

# CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

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## [TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-2024-####

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### ORDER INFORMATION

<b>Order Type(s):</b>	Waste Discharge Requirements (WDRs)
<b>Status:</b>	Administrative Draft
<b>Program:</b>	Non-15 Discharges to Land
<b>Region 5 Office:</b>	Fresno
<b>Discharger(s):</b>	Tuolumne Utilities District
<b>Facility:</b>	Sonora Regional Wastewater Treatment Facility
<b>Address:</b>	1400 Southgate Drive, Sonora
<b>County:</b>	Tuolumne County
<b>Parcel Nos.:</b>	056-590-005
<b>CIWQS Place ID:</b>	257763
<b>Prior Order:</b>	94-192

## **CERTIFICATION**

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_ April 2024.

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PATRICK PULUPA,  
Executive Officer

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## GLOSSARY

### GLOSSARY

Antidegradation Policy.....	Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16
APN(s).....	Assessor Parcel Number(s)
Basin Plan .....	Water Quality Control Plan for [BASIN]
Bgs .....	Below Ground Surface
BOD .....	Biochemical Oxygen Demand (general term)
BOD[5] .....	[Five-Day] Biochemical Oxygen Demand at 20°Celsius (specific analysis)
BPTC.....	Best Practicable Treatment and Control
CDO .....	Cease and Desist Order
CEQA .....	California Environmental Quality Act, Public Resources Code section 21000 et seq.
CEQA Guidelines .....	California Code of Regulations, Title 14, section 15000 et seq.
C.F.R.....	Code of Federal Regulations
COC[s] .....	Constituent[s] of Concern
CV-SALTS.....	Central Valley Salinity Alternatives for Long-Term Sustainability
DO.....	Dissolved Oxygen
DTSC .....	California Department of Toxic Substances Control
DWR.....	California Department of Water Resources
EC .....	Electrical Conductivity
EIR .....	Environmental Impact Report
FEMA .....	Federal Emergency Management Agency
IPP .....	Industrial Pretreatment Program
lbs/ac/yr.....	Pounds per Acre per Year
µg/L .....	Micrograms per Liter
µmhos/cm.....	Micromhos per Centimeter
MG[D].....	Million Gallons [per Day]
mg/L .....	Milligrams per Liter
MRP .....	Monitoring and Reporting Program

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## **GLOSSARY**

MW.....	Monitoring Well
MCL.....	Maximum Contaminant Level per Title 22
ORP .....	Oxygen Reduction Potential
N.....	Nitrogen
ND .....	Non-Detect
NE .....	Not Established
NM.....	Not Monitored
RAS.....	Recycled Activated Sludge
Recycled Water Policy .....	Policy for Water Quality Control for Recycled Water, State Water Board Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057
R[O]WD.....	Report of Waste Discharge
RCRA.....	Resource Conservation and Recovery Act
SPRRs .....	Standard Provisions and Reporting Requirements
SERC .....	State Emergency Response Commission
TDS .....	Total Dissolved Solids
Title 22 .....	California Code of Regulations, Title 22
Title 23 .....	California Code of Regulations, Title 23
Title 27 .....	California Code of Regulations, Title 27
TKN.....	Total Kjeldahl Nitrogen
TSS .....	Total Suspended Solids
TUD.....	Tuolumne Utilities District
Unified Guidance.....	Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (USEPA, 2009)
USEPA.....	United States Environmental Protection Agency
Use Area .....	Recycled Water Use Area
VOC[s].....	Volatile Organic Compound[s]
WAS .....	Waste Activated Sludge
WDRs.....	Waste Discharge Requirements
WQO[s] .....	Waste Discharge Requirements
WRRs.....	Water Reclamation Requirements

## FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

### Introduction

1. Tuolumne Utilities District (hereafter referred to as TUD or Discharger) owns and operates the Sonora Regional Wastewater Treatment Facility (WWTF or Facility), which is located approximately 1.3 miles south of Sonora in Tuolumne County, Section 1, Township 1N, Range 14E, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Site Location Map in **Attachment A**.
2. The Facility is comprised of the following Tuolumne County Assessor Parcel Numbers (APNs):
  - APN 059-590-005 (Sonora Regional WWTF)
3. As the Facility's owner and operator, the Discharger is responsible for compliance with the WDRs prescribed in this Order.
4. The following materials are attached and incorporated as part of this Order:
  - a. ATTACHMENT A—SITE LOCATION MAP Location Map
  - b. ATTACHMENT B—PROPOSED SITE PLAN Site Plan
  - c. ATTACHMENT C—PROPOSED FLOW DIAGRAM Flow Diagram
  - d. ATTACHMENT D—QUARTZ RESERVOIR Reservoir
  - e. ATTACHMENT E—ROSASCO USE AREA Use Area
  - f. ATTACHMENT F—GARDELLA USE AREA
  - g. Attachment G-Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports
  - h. Standard Provisions & Reporting Requirements dated 1 March 1991 (SPRRs)
  - g. Information Sheet
5. Also attached is **Monitoring and Reporting Program R5-2024-####** (MRP), which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP, and subsequent revisions



thereto as ordered by the Executive Officer or adopted by the Central Valley Water Board.

### **Regulatory History**

6. WDRs Order and MRP Order 94-192 were adopted by the Central Valley Water Board on 24 June 1992. WDRs Order 94-192 currently regulates the Sonora Regional WWTF and authorizes a monthly average dry weather discharge flow of up to 2.6 million gallons per day of disinfected secondary wastewater to Quartz Reservoir for summer use as irrigation water. Wastewater Reclamation Requirements (WRRs) Order 94-200 were issued for the reclamation of wastewater to TUD and to private landowners for irrigation of crops and pastureland. On 5 December 2002, the Regional Board adopted WDRs and Master Reclamation Permit Order No. R5-2002-0202, which superseded Order No. 94-200. Order R5-2002-0202 prescribes requirements for the discharge of reclaimed water to Quartz Reservoir and to recycled water use areas (approximately 630 acres).
7. On 5 December 2002, the Regional Board adopted WDRs and Master Reclamation Permit Order No. R5-2002-0202, which superseded Order No. 94-200. The Master Reclamation Permit prescribes requirements for the discharge of reclaimed water to Quartz Reservoir and to recycled water use areas (hereinafter referred to as Use Areas).

### **September 2022 RWD and Revisions**

8. On 22 September 2022, Pacific Advanced Civil Engineering (PACE), on behalf of the Discharger, submitted a Report of Waste Discharge (RWD) to upgrade the Facility to a tertiary treatment recycling facility. On 21 October 2022, staff sent a letter to TUD determining that the September 2022 RWD was incomplete due to concerns regarding the requested flow limitations, water balance, and antidegradation analysis. TUD provided subsequent information as requested.
9. On 8 March 2023, Robertson-Bryan, Inc. (RBI) submitted a technical memorandum titled *Tuolumne Utilities District Sonora Regional Wastewater Treatment Facility Water Balance Technical Review and Application* (referred to as March 2023 Modified Water Balance) to resolve deficiencies of the water balance in the September 2022 RWD. The March 2023 Modified Water Balance provided showed sufficient disposal capacity for 2.0 mgd, with 855 acres of disposal area. In addition, the March 2023 Modified Water Balance assumed a total of 855 acres of Use Areas would be available for disposal. TUD proposed to utilize 252 acres of Use Areas at the Teleli Golf Course. However, the 252 acres are currently unavailable since a pipeline has yet to be constructed to discharge tertiary treated effluent at the proposed use areas. Subsequently, a revised water

balance was submitted in June 2023 showing the Facility's current storage and disposal capacity is 1.84 mgd.

10. On 30 August 2023, Robertson-Bryan, Inc. (RBI) on behalf of the Discharger, submitted a report titled Antidegradation and Background Groundwater Analysis Report for the Tuolumne Utilities District Quartz Reservoir and Use Areas (2023 Antidegradation Analysis Report). The 2023 Antidegradation Analysis Report evaluated the Facility's discharge impact on underlying groundwater and compliance with State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Waters in California.

Cease and Desist Order (CDO) R5-2002-0203

11. On 5 December 2002, the Regional Board adopted CDO Order No. R5-2002-0203 requiring TUD to cease and desist from discharging contrary to requirements. TUD was determined to have been in violation of discharge prohibitions in WRRs Order No. 94-200. Since July of 2000, staff conducted several inspections of wastewater reclamation end-use areas in the fall of 2000, 2001, and 2002. During those inspections, several chronic violations of WRRs Order No. 94-200 were observed, including discharge of wastewater into surface water drainage courses, discharge of wastewater unto unpermitted lands, and discharge onto roadways accessible to the public. The CDO required TUD to bring all end-use areas into compliance with Master Reclamation Permit No. R5-2002-0202 except for the Rosasco tailwater ponds, the Rosasco storage pond, and the Gardella Use Area. The Discharger was also required to submit a feasibility study report, a workplan describing the improvements to the aforementioned areas, and a report describing how the tailwater ponds have been modified to come into compliance with Master Reclamation Permit No. R5-2002-0202.
12. The feasibility study was submitted in August 2005 as required by CDO Order No. R5-2002-0203. Furthermore, TUD completed a study in 2009 that stated the preferred compliance project was to expand the Facility's storage capacity and irrigation areas to transition to a land only disposal system, ceasing the need to discharge to Woods Creek. TUD added approximately 53 acres of irrigation area, including sprinkler improvements on the Gardella Property. In addition, improvements were completed on Quartz Reservoir to increase the storage capacity by 175 acre feet. On 13 September 2013, TUD submitted an updated water balance to Central Valley Water Board staff demonstrating its effluent storage and disposal system could contain all wastewater on land in compliance with WDR R5-2002-0202. Therefore, CDO Order No. R5-2002-0203 can be rescinded.
13. The WDRs for the WWTF are being updated to ensure the discharge is consistent with water quality plans, policies, and to reflect the upgrades to the

WWTF. WDRs Order 94-192 will be rescinded and replaced with this Order. Furthermore, since the Discharger has satisfied the conditions of CDO R5-2002-0203, this Order also rescinds the CDO. Water Reclamation Requirements R5-2002-0202 will remain in effect until the Discharger has been enrolled State Water Resources Control Board Order WQ 2016-0068-DDW *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order). Once the Discharger obtains coverage under the Reclamation General Order, Master Reclamation Permit R5-2002-0202 will be rescinded under a separate order.

### **Facility and Discharges**

#### **Existing Facility and Discharges**

14. TUD is a water and wastewater utility service that was organized under California's County Water District Law on 1 July 1992, which required the consolidation of two local public water systems, the Tuolumne Regional Water District and Tuolumne Water System. TUD serves nearly 44,000 residents in the surrounding areas of Twain Harte, Sonora, Mono Village, Rancho Sonora Estates, Columbia, Willow Springs and Ranchos Poquitos in Tuolumne County. The WWTF receives wastewater from approximately 6,140 connections including residential and commercial sources.
15. According to the United States Census Bureau, the median household income (MHI) in Tuolumne County from 2017 to 2021 was \$66,800. During the same period the MHI in the State of California was \$81,600.
16. According to the RWD, TUD receives approximately 95% of its water supply from the South Fork Stanislaus River, where water is diverted just below Lyons Reservoir at an elevation of approximately 4,200 feet. The remaining 5% of water supply comes from drinking water wells. The water then enters TUD's ditch/canal system and is delivered to several surface water treatment plants owned and operated by TUD. The service area does not contain a groundwater basin, and wells within the area have limited storage due to fractured formations. In addition, many wells in the area experience elevated levels of iron and manganese.
17. The Facility was originally constructed in 1974 and featured mechanically cleaned screens, aerated grit removal basins, primary clarification, two plastic media trickling filters, secondary clarification, polishing ponds, and a chlorine contact basin. The original treatment process produced secondary disinfected-23 recycled water that was beneficially reused as irrigation water on non-food crops.
18. The current WWTF features primary clarifiers, trickling filters, secondary clarifiers, polishing ponds, chlorination facilities, a pumping plant, and sludge handling facilities consisting of six sludge drying beds.

19. Treated effluent from the WWTF is transported via a distribution pipeline to Quartz Reservoir for storage prior to delivery to several end users regulated by WDRs and Master Reclamation Permit Order No. R5-2002-0202. A small number of end users can be supplied by turnouts along the line prior to delivery to Quartz Reservoir.
20. Jamestown Sanitary District (JSD) owns and operates a WWTF (JSD WWTF) permitted under WDRs Order No. R5-2021-0046 that discharges up to 0.23 mgd of disinfected secondary effluent to Quartz Reservoir. Recently, JSD staff has discussed the possibility of fully upgrading the JSD WWTF to produce disinfected tertiary treated effluent.
21. According to the Master Reclamation Permit, approximately one-half of the area below the normal maximum water surface elevation of Quartz Reservoir contains a ¼ inch asphalt membrane liner. The leakage rate of the intact asphalt liner is estimated to be 129,000 to 259,000 gallons per year.
22. Monthly average effluent flows from 2018 through 2022 range from 0.93 mgd to 2.35 mgd as shown in **Table 1** below.

**Table 1 - Effluent Flows (mgd)**

Month	2018	2019	2020	2021	2022
January	1.24	1.40	1.39	1.82	1.36
February	1.12	2.16	1.30	1.86	1.08
March	1.82	2.35	1.52	0.93	1.20
April	1.48	1.41	1.39	1.10	1.33
May	1.12	1.47	1.18	1.12	1.49
June	1.05	1.32	1.12	1.00	1.16
July	1.08	1.20	1.19	1.07	1.14
August	1.12	1.09	1.29	1.26	1.66
September	1.08	1.11	1.14	1.23	1.18
October	1.03	1.10	1.18	1.27	1.07
November	1.17	1.32	1.13	1.20	1.05
December	1.27	1.67	1.58	1.78	1.56
Annual Average Flow(mgd)	1.22	1.47	1.28	1.30	1.27
Total Annual Volume (MG)	443.76	533.63	470.53	474.81	464.77

23. Historic effluent monitoring data for select constituents/parameters is summarized in **Table 2** below. The averages for 2018 through 2020 are listed with the range shown in parentheses below.

