annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by USEPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to USEPA's DMR-QA Coordinator and Quality Assurance Manager.

## VIII. PUBLIC PARTICIPATION

The Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Water Board staff has developed tentative and proposed WDRs and has encouraged public participation in the WDR adoption process.

### A. Notification of Interested Parties

The Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the Water Board's website at: <http://www.waterboards.ca.gov/lahontan> on **February 26, 2020**. The public had access to the agenda and any changes in dates and locations through the Water Board's website.

### B. Written Comments

Interested persons were invited to submit written comments concerning tentative and proposed WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Officer at the Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Water Board, the written comments were due at the Water Board office by 5:00 p.m. on **March 27, 2020**.

### C. Public Hearing Opportunity

The Water Board held a virtual public meeting and provided an opportunity for interested parties to testify in a public hearing on the proposed WDR during its regular Board meeting on the following date and time and at the following location:

Date: May 6-7, 2020  
Time: TBD  
Location: Virtual meeting

Interested persons were invited to attend. At the public meeting, the Water Board heard any testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

### D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Water Board's action:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100



For instructions on how to file a petition for review, see:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/wqpetition\\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml)

**E. Information and Copying**

The ROWD, tentative and proposed Order, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Water Board by calling (760) 241-6583. As a result of the COVID-19 emergency and the Governor's Executive Order N-33-20, non-essential file reviews are postponed and essential file reviews are by appointment only.

**F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Water Board, reference this facility, and provide a name, address, and phone number.

**G. Additional Information**

Requests for additional information or questions regarding this Order should be directed to Mark Lemus at (760) 241-3408 or [mark.lemus@waterboards.ca.gov](mailto:mark.lemus@waterboards.ca.gov).

**ATTACHMENT G – LIMITATION CALCULATIONS**

**Table G-1 Protection of Aquatic Life, SIP Method**

Parameter	CV	ECA (criteria objective)		ECA Multipliers		Long Term Average (LTA)		Lowest LTA	Limit Multipliers <sup>1</sup>		Limits	
		Acute	Chronic	Acute <sub>99</sub>	Chronic <sub>99</sub>	Acute	Chronic		MDEL	AMEL	MDEL	AMEL
Ammonia WARM (mg/L) <sup>2</sup>	0.76	3.74	1.07	0.2108	0.3835	0.7888	0.4096	0.4096	4.74	1.91	1.94	0.78
Ammonia COLD (mg/L) <sup>2</sup>	0.76	2.65	0.76	0.2108	0.3835	0.558	0.290	0.29	4.74	1.91	1.38	0.55
Ammonia Existing Permit (COLD) (mg/L)	2.0	5.6	0.95	0.117	0.204	0.655	0.194	0.194	8.55	2.78	1.6	0.54
Copper, Total Recoverable (µg/L) <sup>3</sup>	0.6	12.9	8.7	0.32	0.53	4.16	4.58	4.16	3.11	1.55	12.9	6.5
Nitrate (Applied as Total Nitrogen) (mg/L) <sup>4</sup>	0.3	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>	NA <sup>5</sup>	8.2	1.5	1.26	12.3	10.3

<sup>1</sup>Based on a sample frequency of four or less sampling events per month.

<sup>2</sup>The total ammonia effluent limitation protective of the COLD beneficial use applies prior to USEPA approval of the Water Board's Basin Plan amendment removing the COLD beneficial use along portions of the Mojave River to its terminus and the Water Board's Executive Officer notifies VVWRA of this effect. Upon notification to VVWRA by the Water Board's Executive Officer of the approval of the amendment to remove the COLD beneficial use, the total ammonia effluent limitation protective of the WARM beneficial use will apply.

<sup>3</sup>New effluent limitations are included in this Order. See section IV.C.4 of the Fact Sheet for more information.

<sup>4</sup>Based on calculations provided in Order No. R6V-2012-0058.

<sup>5</sup>N/A = Not Applicable.