**Table 2 – Historic Monthly Average Effluent Data**

<b>Date</b>	<b>Monthly Average Effluent BOD (mg/L)</b>	<b>Monthly Average Effluent TSS (mg/L)</b>	<b>Monthly Average Effluent EC (µmhos/cm)</b>
2018	23.3 (17.4-31.2)	20.3 (7.0-43.5)	636 (554-684)
2019	20.9 (11.5-39.4)	23.3 (9.0-57.3)	612 (492-740)
2020	17.5 (12.4-25.0)	33.2 (9.5-140)	633 (598-685)
2021	19.4 (14.6-23.5)	28.8 (10.2-95.4)	635 (569-715)
2022	69.6 (12.5-107.2)	29.0 (6.5-109.3)	621 (575-676)

24. Additional effluent characterization data was submitted in the August 2023 Antidegradation Analysis. The data from the August 2023 Antidegradation Analysis is presented in **Table 3** below. Effluent data was collected between August 2019 and July 2022. The number of samples collected for each parameter/constituent is presented below.

**Table 3 - Effluent Characterization Data**

<b>Parameter/Constituent</b>	<b>Units</b>	<b># of Samples</b>	<b>Average</b>	<b>Minimum</b>	<b>Maximum</b>
Total Dissolved Solids	mg/L	1,095	169	305	694
TKN as N	mg/L	1	23.7	23.7	23.7
Ammonia as N	mg/L	1	21.6	21.6	21.6
Nitrate as N	mg/L	4	0.11	2.0	3.7
pH	Std. Units	1,094	6.5	7.0	8.4
Total Alkalinity as CaCO <sub>3</sub>	mg/L	3	144	172	218
Hardness CaCO <sub>3</sub>	mg/L	4	74	78	86
Bicarbonate Alkalinity CaCO <sub>3</sub>	mg/L	3	144	172	218
Carbonate Alkalinity CaCO <sub>3</sub>	mg/L	3	ND	ND	ND
Chloride	mg/L	15	56.2	66.3	73.9
Sodium	mg/L	15	52.2	59.8	72.1
Sulfate	mg/L	3	17	17.7	18
Aluminum (Total)	mg/L	1	0.25	0.25	0.25
Arsenic (Total)	mg/L	1	ND	ND	ND
Copper (Total)	mg/L	1	0.029	0.029	0.029
Iron (Total)	mg/L	3	0.53	0.55	0.57
Iron (Dissolved)	mg/L	3	0.2	0.26	0.35

Parameter/Constituent	Units	# of Samples	Average	Minimum	Maximum
Manganese (Total)	mg/L	3	0.052	0.059	0.063
Manganese (Dissolved)	mg/L	3	0.039	0.042	0.045

25. Effluent quality of the combined treated wastewater from Sonora WWTF and Jamestown WWTF stored in Quartz Reservoir is shown below in **Table 4**.

**Table 4 - Quartz Reservoir Annual Averages (mg/L)**

Parameters	2019	2020	2021	3-yr Average
Nitrate as NO <sub>3</sub>	1.3	1.7	2.3	1.7
Nitrite Nitrogen	0.6	0.6	1.3	0.9
Ammonia as Nitrogen	12.1	15.1	11.9	12.7
Hardness as CaCO <sub>3</sub>	73.6	102.1	75.6	83.5
Total Dissolved Solids	353.3	303.3	324.1	326.9

26. Certain components of the current WWTF were reportedly at the end of their service life and were not capable of handling the loading coming into the Facility. Therefore, the Facility was struggling to comply with the water quality limitations, specifically total coliform. Effluent total coliform organisms' data is shown below in **Table 5**. To correct this issue, TUD decided to upgrade the Facility. The Facility upgrades commenced around December 2021. However, as shown in the table below, necessary modifications needed to transition from the old Facility to the upgraded Facility also resulted in a temporary lapse of performance (e.g., compliance with the effluent total coliform limitations).

**Table 5 - Effluent Total Coliform Organisms (MPN/100 mL)**

Month	2018	2019	2020	2021	2022
January	13	2	4	4	4
February	30	13	22	11	34.5
March	50	13	23	22	27.9
April	13	30	8	4	13.5
May	23	22	22	50	3.6
June	30	17	21	23	10.9
July	30	70	240	30	20.1
August	70	130	50	128	472.4
September	500	11	30	185	437.2
October	30	80	13	13	337.2
November	2	21	15	80	27.0
December	2	17	15	30	272.8
Average	66	36	39	48	138.4

### Proposed Changes to Facility

27. As previously discussed, TUD is in the process of upgrading the WWTF to provide disinfected tertiary recycled water for expanded reuse applications within the region. The WWTF upgrades includes the following: improving the headworks, lining Pond A (former polishing pond) with a 45-mil reinforced polypropylene liner to act as an emergency storage basin, adding a north and south process station, adding two extended aeration activated sludge basins, adding two 65-foot diameter secondary clarifiers, adding two media disk filters to achieve tertiary filtration, adding two chlorine contact basins, four digester thickeners, and converting the anaerobic digesters to aerobic digestion. A Facility map of the WWTF's proposed changes is included as shown on **Attachment B**.
28. The previous polishing ponds at the WWTF were cleaned out as part of the construction process of the new facilities. Sludge in all three ponds were removed. In addition, an 18-inch-thick clay layer approximately 11,000 cubic yards in volume was excavated due to an unusual odor. A volatile organic compound (VOC) test report of the removed layer showed that no VOC's were present. The excavated clay underneath the polishing ponds was mixed with soil and used as backfill around the project site.
29. The Facility's upgrade will convert the existing treatment process from primary clarifiers, trickling filters, secondary clarifiers, aerated polishing ponds, and chlorine disinfection to an extended aeration activated sludge process consisting of two lined basins followed by filtration and chlorine disinfection. The upgraded treatment process will consist of the following facilities: influent manhole flow measurement, fine screening, grit removal, emergency storage, extended aeration activated sludge basins for biological treatment, one emergency storage basin, disk filters, chlorine disinfection, and residual addition.
30. A flow diagram of the proposed changes to the WWTF is included as **Attachment C**. With the added nitrification and denitrification processes, the Facility is designed to reduce the average total nitrogen concentrations in the effluent to below 10 mg/L. TUD proposes to use the tertiary-treated disinfected recycled water at the end use reclamation areas as shown on **Attachment A**. The RWD included proposed disinfected tertiary effluent quality that is summarized in **Table 6** below.

**Table 6 - Proposed Tertiary Effluent Quality**

Parameters	Units	Effluent
BOD	mg/L	< 10
TSS	mg/L	< 10
Total Nitrogen	mg/L	< 10
Nitrate (as N)	mg/L	< 10
TDS	mg/L	< 700

Parameters	Units	Effluent
pH	Standard	6.5 – 8.5
Total Coliform	MPN/100 mL	< 2.2

31. WDRs Order No. 94-192 included a monthly average dry weather discharge flow of 2.6 million gallons per day. The upgraded WWTF's design influent flow rates are presented in Table 7 below.

**Table 7 - Design Influent Flow Rates**

Parameters	Units	Design Criteria
Average Dry Weather Flow	mgd	1.84
Maximum Daily Flow (Storm Dilution)	mgd	5.0
Peak Hour Wet Weather Flow	mgd	10.0

32. The headworks system has a design capacity of 10 mgd. The headworks include two parallel process trains, each consisting of six-millimeter fine screens and a grit-removal vortex placed within the concrete channel structure. As part of the upgrades, the screening will include both a washer compactor and grit classifier. The fine screens will be mechanically cleaned using an in-channel rake. A washer compactor will process screenings prior to being transported to a landfill for disposal. Accumulated grit will be separated in the classifier using a recessed impeller pump and then separated in the classifier using a screw conveyor for dewatering. The separated grit will be disposed of via landfill.
33. Two extended aeration activated sludge basins will be constructed to provide secondary treatment at the Facility. Both extended aeration activated sludge basins are lined with a 45-mil reinforced polypropylene geotextile pond liner. The extended aeration sludge process utilizes a longer hydraulic retention time (HRT) of 50 hours to provide a stable treatment process that can handle fluctuating loads and flows with minimal operation and without pre- and post-equalization. Aerobic and anoxic conditions within the extended aeration activated sludge basins will provide biological treatment of the raw screened influent. A portion of the settled floc from the secondary clarifiers is returned to the beginning of the secondary treatment process as returned activated sludge (RAS) to assist with nitrification and denitrification within the basins. Another portion of the settled floc is removed from the clarifiers as waste activated sludge (WAS). The newly constructed south process station will be constructed to facilitate RAS and WAS pumping and scum removal.

**Table 8 – Extended Aeration Activated Sludge Basis Design**

Parameters	Design Criteria
Number of Basins	2
Capacity per Basin	>2.5 mgd



Parameters	Design Criteria
Basin Dimensions (L x W x D)	108 ft x 168 ft x 14-16 ft
Volume Per Basin	2.2 – 2.6 million gallons

34. The emergency storage basin will provide three million gallons of emergency storage during extreme wet weather conditions and during emergency shutdown or failure of the Facility. In addition, filter backwash will discharge under normal operation to an overflow weir box connected to the emergency storage basin and intra-facility pump station. The emergency storage basin is lined with a 45-mil reinforced polypropylene geotextile pond liner. Overflow at the headworks is provided to an overflow box, which is connected to the emergency storage basin. The extended aeration activated sludge basins also overflow to the emergency storage basin at the high-water level, at which time the emergency storage basin will be evacuated at a slow rate using submersible non-clog pumps back to the lift station for screening/grit removal for reprocessing.
35. Considering the site-specific conditions at the Facility (e.g., shallow groundwater) storage of raw influent in single lined ponds (e.g., the emergency storage basin and extended aeration activated sludge basins) has a potential for degrading groundwater for if the pond liner(s) leak. Therefore, this Order requires the Discharger to submit a Groundwater Monitoring Well Installation Work Plan to install monitoring wells around the WWTF (Provision I.5) and a Groundwater Monitoring Installation Report (Provision I.6).
36. Two new 65-foot diameter secondary clarifiers will be constructed to remove suspended solids and will discharge clarified water to the filtration and chlorine contact disinfection units prior to disposal into Quartz Reservoir. Effluent from the secondary clarifier will be lifted to the pre-filter channel by the filter feed pumps. If turbidity is high either upstream or downstream of the filters, aluminum coagulant will automatically dose the effluent for enhanced coagulation. A continuous amount of coagulant or alkaline addition will be provided upstream of the clarifiers to enhance settling, phosphorus removal, and alkalinity stabilization.
37. The upgraded WWTF will include tertiary treatment consisting of four sections, including a pre-filter channel, post-filter channel, two Veolia Hydrotech™ Disk Filters, and two chlorine contact basins. Filter backwash will discharge to an overflow weir box connected to the emergency storage basin. The overflow weir box will also be used to recycle out-of-compliance water by closing two automated gates when post filtration turbidity exceeds 2 NTU (as a 24-hr average), an instantaneous turbidity of 5 NTU, or when post chlorine contact is less than 450 mg/L-min. Out of compliance water will be discharged back to the headworks until the water meets the aforementioned criteria and is back in compliance.

38. Two chlorine contact basins provide a minimum of 90 minutes of modal contact time at minimum water level using a sodium hypochlorite solution. The contact basins will utilize a serpentine design consisting of corrugated fiberglass baffle walls to provide a minimum contact time of 450 mg/L-min at a baffling factor of 0.85.

**Table 9 – Chlorine Contact Basins Design**

Parameters	Design Criteria
Number of Basins	2
Capacity per Basin	2.5 mgd
Basin Dimensions (L x W x D)	48 ft x 30 ft x 8.5-10.5 ft
Volume Per Basin	92,000 gallons

39. Final disinfected effluent will be discharged through a 20-inch outfall connection to the TUD recycled water distribution system. Recycled water is then conveyed to Quartz Reservoir and TUD's recycled water users.
40. Solids processing will consist of four membrane thickeners, two-stage aerobic digestion, dewatering by screw press, and three existing sludge drying beds. Three aerobic digestion blowers (one redundant) will serve both the primary and secondary aerobic digesters. The screw press may draw from either the primary or secondary digester using two dewatering feed pumps.
41. Of the six original sludge drying beds, two of the sludge drying beds were lined with plastic tiles that collect water from the drying process which was returned to the headworks for treatment. Three sand drying beds were demolished. Only the two-remaining tile-lined drying beds will remain connected to the digester plumbing system and headworks, but they are currently not in use and TUD does not anticipate using them in the foreseeable future. , and one has been decommissioned. One unlined sludge drying bed exists, however, TUD stated that they no longer intend on using the unlined sludge drying bed.
42. According to the September 2022 RWD, sludge will meet the requirements of 40 Code of Regulations (CFR) 503 for class B pathogen reduction with a solids retention time of 28 days. Dry biosolids cake will be collected in an onsite trailer and hauled offsite for land application or disposal.

### **Wastewater Collection System**

43. The TUD wastewater collection system consists of approximately 140 miles of 2-inch to 18-inch diameter pipe, flowing by gravity and pumped using 29 sewer pump stations in the surrounding areas of Columbia, East Sonora, Mono Vista, Ranchos Poquitos, Standard, Twain Harte, and Willow Springs. The collection system was regionalized in the 1970's and pipe materials vary widely including

asbestos cement, polyvinyl chloride, vitrified clay, cast iron and bitumized fiber (orangeburg) pipe.

44. According to TUD, the District has an aggressive maintenance program which incorporates closed caption television (CCTV) inspections and timely repairs of defects in the regional collection system. In addition, TUD staff have installed thousands of infiltration dishes inside manholes to intercept and collect rainwater flowing through the pick holes of the manhole covers. As a result, inflow and infiltration has decreased substantially over the last ten years.
45. According to the California Office of Environmental Health Hazard Assessment, California receives about 75% of its annual precipitation between November through March, with about 50% occurring from December through February. However, precipitation in California has become increasingly variable since the 1980's with years of high precipitation (wet years) followed by years of low precipitation (dry years). As mentioned in Finding 44 TUD has implemented measures to reduce infiltration and inflows to the Facility. However, based on available flow data, infiltration and inflow still appears to increase flows to the Facility. Therefore, it is appropriate to continue to specify an average dry-weather flow limit for the Facility.

#### **Industrial Pretreatment Considerations**

46. Certain industrial wastes, when discharged to wastewater treatment facilities without adequate controls, may cause one or more of the following problems:
  - b. **Interference or Upset.** Discharges of high volumes or concentrations of certain waste constituents can inhibit or interfere with proper operations, thereby impairing the WWTF's ability to treat wastewater—and potentially preventing compliance with WDRs.
  - c. **Sludge Management.** Industrial wastes, particularly metals and other toxic constituents, can limit available sludge management alternatives, thereby increasing the cost of sludge management and disposal. Contaminated biosolids may also be unsuitable as a soil amendment.
  - d. **Pass-Through.** Some industrial wastes may not receive adequate treatment and pass through the treatment system in concentrations that can could unreasonably degrade groundwater quality and/or prevent recycling of domestic wastewater.
  - e. **Other Hazards.** Additionally, the discharge of explosive, reactive, or corrosive wastes can cause damage to the wastewater collection system or the treatment works, as well as threaten the safety of workers and/or the general public.

47. Currently, there are reportedly no significant industrial wastes being discharged to the Facility. TUD provided biosolids sample data from January 2018 to March 2023 which indicated that metal concentrations in the biosolids were well below pollutant concentrations identified in Table 3 of 40 CFR 503.13. Consequently, an Industrial Pretreatment Program will not be required at this time. However, this Order requires the Discharger to report any proposed new industrial discharges and, if directed by the Executive Officer, to develop an Industrial Pretreatment Program regulating such discharges. Additionally, this Order also may be subsequently revised to require compliance with an approved program, if necessary.

### **Water Recycling Considerations**

48. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms.
49. The State Water Board's Division of Drinking Water (DDW), which is charged with establishing drinking water quality standards for the protection of public health, has promulgated a criteria for the use of recycled water throughout California, codified as California Code of Regulations, title 22 (Title 22), section 60301 et seq.
50. TUD submitted a Title 22 Engineering Report to Central Valley Water Board staff for the recycling of disinfected tertiary recycled water (See Title 22, § 60301.230). Central Valley Water Board staff sent a copy of the Title 22 Engineering Report to DDW on 16 November 2022. DDW has yet to provide a determination on the Title 22 Engineer Report.
51. This Order does not include reclamation requirements pursuant to Title 22. Provision I.4 of this Order requires TUD to submit a Notice of Intent for State Water Resources Control Board's Order WQ 2016-0068-DDW *Water Reclamation Requirements for Recycled Water Use* (Reclamation General Order) to facilitate recycled water use and reduce demand on potable supplies. Master Reclamation Permit No. R5-2002-0202 will be rescinded once TUD has been enrolled under Reclamation General Order WQ 2016-0068-DDW.
52. Recycled water from the Quartz Reservoir (consisting of treated wastewater from Jamestown Sanitary District's [JSD] WWTF and TUD's Sonora WWTF) is sent to end-users that apply the water to Use Areas. TUD is responsible for the operation of both the irrigation system and Quartz Reservoir. JSD contributes approximately 15% of the flows into Quartz Reservoir. Initial irrigation deliveries from Quartz were made on an interim basis in 1978 and full delivery commenced in 1979.

53. The JSD WWTF has been upgraded to produce disinfected secondary-23 recycled water and disinfected tertiary recycled water for unrestricted beneficial reuse. The JSD WWTF cannot fully treat to the tertiary recycled water standard under high wet weather flows; however, JSD is investigating ways to ensure disinfected tertiary recycled water can be produced all the time.
54. There are 23 end users that apply the reclaimed water to approximately 854 acres, including the 252-acre Teleli Golf Course, which still needs infrastructure improvements recycled water irrigation system. The reclaimed water is currently used for spray or flood irrigation of fodder crops and pasture for animals not producing milk for human consumption. The two largest Use Areas, the Gardella property and the Rosasco property, have been subject to groundwater monitoring by the Master Reclamation Permit.
55. The discharges authorized herein are consistent with the State Water Board's *Policy for Water Quality Control for Recycled Water* (Recycled Water Policy), Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057; and Central Valley Water Board Resolution R5-2009-0028 (*Resolution in Support of Regionalization, Reclamation, Recycling and Conservation for WWTPs*).

### **Site-Specific Conditions**

#### **Topography, Climate and Land Use**

56. The topography at the Sonora Regional WWTF consists of gentle slopes with an elevation of approximately 1,500 feet above mean sea level. Sonora is in the foothills of the Sierra Nevada Mountain Range in a high rainfall region characterized by cool to hot summers and generally mild but unpredictable winters with temperatures dropping below freezing at times.
57. Woods Creek, a perennial stream and a tributary of Don Pedro Reservoir, flows within approximately 500 feet to the east of Quartz Reservoir and directly to the west of the WWTF.
58. According to the RWD, soils within the City of Sonora are generally shallow consisting of limestone.
59. According to National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Atlas 14, Vol. 6 (rev. 2014), 100-year and 1,000-year, 24-hour rainfall events are estimated to result in 6.33 and 8.92 inches of

precipitation, respectively.<sup>1</sup> According to the [Federal Emergency Management Agency's \(FEMA\) Food Insurance Rate Map](https://msc.fema.gov/portal) (Number 06109C0850C) (<https://msc.fema.gov/portal>), the west portion of the Sonora Regional WWTF is listed in Zone A, an area subject to inundation by the one-percent annual chance flood event, while the east portion is listed as being in Zone X, an area of minimal flood hazard.

60. Surrounding land use is primarily mixed residential, agricultural, and open spaces. Typical crops grown in the area are fodder crops and pasture grasses.
61. The City of Sonora's source water is obtained from eleven surface water treatment plants and twelve active supply wells. Average water quality for the sources is tabulated below.

**Table 10 - Source Water Quality**

Constituent	Units	2017	2018	2019	2020	2021
Chlorine	mg/L	1.1	1.2	1.3	1.3	1.3
Haloacetic Acids	µg/L	27.9	22.9	27.9	22.9	21.6
Nitrate (as N)	mg/L	1.0	0.6	0.6	0.76	0.70
Total Trihalomethanes	µg/L	26.5	29.6	26.5	29.0	30.3
Turbidity	NTU	0.25	0.19	0.19	0.19	0.06
Copper	mg/L	0.90	0.27	0.32	0.31	0.29
Lead	µg/L	0.09	0.42	0.9	1.78	1.78
Iron	µg/L	70.5	15.0	15.0	15.0	14.3
Manganese	µg/L	14.7	5.0	5.0	5.0	8.9
Sulfate	mg/L	2.8	3.0	3.0	3.0	2.3
Zinc	mg/L	0.03	0.03	0.03	0.03	0.05
Sodium	mg/L	9.38	11.5	11.5	11.5	10.8

#### Groundwater and Subsurface Conditions

62. Groundwater utilized for domestic and irrigation purposes in the vicinity occurs within the bedrock fractures. Domestic and agricultural wells are typically greater than 100 feet in depth.
63. The Facility's groundwater monitoring network currently consists of twenty-one groundwater monitoring wells around Quartz Reservoir, the Rosasco Use Area, and the Gardella Use Area as shown in **Attachment D, Attachment E, and Attachment F**. The groundwater monitoring requirements for these sites are

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<sup>1</sup> Source: [NOAA Precipitation Frequency Data Server](https://hdsc.nws.noaa.gov/hdsc/pfds) (<https://hdsc.nws.noaa.gov/hdsc/pfds>)

required per MRP R5-2002-0202. The Rosasco and Gardella properties were selected to monitor the discharge's potential impact to underlying groundwater as these are the largest reclamation sites. The current groundwater monitoring network is identified in **Table 11** below.

**Table 11—Groundwater Monitoring Network**

Monitoring Well	Well Depth (feet)	Location
M-1	32.02	Quartz Reservoir
M-1R	29.22	Quartz Reservoir
M-2	100.15	Quartz Reservoir
M-3	51.4	Quartz Reservoir
M-3R	43.25	Quartz Reservoir
M-4	105.2	Quartz Reservoir
M-5	70.65	Quartz Reservoir
M-6	16.17	Rosasco Property
M-7	33.43	Rosasco Property
M-8	18.45	Rosasco Property
M-9	26.45	Rosasco Property
M-9R	66.96	Rosasco Property
M-10	28.95	Rosasco Property
M-11	28	Rosasco Property
M-11R	33.2	Rosasco Property
M-12	34.02	Gardella Property
M-13	8.4	Gardella Property
M-14	21.36	Gardella Property
M-15	14.95	Gardella Property
M-16	19.5	Gardella Property
M-16R	26.35	Gardella Property

64. The direction of groundwater flow around the Quartz Reservoir is primarily to the south with Monitoring Wells M-1, M-1R and M-5 as downgradient wells and Monitoring Wells M-2 and M-4 as cross-gradient wells. However, the reservoir is set in a small secondary canyon that slopes to the south/southwest. The Quartz Reservoir backs up against a small geographic divide or saddle where the ground surface slopes to the north/northeast. The saddle forms a hydraulic divide as the groundwater flows north of the divide. Therefore, Monitoring Wells M-3 and M-3R are also downgradient of Quartz Reservoir.
65. According to the 2022 Quarterly Groundwater Monitoring Report conducted by Condor Earth, the depth to groundwater as measured in May 2022 ranged from 6.43 feet below the top of the well casing (MW-1) to 50.68 feet below top of the well casing (M-4). Underneath the Quartz Reservoir, groundwater mainly flowed to the south in May 2022.

66. Groundwater quality data collected between December 2007 and May 2022 from the wells around the Quartz Reservoir are summarized in Table 12 below. The number in parenthesis indicates the number of sampling events and the numbers below in parenthesis indicate the range of concentrations.

**Table 12 – Quartz Reservoir**

Well	TDS (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	Iron (mg/L)	Manganese (mg/L)
M-1	629 (59) (410-860)	79 (59) (31-120)	3.55 (59) (0.42-12.0)	0.10 (59) (0.01-4.0)	0.55 (59) (0.2-0.88)
M-1R	590 (9) (520-710)	77 (9) (60-99)	6.07 (9) (1.9-10.0)	0.29 (9) (0.05-1.30)	0.01 (9) (0.01-0.06)
M-2	245 (59) (180-340)	6 (59) (3-9)	0.10 (59) (0.02-0.84)	0.82 (59) (0.07-5.0)	0.32 (59) (0.13-3.3)
M-3	549 (59) (420-720)	28 (59) (20-41)	0.09 (59) (0.02-0.18)	0.50 (59) (0.13-4.3)	0.55 (59) (0.31-3.7)
M-3R	420 (9) (350-480)	20 (9) (14-25)	0.22 (9) (0.05-0.82)	1.0 (9) (0.28-1.9)	0.49 (9) (0.28-0.77)
M-4	255 (59) (190-370)	1 (59) (1-2)	0.07 (59) (0.02-0.09)	0.58 (59) (0.03-6.5)	0.04 (59) (0.01-0.26)
M-5	374 (59) (220-430)	16 (59) (12-23)	0.08 (59) (0.02-0.09)	0.13 (59) (0.03-1.6)	0.3 (59) (0.09-1.8)

67. According to the data from the monitoring wells at Quartz Reservoir, groundwater quality at Monitoring Wells M-2 and M-4 appear to be of good quality for TDS, chloride, and nitrate. However, both wells appear to have concentrations above water quality objectives for iron and manganese. Monitoring Wells M-1 and M-1R appear to be influenced by the treated effluent in Quartz Reservoir as chloride concentrations are at or above the Facility's chloride concentration.
68. Groundwater beneath the Rosasco Use Area during May 2022 generally ranged from 6 to 34 feet below the top of the well. Groundwater at the Rosasco application area generally flows south with an estimated gradient of 0.035 ft/ft. Upgradient groundwater quality is characterized by Monitoring Wells M-7, M-8, and M-9R. Downgradient water quality is characterized by Monitoring Wells M-10, M-11, and M-11R. Groundwater quality between 5 December 2007 and 31 May 2022 is summarized in Table 13 below. Monitoring Well M-6 was dry during the entire period. Also, between February 2016 and May 2022 there was insufficient water to sample.



**Table 13 - Rosasco Use Area**

Well	TDS (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	Iron (mg/L)	Manganese (mg/L)
M-7	703 (59) (490-870)	54 (59) (36-93)	0.78 (59) (0.02-4.0)	3.19 (59) (0.03-30.0)	0.28 (59) (0.04-8.10)
M-8	548 (9) (360-1,100)	46 (9) (17-180)	0.41 (9) (0.02-3.40)	5.42 (9) (0.03-45.0)	2.12 (9) (0.02-9.0)
M-9R	187 (59) (160-210)	10.0 (59) (8.0-13.0)	3.32 (59) (2.8-3.8)	0.26 (59) (0.06-0.81)	0.07 (59) (0.03-0.19)
M-10	700 (59) (270-920)	150 (59) (120-170)	9.96 (59) (7.1-15.0)	2.66 (59) (0.03-21.0)	0.27 (59) (0.00-2.60)
M-11	1,082 (9) (900-1800)	283 (9) (180-350)	5.13 (9) (2.50-6.90)	0.74 (9) (0.03-17.0)	0.03 (9) (0.01-0.66)
M-11R	270 (59) (240-300)	33 (59) (32-35)	0.10 (59) (0.09-0.16)	0.19 (59) (0.12-0.25)	0.53 (59) (0.48-0.57)

69. For the Gardella Use Area, during May 2022, groundwater depth ranged from 4 feet to 30 feet below the top of the well casing. Groundwater gradient is to the south to southwest at a gradient of 0.023 ft/ft. Up/cross gradient groundwater data is characterized by Monitoring Well M-12. Groundwater results from December 2007 to May 2022 for the Gardella use area are summarized in Table 14 below.

**Table 14 - Gardella Use Area**

Well	TDS (mg/L)	Chloride (mg/L)	Nitrate (as N) (mg/L)	Iron (mg/L)	Manganese (mg/L)
M-12	319 (48) (170-1000)	71 (48) (39-330)	3.08 (48) (0.72-6.40)	28.6 (48) (1.0-210.0)	0.57 (48) (0.04-3.30)
M-13	652 (47) (350-1100)	168 (47) (67-400)	8.71 (47) (1.80-27.0)	19.58 (48) (0.2-160.0)	0.20 (48) (0.02-1.40)
M-14	544 (58) (270-1400)	156 (58) (83-610)	2.97 (58) (0.18-13.0)	17.27 (58) (0.03-180)	0.48 (58) (0.00-4.70)
M-15	336 (59) (250-640)	18 (59) (4-240)	0.86 (59) (0.06-4.60)	26.2 (59) (0.03-120)	0.61 (59) (0.01-3.0)
M-16	837 (59) (520-1300)	192 (59) (99-280)	0.3 (59) (0.02-3.70)	9.85 (59) (0.03-110)	0.54 (59) (0.04-2.0)
M-16R	1124 (9) (920-1200)	160 (9) (150-170)	0.57 (9) (0.36-0.81)	0.32 (9) (0.06-1.30)	0.35 (9) (0.27-0.54)

70. There are currently no monitoring wells located at the Facility and no depth to groundwater information or groundwater elevation maps available for the region. A review of the California State Water Boards Groundwater Ambient Monitoring

and Assessment Program (GAMA) Groundwater Information System shows two municipal wells (Well A: CA5500005-001-001 and Well B: CA5510001-006-006) within a two-mile radius of the Facility. Water quality data for the two wells are shown in Table 15 below.

**Table 15 - Regional Groundwater Results**

Constituent	Units	Well A	Well B
Calcium	mg/L	90	40
Sodium	mg/L	20	20
Iron	µg/L	510	3,900
Manganese	µg/L	Not Sampled	210
Nitrate as N	mg/L	4.4	<0.4
TDS	mg/L	Not Sampled	280
EC	µmhos/cm	890	400

**Statutory Authority**

71. This Order is adopted pursuant to Water Code section 13263, subdivision (a), which provides in pertinent part as follows:

The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge..., with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed.
72. Compliance with section 13263, subdivision (a), including implementation of applicable water quality control plans, is discussed in the findings below.
73. The ability to discharge waste is a privilege, not a right, and adoption of this Order shall not be construed as creating a vested right to continue discharging waste. (Wat. Code, § 13263, subd. (g).)
74. This Order and its associated Monitoring and Reporting Program (MRP) are also adopted pursuant to Water Code section 13267, subdivision (b)(1), which provides as follows:

[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste ... shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the

person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

75. The reports required under this Order, as well as under the separately issued MRP, are necessary to verify and ensure compliance with WDRs. The burden associated with such reports is reasonable relative to the need for their submission.

### **Basin Plan Implementation**

76. Pursuant to Water Code section 13263, subdivision (a), WDRs must “implement any relevant water quality control plans..., and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.”

#### **Beneficial Uses of Water**

77. This Order implements the Central Valley Water Board’s Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Basin Plan), which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.)
78. Local drainage is to the Woods Creek, a tributary to New Don Pedro Reservoir the beneficial uses of which (per the Basin Plan) include: municipal and beneficial use (MUN); industrial power (POW); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); and wildlife habitat (WILD).
79. Per the Basin Plan, beneficial uses of underlying groundwater at the Facility are: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

#### **Water Quality Objectives**

80. The numeric WQO for bacteria is expressed as the most probable number (MPN) of coliform organisms per 100 mL of water. For MUN-designated groundwater, the objective is an MPN of 2.2 organisms over any seven-day period.
81. The narrative WQO for chemical constituents in groundwater generally provides that groundwater shall not contain constituents in concentrations adversely affecting beneficial uses. For MUN-designated waters, the Basin Plan further provides that water, at a minimum, meet the primary and secondary maximum

contaminant levels (MCLs) specified in California Code of Regulations, title 22 (Title 22).<sup>2</sup> (See Title 22, §§ 64431, 64444, 64449.)

82. The narrative WQO for toxicity provides that groundwater shall be maintained free of toxic substances in concentrations producing detrimental physiological responses in human, animal, plant or aquatic life associated with designated beneficial uses.
83. To the extent necessary, narrative WQOs are quantified, on a site-specific basis, as numeric limits for constituents with potential to adversely impacted designated uses. In determining a site-specific numeric limit, the Central Valley Water Board considers relevant published criteria.
84. In determining a numeric limit for salinity protective of agricultural supply (AGR), the Central Valley Water Board is relying on general salt tolerance guidelines, which indicate that although yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) of less than 700 µmhos/cm, there is an eight- to ten-fold range in salt tolerance for agricultural crops. (See, e.g., Ayers & Westcot, *Water Quality for Agriculture* (1985), § 2.3.) For this reason, appropriate salinity values are considered on a case-by-case basis. It is possible to achieve full yield potential with groundwater EC up to 3,000 µmhos/cm, if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
85. The list of crops in the findings is not intended as a definitive inventory of crops that are or could be grown in the area where groundwater quality is potentially affected by the discharge, but it is representative of current and historical agricultural practices in the area.

#### Salt and Nitrate Control Programs

86. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting (Resolution R5-2018-0034). The Basin Plan amendments became effective on 17 January 2020 and were revised by the Central Valley Water Board in 2020 with [Resolution R5-2020-0057](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf) ([https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/resolutions/r5-2020-0057\\_res.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf)).

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<sup>2</sup> Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

87. For the Salt Control Program, the dischargers that are unable to comply with stringent salinity requirements will instead need to meet performance-based requirements and participate in a basin-wide effort known as the Prioritization and Optimization Study (P&O Study) to develop a long-term salinity strategy for the Central Valley. The Discharger was issued a Notice to Comply for the Salt Control Program (**CV-SALTS ID: 2511**) on 5 January 2021. TUD elected to participate in the P&O Study and submitted the required fee to comply with the Salt Control Program. In the interim, to maintain existing salt discharges and minimize salinity impacts, this Order does the following:
- a. Requires the discharger to continue efforts to control salinity in its discharge to the extent feasible; and
  - b. Sets a Salinity Action Level of 800  $\mu\text{mhos/cm}$  for EC for the discharge of wastewater to the reclaimed water distribution system. The current WDRs does not include an EC limit on the effluent limitations for discharges to land. However, the Salinity Action Level was determined as the average of EC for the past five years times 125%. Based on the available data in **Table 2**, the Facilities discharge can consistently comply with this limit. Therefore, to ensure TUD maintains current salinity discharge concentrations, these WDRs specify an EC Salinity Action Level of 800  $\mu\text{mhos/cm}$ .
88. For the Nitrate Control Program, discharges that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the new nitrate program either individually (Pathway A) or collectively with other dischargers by joining a nitrate management zone (Pathway B). For the Nitrate Control Program, the Facility falls outside a groundwater basin. For dischargers outside a groundwater basin, a Notice to Comply may be issued if the Central Valley Water Board Executive Officer determines it is necessary to protect water quality.
89. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs. As such, this Order may be amended or modified to incorporate any newly applicable requirements to ensure that the goals of the Salt and Nitrate Control Programs are met.

#### Antidegradation Policy

90. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of “high quality waters” unless it is shown that such

degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger's best practicable treatment or control (BPTC).

91. Given the unavailability of pre-1968 water quality information, compliance with the Antidegradation Policy will be determined based on existing background water quality (Antidegradation Baseline).
92. Constituents of concern (COCs) that have the potential to degrade groundwater include salt (e.g., EC and TDS), nitrate, iron, manganese, and pathogens (e.g., total coliform) as discussed below and in Table 16. Upgradient wells include M-2, M-4, M-6 (Dry), M-7, M-8, M-12, M-13, and M-14. Downgradient wells include M-1, M-1R, M-3, M-3R, M-5, M-9, M-9R, M-10, M-11, M-11R, M-15, M-16, and M-16R.

**Table 16—Constituents with Potential for Degradation**

<b>Location</b>	<b>EC (µmhos/cm)</b>	<b>Nitrate (as N) (mg/L)</b>	<b>Iron (mg/L)</b>	<b>Manganese (mg/L)</b>
Sonora Regional WWTF Disinfected Secondary Effluent (Current)	710 (see 1 below)	1.32 (see 1 below)	0.39 (see 1 below)	0.26 (see 1 below)
Sonora Regional WWTF Disinfected Tertiary Effluent (Proposed)	<1,000	<10	0.39	0.26
Quartz Reservoir (see 3 below)	NS (see 2 below)	1.7	NS	NS
Upgradient Groundwater (see 4 below)	720	2.3	10.8	0.6
Downgradient Groundwater (see 5 below)	910	2.5	3.5	0.4
Regional Groundwater Quality (see 6 below)	645	2.4	2.2	0.2
Source Water (see 7 below)	NS	0.7	0.01	0.009
WQOs	700/900 (see 8 below)	10	0.3	0.05

1. Results based on effluent sample collected on 15 June 2020.
2. NS denotes that the constituent was not sampled.
3. Three-year average effluent based on samples collected between 2019 through 2021.

4. Average upgradient concentrations based on samples collected between December 2007 and May 2022.
5. Average downgradient concentrations based on samples collected December 2007 and May 2022.
6. Regional groundwater quality from two nearby municipal wells is discussed in Finding 70 and summarized in Table 15.
7. Water supply quality based on samples collected in 2017 through 2021 and reported in Consumer Confidence Reports.
8. Numeric value of 700  $\mu\text{mhos/cm}$  is considered to be a conservative value that is protective of the AGR beneficial use during Phase 1 of the Salt Control Program.
  - a. **Salinity (EC and TDS).** MRP Order 94-192 did not require effluent monitoring for TDS; however, the MRP required effluent monitoring for EC. The average effluent EC between January 2018 to September 2022 was approximately 630  $\mu\text{mhos/cm}$ . According to average upgradient, downgradient, and regional groundwater data, groundwater EC appears to be slightly greater than the average effluent EC concentrations. The elevated downgradient concentrations compared to upgradient concentrations may be attributed to the irrigation of recycled water. The Discharger selected to participate in the Prioritization and Optimization (P&O) Study for the Salt Control Program. This Order requires the Discharger to continue to comply with the Salt Control Program (i.e., actively participating in the P&O Study). To help ensure that the Discharger continues to implement salinity reduction measures, this Order includes a Salinity Action Level of 800  $\mu\text{mhos/cm}$  for EC.
  - b. **Nitrogen.** The previous WWTF was not designed to denitrify wastewater and MRP Order 94-192 did not require the Discharger to monitor nitrogen species. Based on available data, groundwater in the region is of good quality with respect to nitrogen. Effluent samples collected for nitrate as N had an average concentration of 2.5 mg/L and a maximum concentration of 3.7 mg/L, respectively. However, one effluent sample collected reported a concentration of 21.6 mg/L for ammonia. Excessive levels of ammonia can potentially degrade or pollute groundwater as ammonia can convert to nitrate via nitrification. Nevertheless, the Facility's new extended aeration activation basins will provide both nitrification and denitrification to remove excess nitrogen. To ensure that the Discharger operates the WWTF in a manner that is protective of underlying groundwater, this Order includes a monthly total nitrogen effluent limit of 10 mg/L. The MRP also requires the Discharger to conduct effluent nitrogen monitoring.
  - c. **Iron and Manganese.** For both constituents, regional groundwater exceeds applicable water quality objectives. According to the August 2023 antidegradation analysis, TUD drinking water wells provided supplemental

monitoring data for the region between 2003 and 2022. Based on 117 samples, 52 samples had concentrations of iron ranging from 0.03 to 22 mg/L with an average concentration of 2.3 mg/L. The average concentration appears to indicate that regional groundwater is naturally enriched with iron. Likewise, samples collected from district regional drinking water wells had manganese concentrations ranging from 0.03 mg/L to 5.4 mg/L. The average concentration in the region was 0.48 mg/L. Upgradient concentrations for the onsite groundwater monitoring wells are generally greater than downgradient and effluent concentrations for both iron and manganese. Because the concentrations in background groundwater exceed water quality objectives, the Basin Plan's Controllable Factors Policy is applicable. The Controllable Factors Policy does not allow controllable factors such as a discharge of waste, to cause further degradation of water quality where other uncontrollable factors have already caused exceedance of a water quality objective. Based on the available data, the Facility's discharge does not appear to be causing further degradation for iron and manganese.

- d. **Pathogens.** The Facility provides disinfection as part of the current treatment process and will continue to provide disinfection once the upgrades to the Facility are complete. WDRs Order No. 94-192 specified the following limitations: a 30-day median of 23 MPN/100 mL and daily maximum of 230 MPN per 100 mL for total coliform organisms. MRP Order No. 94-192 required biweekly effluent monitoring for total coliform organisms. As previously discussed, certain components of the current Facility are at their end of life and are not capable of handling the entire load coming into the WWTF. This prompted TUD to upgrade the Facility. Due to modifications needed to upgrade the Facility, there has been a temporary lapse of performance. To compensate for this, the chlorine dosage was increased. In addition, groundwater monitoring well data from Quartz Reservoir, Rosasco use area, and Gardella use area have average total coliform organisms below 23 MPN/100 mL between 2007 and 2022. Also, the upgrades to the Facility will significantly improve pathogen removal. This Order limits coliform in groundwater to the Basin Plan Water Quality objective of less than 2.2 MPN/100 mL over any 7-day period.
93. Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., EC and nitrate) released with the discharge from a municipal wastewater utility after effective source control, and treatment is consistent with maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water



quality will be substantially less. The degradation will not unreasonably affect present and anticipated beneficial uses of groundwater, or result in water quality less than water quality objectives.

94. The Discharger implements, or will implement, as required by this Order the following BPTC measures, which will minimize the extent of water quality degradation resulting from the Facility's continued operation:
- a. Improved treatment of domestic wastewater (i.e., tertiary treatment of wastewater) including nitrification-denitrification and disinfection;
  - b. Compliance with effluent limitations for flow, BOD<sub>5</sub>, TSS, total coliform, and total nitrogen;
  - c. Groundwater monitoring at the WWTF to monitor the potential impacts of the Facility's discharge on the underlying groundwater;
  - d. Recycling of disinfected tertiary-treated effluent at agronomic rates on landscape and agricultural areas;
  - e. Compliance with the Salt and Nitrate Control Programs;
  - f. Compliance with a Salinity Action Level of 800 µmhos/cm;
  - g. Prohibits the storage of biosolids on unlined surfaces;
  - h. Regular testing of all lined basins at the Facility, and
  - i. Use of certified operators to ensure proper operation and maintenance of the WWTF.
95. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

### **California Environmental Quality Act**

96. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., TUD filed a Mitigated Negative Declaration (SCH 2019129009) on 3 December 2019 to upgrade its WWTF. In the Mitigative Negative Declaration (MND), the Discharger found that the "project", would not have a significant effect on the environment, and no mitigation was required. The discharges and other activities authorized under this Order fall within the scope of the proposed project, at contemplated in the MND.

### **Other Regulatory Considerations**

#### Water Code Section 13149.2

97. These WDRs regulate a facility that may impact a disadvantaged community and tribal community and includes an alternative compliance path that allows the Discharger time to come into compliance with a water quality objective (i.e., salinity). The Discharger has elected to participate in the Alternative Salinity Permitting Approach for the Salt Control Program, which provides an alternative approach for compliance with salinity limits through implementation of specific requirements (i.e., support facilitation and completion of the Salinity P&O Study). The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities through its notice and comment procedures. Specifically, Central Valley Water Board sent a letter on 7 August 2023 to nearby tribal communities to inform them of the project and the opportunity to consult with the Central Valley Water Board on the project. A similar email was also sent to nearby environmental justice groups. No responses were received. Pursuant to Water Code section 13149.2, and as discussed in the following findings, the Central Valley Water Board reviewed readily available information and information raised by interested persons concerning anticipated water quality impacts in disadvantaged communities resulting from adoption of this Order. The Board also considered environmental justice concerns within the Board's authority previously raised by interested persons with regard to those impacts.
98. The Central Valley Water Board anticipates that the issuance of this Order may result in water quality impacts within the scope of the Board's authority. Specifically, this Order authorizes the continued discharge of wastewater with salinity concentrations above applicable WQOs. The WWTF's effluent EC averages around 620  $\mu\text{mhos/cm}$ . Salinity (e.g., EC) concentrations in the immediate downgradient monitoring wells are generally above the 700  $\mu\text{mhos/cm}$  numeric value protective of the AGR beneficial use and around or below the lower secondary MCLs. Furthermore, the Central Valley Water Board is unaware if the WWTF impacted nearby drinking water wells.
99. The Central Valley Water Board has identified the following measures available and within the scope of its authority to address the impacts of the Facility to nearby disadvantaged communities in Tuolumne County: 1) require active participation in the P&O Study and compliance with the Salt Control Program, which is intended to identify long-term salinity management and control practices and/or technologies; 2) maintain current discharge concentrations for salt (e.g., establishing a Salinity Action Level); 3) require sampling and monitoring of effluent for salinity, and 4) require the Discharger to cease the use of unlined sludge drying beds. All of these measures are required by this Order.

### Human Right to Water

100. Pursuant to Water Code section 106.3, subdivision (a), it is “the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” Although this Order is not subject to Water Code section 106.3, as it does not revise, adopt or establish a policy, regulation or grant criterion, (see §106.3, subd. (b)), it nevertheless promotes the policy by requiring discharges to meet maximum contaminant levels (MCLs) for drinking water (excluding salinity), which are designed to protect human health and ensure that water is safe for domestic use. For salinity, this Order requires compliance with the Salt Control Program. Although the Basin Plans’ Exceptions Policy for Salinity allows participants in the Salt Control Program to obtain limited-term exceptions from MCLs for salinity, these Programs are consistent with the Human Right to Water Policy because their over-arching management goals and priorities include short-term provision of safe drinking water to impacted users and long-term restoration of impacted groundwater basins and sub-basins where reasonable, feasible, and practicable.

### Threat-Complexity Rating

101. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **2-B**.
- a. Threat Category “2” reflects waste discharges that can impair receiving water beneficial uses, cause short-term water quality objective violations, cause secondary drinking water standard violations, and cause nuisances.
  - b. Complexity Category “B” reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems (except for septic systems with subsurface disposal), or (2) any Class II or Class III WMUs.

### Title 27 Exemption

102. This Order, which prescribes WDRs for discharges of domestic sewage or treated effluent from a municipal treatment plant, is exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (a)-(b).)

### Stormwater

103. This Order does not cover stormwater and other discharges that are subject to the Clean Water Act’s National Pollutant Discharge Elimination System (NPDES). With respect to stormwater, the Discharger is actively working on

obtaining coverage under the statewide General Permit for Storm Water Discharges Associated with Industrial Activities, State Water Board Order 2014-0057 DWQ, NPDES General Permit CAS000001 (Industrial General Permit).

### Sanitary Sewer Overflows

104. Sanitary Sewer Overflows<sup>3</sup> (SSO), which typically consist of a mixture of domestic and commercial wastewater, often contain pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, suspended solids and other pollutants. When an SSO results in a discharge to surface water, it can cause temporary exceedances of water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair recreational use and aesthetic enjoyment of surface waters in the area. The most common causes are grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor-caused blockages.
105. On 6 December 2022, the State Water Board adopted and on 5 June 2023 *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, State Water Board Order 2022-0013-DWQ (SSO General Order), became effective. It requires that all public agencies owning or operating sanitary sewer systems with total systems in excess of one mile enroll under the SSO General Order. The TUD collection system exceeds one mile in length and TUD is enrolled under the General Order.

### Biosolids

106. The United States Environmental Protection Agency (US EPA) has promulgated biosolids reuse regulations in Code of Federal Regulations (CFR), title 40, part 503, *Standards for the Use or Disposal of Sewage Sludge* (Part 503), which establishes management criteria for protection of ground and surface waters, sets limits and application rates for heavy metals, and establishes stabilization and disinfection criteria. The Central Valley Water Board is not the implementing

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<sup>3</sup> For the purposes of this Order, a “**Sanitary Sewer Overflow**” is a discharge to ground or surface water from the sanitary sewer system at any point upstream of the treatment facility. Temporary storage and conveyance facilities (e.g., wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered SSOs, provided that the waste is fully contained within these temporary storage/conveyance facilities.

Agency for Part 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the US EPA.

#### Groundwater Wells

107. Existing DWR standards for the construction and destruction of groundwater wells, as well as any more stringent standards that are subsequently adopted, shall apply to all monitoring wells used to monitor impacts of wastewater storage or disposal governed by this Order. (see Cal. Well Stds. Bulletin 74-90 [DWR, June 1991]; Water Wells Stds. Bulletin 74-81 [DWR, Dec. 2918].)
108. Statistical data analysis methods outlined in the US EPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Unified Guidance) are appropriate for determining compliance with the Groundwater Limitations of this Order. Depending on the circumstances, other methods may also be appropriate.

#### Scope of Order

109. This Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein.
110. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (ROWD) per Water Code section 13260.
111. Failure to file a new ROWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.
112. This Order is also strictly limited in applicability to those individuals and/or entities specifically designated herein as "Discharger," subject only to the discretion to designate or substitute new parties in accordance with this Order.

#### Procedural Matters

113. All of the above information, as well as the information contained in the attached Information Sheet (incorporated herein), was considered by the Central Valley Water Board in prescribing the WDRs set forth below.
114. The Discharger, interested agencies and other interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (See Wat. Code, § 13167.5.)

115. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.
116. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

## **REQUIREMENTS**

**IT IS HEREBY ORDERED**, pursuant to Water Code sections 13263 and 13267: that WDRs Order No. 94-192 and CDO R5-2002-0203 are rescinded (except for enforcement purposes); and that the Discharger and their agents, employees and successors shall comply with the following.

### **A. Standard Provisions**

Except as expressly provided herein, the Discharger shall comply with the Standard Provisions and Reporting Requirements dated 1 March 1991 (SPRRs), which are incorporated herein.

### **B. Discharge Prohibitions**

1. Waste classified as “hazardous” (per Cal. Code Regs., tit. 22, §66261.1 et seq.), shall not be discharged at the Facility under any circumstance.
2. Waste constituents shall not be discharged or otherwise released from the Facility (including during treatment and storage activities) in a manner that results in:
  - a. Violations of the Groundwater Limitations of this Order; or
  - b. Conditions of “nuisance” or “pollution,” as defined per Water Code section 13050.
3. Except as otherwise expressly authorized in this Order, sewage and other waste shall not be discharged to surface waters or surface water drainage courses (including irrigation ditches outside of Discharger's control).
4. Except as provided in Section E.2 of the SPRRs, incorporated herein, untreated wastes and partially treated wastes shall not bypass the treatment system (including treatment ponds).
5. Waste shall not be discharged from the Facility in a manner other than as described in this Order.

6. Toxic substances shall not be discharged into the wastewater treatment system such that biological treatment mechanisms are substantially disrupted.

### C. Influent Flow Limitations

1. Influent flows to the Facility, monitored at INF-001 (as defined in the MRP), shall not exceed the following limits:

**Table 17—Influent Flow Limitations**

Flow Measurement	Units	Limit
Average Monthly Dry Weather Flow	mgd	1.84 / 2.0 (see 1 below)
Peak Daily Flow (Maximum Daily)	mgd	5.0

1. The Discharger shall comply with the 1.84 mgd influent flow limitation until Provision I.7 has been satisfied and approved by the Central Valley Water Board. Once Provision I.7 has been satisfied and approved by the Central Valley Water Board, the Discharger shall comply with the 2.0 mgd average monthly dry weather flow limitation.

### D. Effluent Limitations

1. **Discharge Point EFF-001 (Disinfected Tertiary Effluent).** Disinfected tertiary-treated effluent discharged from the Sonora Regional WWTF to the Quartz Reservoir and/or Use Areas, monitored at EFF-001 (as defined in the MRP), shall not exceed the following limits:

**Table 18—Tertiary Treated Effluent Limitations**

Constituent	Monthly Average	Daily Maximum
BOD <sub>5</sub>	10 mg/L	20 mg/L
TSS	10 mg/L	20 mg/L
Total Nitrogen	10 mg/L	---

2. The median concentration of total coliform bacteria in the disinfected tertiary recycled water shall not exceed any of the following:
  - a. 2.2 most probable number (MPN) per 100 mL as a 7-day median;
  - b. 23 MPN/100 mL more than once in any 30-day period; and
  - c. 240 MPN/100 mL at any time.

## **E. Salinity Action Level**

1. To comply with the Salt Control Program, the Discharger selected the Alternative Salinity Permitting Approach (i.e., participate in the Prioritization and Optimization [P&O] Study). Therefore, as discussed in Finding 87 these WDRs establish a **Salinity Action Level of 800  $\mu$ mhos/cm** as an annual average for EC. As part of the Annual Monitoring report required per the MRP, the Discharger shall evaluate the Facility's annual average effluent EC concentration (monitored at EFF-001) to the Salinity Action Level. If the Facility's discharge exceeds the Salinity Action Level, the Discharger shall submit a **Salinity Action Level Report by 1 March** of the year following the exceedance of the Salinity Action Level. The Salinity Action Level Report shall, at a minimum, include the following:
2. An evaluation of the Facility's salinity effluent levels. This evaluation shall discuss any changes to the source water for the area served by the WWTF, any new industrial dischargers discharging to the WWTF, any increased conservation efforts implemented within the WWTF service area (with flow data demonstrating decreased flows to the WWTF), and any other changes to the WWTF's collection or treatment system that could have contributed to the increased salinity concentrations.
3. If additional time is needed to investigate the source(s) of the salinity in the Facility's discharge, the Salinity Action Level Report shall include a detailed work plan describing what actions the Discharger will conduct (with completion dates) to investigate source(s) of salinity and report its findings to the Central Valley Water Board. The findings from the investigations shall be submitted to the Central Valley Water Board **no later than October 1<sup>st</sup>** of the year following the exceedance of the Salinity Action Level.
4. The Salinity Action Level Report shall evaluate the potential impact the increased salinity concentrations could have on underlying groundwater and downgradient users. If additional time is needed for this evaluation, the Salinity Action Level Report shall propose a submittal date (no later than October 1<sup>st</sup> of the year following the exceedance of the Salinity Action Level).

## **F. Discharge Specifications**

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations in this Order.



2. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
3. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
4. Public contact with wastewater at the Facility shall be prevented through such means as fences, signs, or acceptable alternatives.
5. Wastewater treatment, storage, and disposal shall not cause a condition of pollution or nuisance as defined by Water Code section 13050.
6. The Facility's discharge to the Quartz Reservoir and/or shall be at least disinfected tertiary recycled water as defined in Title 22, section 60301.230.
7. For tertiary-treated effluent, prior to disinfection, the turbidity of the filtered effluent, expressed as in Nephelometric Turbidity Units (NTUs), shall not exceed the limits specified below.
  - a. When coagulation is used, the discharger shall operate the treatment system to ensure that the turbidity measurement at a location representative of effluent from the filtration system shall not exceed:
    - i. An average of 2 NTU within a 24-hour period,
    - ii. 5 NTU more than 5 percent of the time within a 24-hour period, and
    - iii. 10 NTU at any time.
  - b. When coagulation is not used, the Discharger shall operate the treatment system to ensure:
    - i. The turbidity of the influent to the filtration unit shall not exceed 5 NTU for more than 15 minutes and never exceed 10 NTU; and
    - ii. The effluent turbidity measured at a location representative of effluent from the filtration system shall not exceed 2 NTU at any time.
8. The tertiary-treated filtered effluent shall receive a minimum CT (the product of total chlorine residual and modal contact time measured at the

same point) of 450 milligram-minutes per liter at all times with a modal contact time of 90 minutes, based on peak dry weather design flow.

9. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.
10. Waste discharges shall remain within authorized Water Recycling Use Area and authorized waste treatment and/or containment structures.
11. Application of recycled water to the Use Areas shall be reasonable and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by crops<sup>4</sup>. As a means of discerning compliance with this requirement:
  - a. Crops or landscape vegetation shall be grown on Use Areas and cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.
12. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.
13. As a means of ensuring compliance with Discharge Specification F.12, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If the DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Central Valley Water Board in accordance with **Section B.1** of the SPRRs. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.

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<sup>4</sup> The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of crops for production. Such leaching shall be managed to minimize degradation of groundwater, maintain compliance with the groundwater limitations of this Order, and prevent pollution.

14. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
15. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
16. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications F.14 and F.15.
17. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
  - b. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - c. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - d. Dead algae, vegetation, and debris shall not accumulate on the water surface.
  - e. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
18. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

## **G. Groundwater Limitations**

Release of waste constituents from any portion of the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:

1. Nitrate (as N) of 10 mg/L.
2. Exceed a total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
3. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, excluding salinity provided the Discharger complies with Provision I.3 (i.e., complies with the Salt Control Program).
4. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

## **H. Solids Disposal Specifications**

1. Sludge<sup>5</sup> and Solid Waste<sup>6</sup> shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.
2. Onsite handling and storage of Residual Sludge,<sup>7</sup> Solid Waste, and Biosolids<sup>8</sup> shall be temporary (6 months or less); and controlled and

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<sup>5</sup> For the purposes of this section, “**sludge**” means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes.

<sup>6</sup> For the purposes of this section, “**solid waste**” includes grit and screenings generated during preliminary treatment at the Facility.

<sup>7</sup> For the purposes of this section, “**residual sludge**” means sludge that will not be subject to further treatment at the Facility.

<sup>8</sup> For the purposes of this section, “**biosolids**” refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for

contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the Groundwater Limitations of this Order. The Discharger shall store all residual sludge, solid waste, and biosolids on properly lined surfaces with containment surfaces to prevent runoff.

3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.
4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board except in cases where a local (e.g., county) program has been authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be covered by Order 2004-12-DWQ, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.
5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.
7. The Discharger shall maintain the integrity of the liner of the extended aeration activated sludge basins, emergency storage basin, and sludge drying beds. Every three years, **beginning in 2024**, the Discharger shall test the integrity of the liners and the sludge drying beds. If the testing

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agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

determines the liner or sludge drying beds integrity has been compromised (i.e., significant leaks), the Discharger shall provide a work plan (within three months) proposing a schedule to repair the liner and/or sludge drying beds.

## I. Provisions

1. The Discharger shall comply with the separately issued MRP R5-2024-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
2. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
3. The Discharger shall comply with the Salt Control Program adopted in Resolution R5-2018-0034 (and revised per Resolution R5-2020-0057) for addressing ongoing salt accumulation in the Central Valley developed as part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative. As described in the Findings, the Discharger selected to be an active participant in the Prioritization and Optimization (P&O Study) for the Salt Control Program.
4. **Within 60 days after receiving a Title 22 Conditional Acceptance Letter from DDW**, the Discharger must apply for coverage under State Water Board Order WQ 2016-0068-DDW, *Water Reclamation Requirements for Reclamation General Order* (Reclamation General Order). As part of the application for the Reclamation General Order, the Discharger must provide a Title 22 Engineering Report approved by DDW. Recycling of tertiary-treated effluent shall commence upon enrollment under the Reclamation General Order.
5. By **18 October 2024**, the Discharger shall submit a **Groundwater Monitoring Work Plan** that proposes a time schedule to install monitoring wells at the WWTF to provide adequate coverage of the Facility. Specifically, the work plan shall propose the necessary groundwater monitoring wells to ensure the network can adequately characterize upgradient and downgradient conditions around the Facility in particular the extended aeration activated basins, emergency storage basin, and sludge drying beds. The work plan shall be prepared in accordance with, and include items listed in the first section of **Attachment G**

(Requirements for Monitoring Well Installation Work Plans and Monitoring Well Installation Reports) incorporated herein.

6. **Within nine months** of the Executive Officer approval of the Groundwater Monitoring Well Installation Work Plan required per Provision J.5, the Discharger shall submit a **Groundwater Monitoring Well Installation Report** for all new groundwater monitoring wells constructed to comply with Provision J.5. The report shall be prepared in accordance with, and include the items listed in, the second section of **Attachment G** (Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports). The report shall describe the installation and development of all new monitoring wells and explain any deviation from the approved workplan.
7. **Upon completion of construction of the connection to the Teleli Golf Course**, the Discharger shall submit certification that TUD can reclaim treated recycled water at the Teleli Golf Course (252 acres) as described in Finding 9 and has sufficient storage and disposal capacity for 2.0 mgd (average monthly dry weather flow).
8. **By 19 August 2024**, the Discharger shall submit a **Liner Operation and Maintenance Plan**. The Plan shall address how all synthetically lined ponds/basins at the WWTF will be operated and maintained. The Plan shall propose the procedures for adequately testing each pond/basin's liner integrity at least annually. The Plan shall also discuss what actions will be taken if the pond liner testing shows that the pond liner integrity has been compromised (e.g., how the Discharger will repair/replace the compromised liner).
9. If the Discharger proposes to receive hauled-in anaerobically digestible material for injection into an anaerobic digester, the Discharger shall notify the Central Valley Water Board and develop and implement standard operating procedures (SOPs) prior to initiation of the hauling. The SOPs shall address material handling (including unloading, screening, and other processing) prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOPs shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from the material prior to its introduction to the digester. The Discharger shall provide training to its staff on the SOPs and shall maintain records for three years of each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of three years for the disposition solid waste segregated from the digester feed material and hauled off-site,

including the disposal site location and quantity of solids transferred to each location.

10. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by 31 January.
11. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
12. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
13. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.



14. The Discharger shall 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 includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
15. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
16. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.
17. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
18. The Discharger shall comply with the requirements of the *Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems* (Water Quality Order 2022-0103-DWQ), and any subsequent revisions thereto. Water Quality Order 2022-0103-DWQ requires the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.
19. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
20. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
21. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and ensure compliance with this Order, the Discharger shall notify the Central Valley

Water Board in writing of the situation and of what measures have been taken or are being taken to ensure full compliance with this Order.

22. In the event of any change in control or ownership of the WWTF, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
23. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
24. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

## **ENFORCEMENT**

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

## **ADMINISTRATIVE REVIEW**

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State

Water Board by 5:00 p.m. on the next business day. Copies of [the law and regulations applicable to filing petitions](#) are available on the Internet (at the address below) and will be provided upon request.

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

## **ATTACHMENTS**

**Attachment A – Site Location Map**

**Attachment B – Proposed Site Plan**

**Attachment C – Proposed Flow Diagram**

**Attachment D – Quartz Reservoir**

**Attachment E – Rosasco Use Area**

**Attachment F – Gardella Use Area**

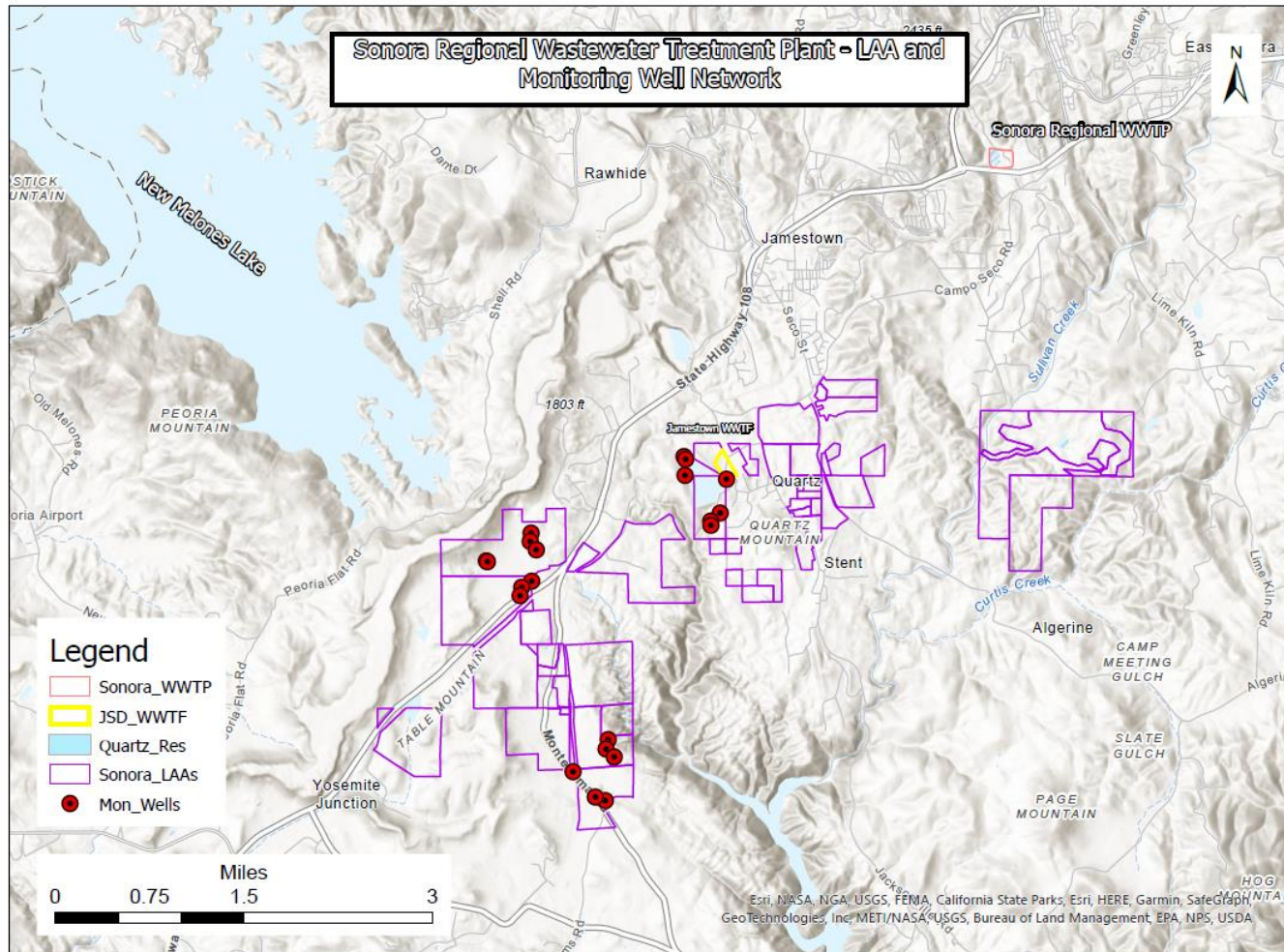
**Attachment G – Requirements For Monitoring Well Installation Work Plans And  
Monitoring Well Installation Reports**

**Standard Provisions & Reporting Requirements (SPRRs), dated 1 March 1991**

**Information Sheet**

**Monitoring and Reporting Program R5-2024-####**

## ATTACHMENT A—SITE LOCATION MAP

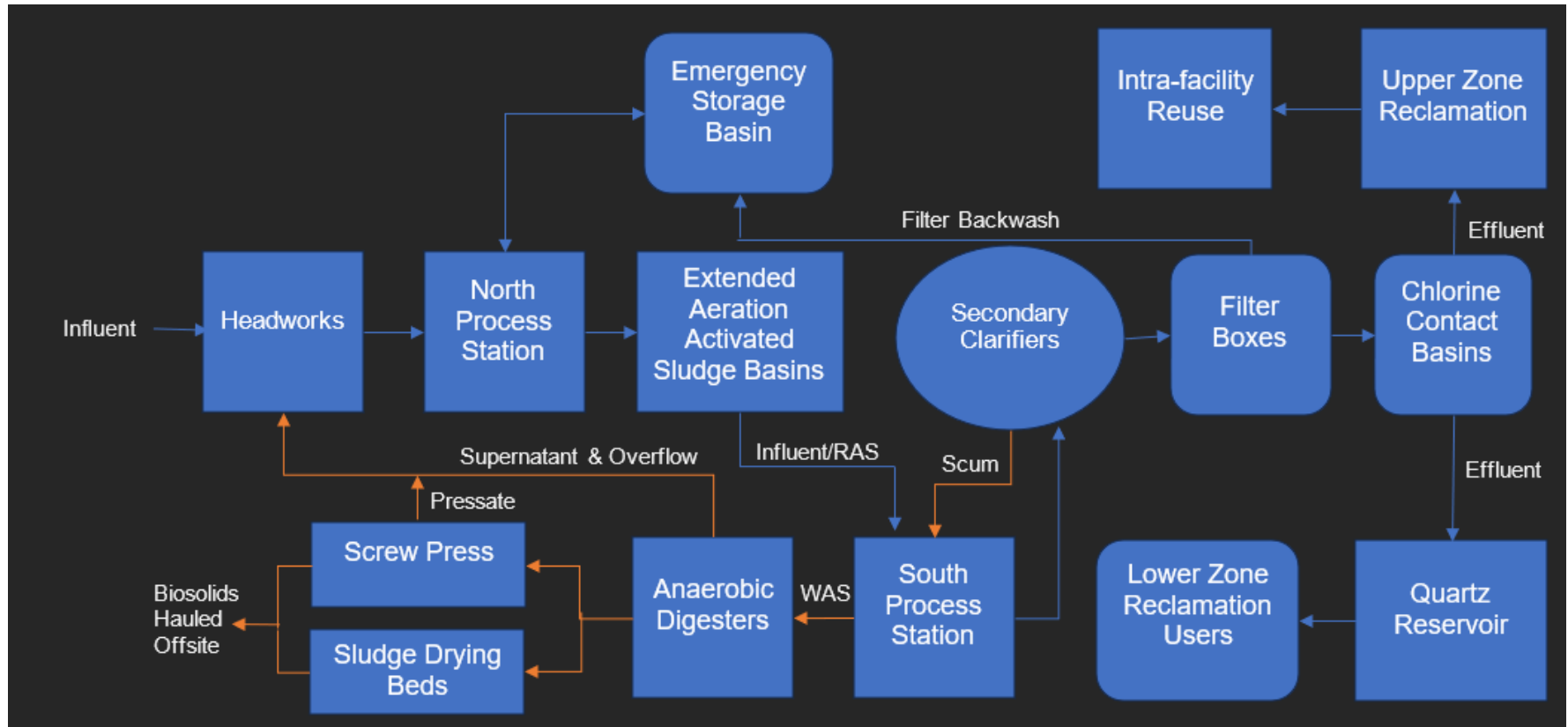




## ATTACHMENT B—PROPOSED SITE PLAN



### ATTACHMENT C—PROPOSED FLOW DIAGRAM



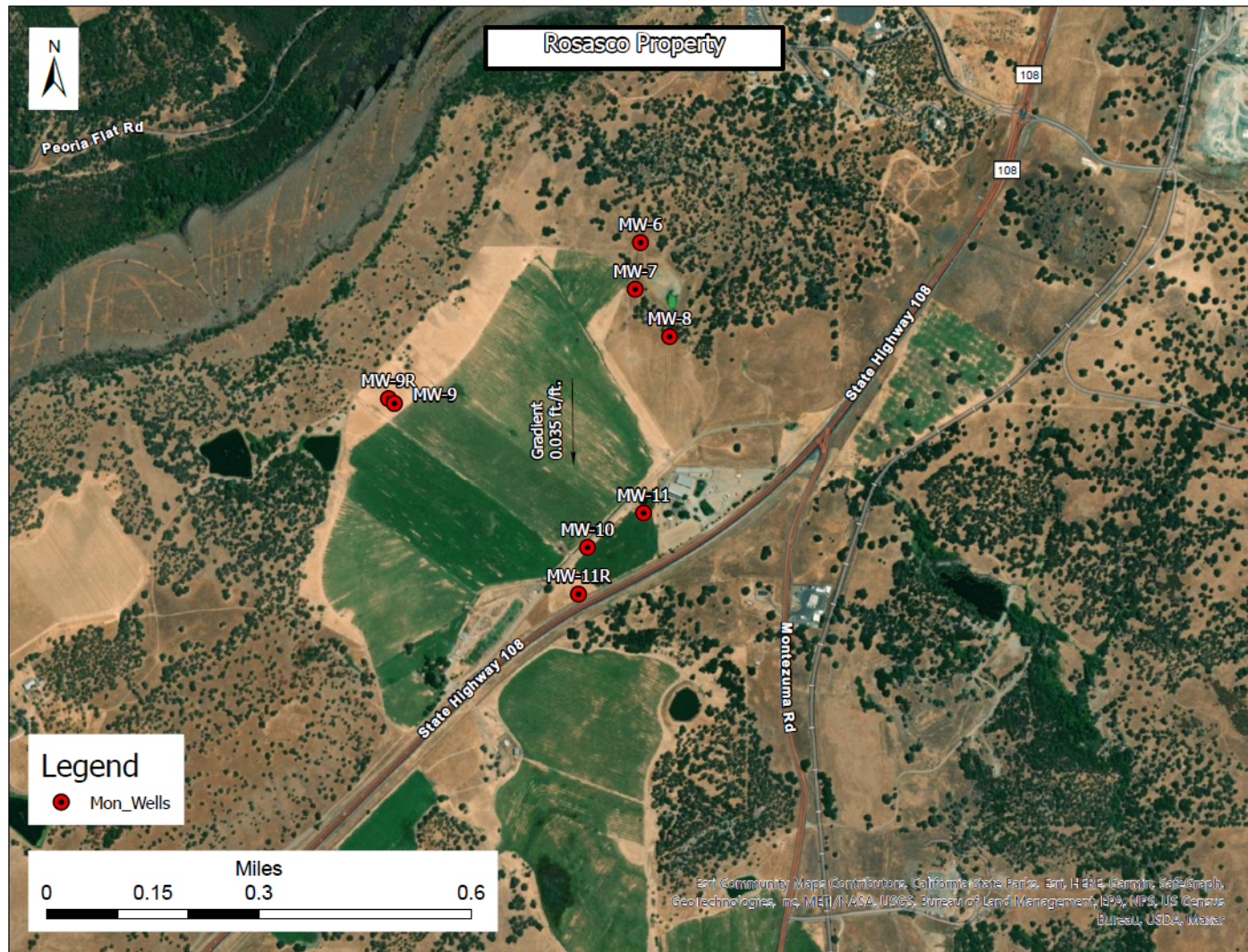


## ATTACHMENT D—QUARTZ RESERVOIR





## ATTACHMENT E—ROSASCO USE AREA





## ATTACHMENT F—GARDELLA USE AREA



**ATTACHMENT G—  
REQUIREMENTS FOR MONITORING WELL INSTALLATION WORK PLANS  
AND MONITORING WELL INSTALLATION REPORTS**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approve the work plan. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section 2, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or civil engineer.

**SECTION 1 – Monitoring Well Installation Work Plan and Groundwater Sampling and Analysis Plan**

The monitoring well installation work plan shall contain, at a minimum, the following information:

**A. General Information:**

- Purpose of the well installation project
- Brief Description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features

**B. Drilling Details:**

- On-site supervision of drilling and well installation services
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Cutting disposal methods
- Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collections, preservation, and analytical methods

C. Monitoring Well Design (in graphic form with rationale provided in narrative form):

- Diagram of proposed well construction details
  - o Borehole Diameter
  - o Casing and screen material, diameter, and centralizer spacing (if needed)
  - o Type of well caps (bottom cap either screw on or secured with stainless steel screws)
  - o Anticipated depth of well, length of well casing, and length and position of perforated interval
  - o Thickness, position and composition of surface seal, sanitary seal, and sand pack
  - o Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

- Method of development to be used (i.e., surge, bail, pump, etc.)
- Parameters to be monitored during the development and record keeping technique
- Method of determining when development is complete
- Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

- Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
- Datum for survey measurements
- List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - o General sampling techniques
  - o Record keeping during sampling (include copies of record keeping logs to be used)
  - o QA/QC samples
- Chain of Custody
- Sample handling and transport

## **SECTION 2 – Monitoring Well Installation Report**

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information:

- Purpose of the well installation project
- Number of monitoring wells installed and identifying label(s) for each
- Brief description of geologic and hydrogeologic conditions encountered during well installation
- Topographic map showing facility location, roads, and surface water bodies
- Large-scaled site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features

B. Drilling Details (in narrative and/or graphic form):

- On-site supervision of drilling and well installation services
- Drilling contractor and driller's name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Well boring log (provide for each well)
  - o Well boring number and date drilled
  - o Borehole diameter and total depth
  - o Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs)
  - o Depth to first encountered groundwater and stabilized groundwater depth
  - o Detailed description of soils encountered, using the Unified Soil Classification System

C. Monitoring Well Construction Details (provide for each well):

- Well construction diagram including:
  - Monitoring well number and date constructed
  - Casing and screen material, diameter, and centralizer spacing (if needed)
  - Length of well casing

- Length and position of slotted casing and size of perforations
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

D. Well Development (provide for each well):

- Date(s) and method of development
- How well development completion was determined
- Volume of water purged and from well and method of development water disposal

E. Well Survey (provide for each well):

- Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot)
- Ground surface elevation (feet above mean sea level to within 0.01 foot)
- Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale)
- Present the well survey report data in a table

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

[Tentative] Waste Discharge Requirements Order R5-2024-####  
for

Tuolumne Utilities District  
Sonora Regional Wastewater Treatment Facility  
Tuolumne County

**INFORMATION SHEET**

**BACKGROUND**

In September 2022, Pacific Advanced Civil Engineering, Inc. on behalf of the Tuolumne Utilities District (TUD or Discharger), submitted a Report of Waste Discharge (RWD) proposing to upgrade the existing Sonora Regional Wastewater Treatment Facility (WWTF or Facility) in Tuolumne County to produce tertiary-treated recycled water. By letter dated 21 October 2022, the Central Valley Water Board notified the Discharger that the September 2022 RWD was incomplete and requested additional information be provided.

On 21 December 2022, the Discharger submitted additional information in a letter to Water Board staff. In addition, on 8 March 2023, Robertson-Bryan, Inc. (RBI) on behalf of the Discharger, submitted two technical memoranda to address some of the deficiencies in the RWD and letter. The memoranda included supplemental information and a modified water balance to clarify the storage and irrigation potential of the current system to support the requested average dry-weather flow (ADWF) limit of 2.0 million gallons per day (mgd). Staff had concerns with the modified water balance since the acreage for the Teleli Golf Course was included despite not having an existing connection.

On 29 June 2023, RBI submitted a subsequent modified water balance to address the disposal and storage capacity of the existing and proposed use areas. The June 2023 modified water balance indicated that for the 100-year rainfall scenario, the existing storage and use areas (total of 630 irrigable acres) could accommodate a discharge limit of 1.84 mgd, which is expected to occur in 2046. With the inclusion of the Teleli Golf Course (total of 855 irrigable acres), the highest ADWF scenario during a 100-year rainfall scenario would be a discharge limit of 2.08 mgd. The modified water balance also noted that 710 acres (80 additional acres) is required to store and dispose an ADWF of 2.0 mgd during the 100-year rainfall scenario. On 31 August 2023, RBI submitted an Antidegradation Analysis for the discharge from the Facility to Quartz Reservoir and use of TUD's recycled water at the Use Areas.

The Sonora Regional WWTF is regulated by Waste Discharge Requirements (WDRs) Order No. 94-192. WDRs Order 94-162 allows an average dry weather flow of up to 2.6 million gallons per day (mgd) of secondary disinfected effluent into the TUD's reclamation system that distributes secondary disinfected effluent from both Jamestown

Utilities District's WWTF and the Sonora Regional WWTF to use areas regulated by Master Reclamation Permit R5-2002-0202 (Master Reclamation Permit).

## **MODIFICATIONS TO THE SONORA REGIONAL WWTF**

The upgraded Sonora Regional WWTF upgrade is designed to treat an annual average dry weather flow of 2.0 mgd with a peak day capacity of 5.0 mgd. Wastewater treatment system upgrades will consist of two extended aeration activated sludge basins, two woven polyester media disk filters, and two chlorine contact basins with sodium hypochlorite metering pumps and sodium hypochlorite storage tanks. The final effluent produced by the Sonora Regional WWTF will meet Title 22 of the California Code of Regulations for disinfected tertiary recycled water. Secondary treatment at the Facility will be provided by utilizing both aerobic and anoxic conditions within the secondary treatment basins. Nitrification and denitrification will be provided within the basins. Tertiary and disinfection treatment will consist of four sections of a custom cast-in-place treatment system that features: a pre-filter channel, two Veolia Hydrotech™ Disk Filters, a post-filter channel, and two chlorine contact basins. Two chlorine contact basins will provide a minimum of 90 minutes of modal contact time at a total flow rate of 2.5 mgd (1.25 mgd per basin) using a sodium hypochlorite solution that will be injected into the basins at minimum water level.

Previously unlined polishing pond A was lined with a 45-mil reinforced polyethylene liner to act as the new emergency storage basin. The emergency storage basin at the Facility will provide 3 million gallons of emergency storage during extreme wet weather conditions or during emergency shutdown/failure. An additional 3 million gallons of emergency storage is provided in the two feet of freeboard in the emergency storage basin, extended aeration activated sludge basins, and clarifiers for a total emergency storage volume of 5 million gallons.

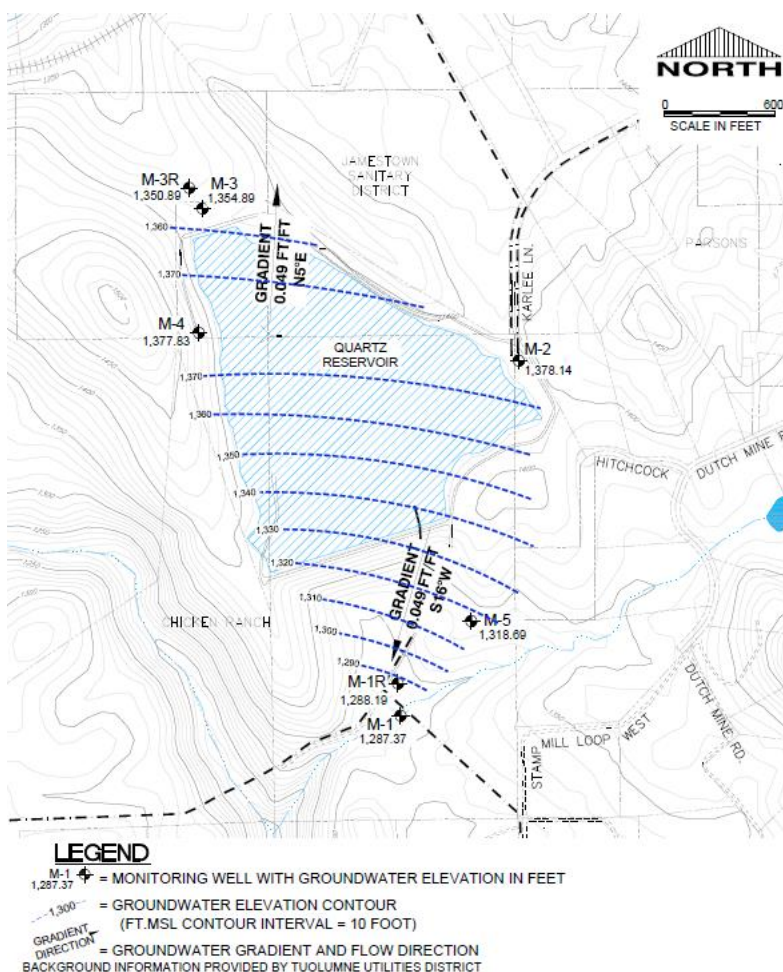
The reclaimed water distribution system consists of the main storage reservoir (Quartz Reservoir), nine miles of pipeline, and approximately 630 acres of Use Areas (855 acres when the connection to the Teleli Golf Course is completed) across 26 end users. According to the Title 22 Engineering Report, 108.3 acres of irrigable area owned by reclaimed water users upgradient of Quartz Reservoir can be supplied directly.

## **GROUNDWATER CONSIDERATIONS**

Groundwater conditions are discussed in Findings 66 to 74 of the Order. Currently, there are no groundwater monitoring wells present at the Sonora Regional WWTF; however, there are three groundwater monitoring well network consisting of a total of 21 monitoring wells around the Quartz Reservoir, Rosasco Use Area, and Gardella Use Area. The depth to water in the monitoring wells typically ranges from about five feet below top of casing to sixty feet below top of casing. Water elevation maps submitted and prepared by Condor Earth as part of quarterly groundwater monitoring reports

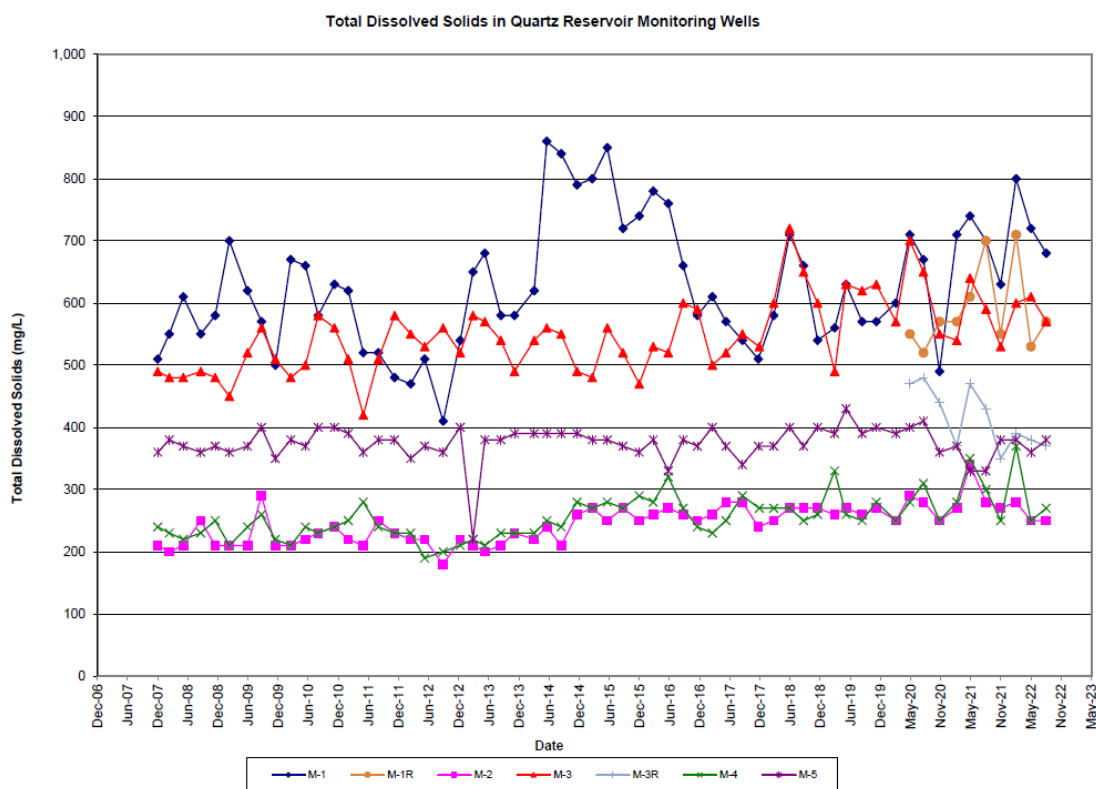


generally indicate groundwater flows both north and south near the divide at Quartz Reservoir (see Figure 1 below).



**Figure 1 – Groundwater Elevation Contours – Taken From *Quarterly Groundwater Monitoring Report April 1, 2022 Through June 30, 2022.***

Figure 2 below shows the groundwater trends in the Quartz Reservoir groundwater monitoring wells over the past few years for total dissolved solids (TDS). Figure 2 shows relatively stable values for upgradient/cross-gradient wells M-2 and M-4. However, TDS values for the downgradient wells appear to be trending upward according to the figure.



**Figure 2 – Groundwater TDS Trends**

Figure 3 below shows groundwater trends for nitrate in Quartz Reservoir groundwater monitoring wells. Most of the values are below the maximum contaminant level (MCL) of drinking water of 10 mg/L. Nitrate concentrations appear to be trending down. Non-detect (ND) values reported in the groundwater monitoring reports were shown as “zero” for simplicity.

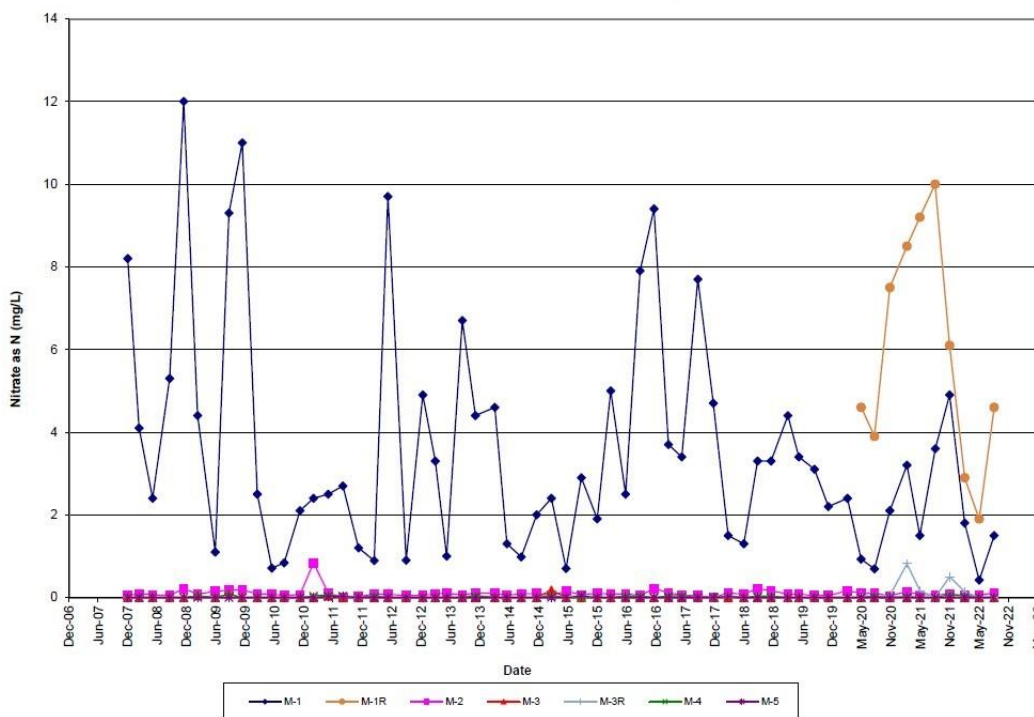


Figure 3 – Groundwater Nitrate as Nitrogen Trends

## WASTEWATER RECLAMATION

The Discharger operates a reclaimed water distribution system, consisting of pumping facilities, distribution pipelines, Quartz Reservoir (main storage area), and smaller storage reservoirs. TUD's effluent from the Sonora WWTF is conveyed to the Quartz Reservoir by a gravity flow line. Prior to delivery to Quartz Reservoir, a limited number of end users can be supplied via turnouts along the line. Effluent from Jamestown Sanitary District's is pumped to Quartz Reservoir using a pumping system that is owned and operated by TUD. Reclaimed water is delivered to Use Areas through eighteen turnouts along nine miles of six-to-twenty-four-inch transmission and distribution lines. Reclaimed water is used mainly for the spray or flood irrigation of fodder crops and pasture for animals not producing milk for human consumption.

TUD is in the process of upgrading the WWTF to a tertiary treatment recycling facility to improve the effluent quality and comply with California Code of Regulations Title 22 requirements for unrestricted disinfected tertiary recycled water. The proposed areas to use tertiary recycled water include landscape irrigation on private land, land leased by TUD, as well as 252 acres of land at the Teleli Golf Course. Within 60 days upon receiving a Title 22 Conditional Acceptance Letter, the WDRs require TUD to enroll under State Water Resources Control Board Order WQ 2016-0068-DDW *Water*

*Reclamation Requirements for Recycled Water Use* to facilitate the use of the recycled water. The Master Reclamation Permit will remain active until TUD enrolls under the Reclamation General Order, at which time the Master Reclamation Permit will be rescinded.

### **ANTIDEGRADATION**

The antidegradation analysis and conclusions are discussed in Findings 94 through 99 of the Order.

### **DISCHARGE PROHIBITIONS, LIMITATIONS, DISCHARGE SPECIFICATIONS, AND PROVISIONS**

This Order specifies the following influent flow limitations: a 1.8 mgd monthly average dry weather flow limit, a 2.0 mgd monthly average dry weather flow limit upon approval of Provision I.4, and maximum daily flow limit of 5.0 mgd. The Order specifies tertiary-treated effluent limits of 10 mg/L (monthly average) and 20 mg/L (daily max) for both biochemical oxygen demand (BOD) and total suspended solids (TSS). For salinity, this Order sets an effluent Salinity Action Level of 800  $\mu$ mhos/cm for EC. Furthermore, the Order specifies an annual average limit of 10 mg/L for total nitrogen and total coliform limitations for disinfected tertiary treated effluent (2.2 MPN/100 ml seven-day median, 23 MPN/100 ml per calendar month, and 240 MPN/100 ml maximum). This Order also prescribes groundwater limitations that ensure the discharge does not affect present and anticipated beneficial use of groundwater.

This Order requires the Discharger to submit a Notice of Intent to apply for coverage under the Reclamation General Order. Also, this Order includes a provision requiring the Discharger to certify the additional Use Area (Teleli Golf Course) can reclaim recycled water and that there is sufficient storage and disposal capacity for an ADWF of 2.0 mgd. In addition, this Order includes provisions requiring various technical reports/work plans. These reports/plans include the following: Groundwater Monitoring Work Plan, Groundwater Monitoring Well Installation Report, Unlined Sludge Surfaces Work Plan, Liner Operation Maintenance and Monitoring Reporting.

### **MONITORING REQUIREMENTS**

Section 13267 of the California Water Code authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on water for the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. This Order includes influent, effluent, solids, groundwater, and water supply monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the requirements and specifications of the Order.

### **SALT AND NITRATE CONTROL PROGRAMS REGULATORY CONSIDERATIONS**

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments

(Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted Resolution No. 2019-0057 approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law approved the Basin Plan amendments on 15 January 2020 (OAL Matter No. 2019-1203-03) and were revised by the Central Valley Water Board in 2020 with [Resolution R5-2020-0057](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf). ([https://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/resolutions/r5-2020-0057\\_res.pdf](https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/resolutions/r5-2020-0057_res.pdf)).

For the Salt Control Program, a Notice to Comply for the Salt Control Program was issued to Tuolumne Utilities District (CV-SALTS ID 2511) on 5 January 2021. On 28 June 2021, the Discharger submitted the required fee payment to comply with the Salt Control Program by joining the P&O Study.

For the Nitrate Control Program, the Facility falls outside of a groundwater basin. A Notice to Comply may be issued if the Central Valley Water Board Executive Officer determines it is necessary to protect water quality.

The CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs regionwide, including the WDRs that regulate discharges from the Facility. More [information regarding the CV-SALTS regulatory planning process](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/) can be found at the following link: ([https://www.waterboards.ca.gov/centralvalley/water\\_issues/salinity/](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)).

## **REOPENER**

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

## **LEGAL EFFECT OF RESCISSION OF PRIOR WDRS OR ORDERS ON EXISTING VIOLATIONS**

The Central Valley Water Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.