

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

**Fresno Office**  
1685 "E" Street  
Fresno, CA 93706-2007

**Sacramento Office (Main)**  
11020 Sun Center Drive #200  
Rancho Cordova, CA 95670-6114

**Redding Office**  
364 Knollcrest Drive #205  
Redding, CA 96002

[Regional Board Website](https://www.waterboards.ca.gov/centralvalley) (<https://www.waterboards.ca.gov/centralvalley>)

---

**WASTE DISCHARGE REQUIREMENTS  
ORDER R5-2024-00XX**

---



**ORDER INFORMATION**

<b>Order Type(s):</b>	Waste Discharge Requirements
<b>Status:</b>	TENTATIVE
<b>Program:</b>	Non-15 Discharges to Land
<b>Region 5 Office:</b>	Sacramento (Rancho Cordova)
<b>Discharger(s):</b>	E. & J. Gallo Winery
<b>Facility:</b>	Turner Road Vintners
<b>Address:</b>	4614 West Turner Road
<b>County:</b>	San Joaquin
<b>Parcel Nos.:</b>	025-120-260; 025-120-010
<b>Prior Order(s):</b>	94-055; 99-103

**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 XX June 2024.

---

PATRICK PULUPA, Executive Officer

## **REGIONAL BOARD INFORMATION**

### **Sacramento Office (Main)**

Rancho Cordova, CA 95670-6114  
11020 Sun Center Drive #200  
Telephone: (916) 464-3291

### **Fresno Office**

1685 "E" Street  
Fresno, CA 93706-2007  
Telephone: (559) 445-5116

### **Redding Office**

364 Knollcrest Drive #205  
Redding, CA 96002  
Telephone: (530) 224-4845

### **[Regional Board Website](https://www.waterboards.ca.gov/centralvalley)**

(<https://www.waterboards.ca.gov/centralvalley>)

**TABLE OF CONTENTS**

TABLE INDEX ..... iii

GLOSSARY ..... iv

FINDINGS ..... 6

    Introduction ..... 6

    Facility and Discharge ..... 7

    Facility Changes ..... 13

    Compliance and Enforcement History ..... 13

    Site-Specific Conditions ..... 13

    Groundwater Conditions ..... 14

    Legal Authorities ..... 17

    Basin Plan Implementation ..... 18

    Salt and Nitrate Control Programs Reopener ..... 19

    Compliance with Antidegradation Policy ..... 20

    California Environmental Quality Act ..... 25

    Other Regulatory Considerations ..... 26

    Scope of Order ..... 27

    Procedural Matters ..... 28

REQUIREMENTS ..... 28

    A. Standard Provisions ..... 28

    B. Discharge Prohibitions ..... 28

    C. Flow Limitations ..... 29

    D. Performance Based Effluent Limitations ..... 30

    E. Discharge Specifications ..... 30

    G. Groundwater Limitations ..... 32

    H. Land Application Area Specifications ..... 32

    I. Solids Disposal Specifications ..... 33

    J. Provisions ..... 33

ENFORCEMENT ..... 37

ADMINISTRATIVE REVIEW ..... 37

ATTACHMENT A ..... 38

ATTACHMENT B ..... 39

ATTACHMENT C ..... 40

ATTACHMENT D .....	41
ATTACHMENT E .....	42
ATTACHMENT F .....	43
INFORMATION SHEET .....	44

**TABLE INDEX**

Table 1. Source Water Quality .....	7
Table 2. Wastewater Flow Volumes .....	9
Table 4. AIPS Wastewater Quality .....	9
Table 5. Wetland Wastewater Quality .....	10
Table 6. Storage Lake Wastewater Quality .....	11
Table 7. Effluent Quality Comparison.....	11
Table 3. WID Water Quality.....	12
Table 8. Monitoring Well Construction Details.....	15
Table 9. Depth to Groundwater .....	15
Table 10. Groundwater Quality .....	16
Table 11. Groundwater Concentration Trends .....	16
Table 12. Data Comparison .....	21
Table 13. Effluent Concentration Trends.....	22
Table 14. Flow Limits .....	30
Table 15. Effluent Limitations .....	30
Information Sheet Table 16. Effluent Quality Comparison.....	45
Information Sheet Table 17. Data Comparison .....	46
Information Sheet Table 18. Flow and Effluent Limits .....	47

## GLOSSARY

AIPS	Advanced Integrated Pond System
asml	Above Mean Sea Level
APN	Assessor's Parcel Number
bgs	below ground surface
BOD <sub>5</sub>	[5-day] Biochemical Oxygen Demand at 20° Celsius
BPTC	Best Practicable Treatment or Control
CEQA	California Environmental Quality Act, Public Resources Code section 21000 et seq
CIMIS	California Integrated Management Information System
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DO	Dissolved Oxygen
DWR	Department of Water Resources
EC	Electrical Conductivity
ET <sub>o</sub>	Evapotranspiration
FDS	Fixed Dissolved Solids
FEMA	Federal Emergency Management Agency
LAAs	Land Application Areas
MCL	Maximum Contaminant Level
MGD	Million Gallons [per Day]
mg/L	Milligrams per Liter
MPN	Most Probable Number
MRP	Monitoring and Reporting Program
MUN	Municipal and Domestic Supply Beneficial Use

MW.....	Monitoring Well
N.....	Nitrogen
NA.....	Not Applicable
ND.....	not detected or non-detect
NE.....	Not Established
NPDES.....	National Pollutant Discharge Elimination System
OAL.....	Office of Administrative Law
P&O Study .....	Prioritization and Optimization Study of the Salt Control Program
RCRA.....	Resource Conservation and Recovery Act
RWD.....	Report of Waste Discharge
SERC.....	State of Emergency Response Commission
SPRRs.....	Standard Provisions and Reporting Requirements
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
TRV.....	Turner Road Vintners
Wat. Code.....	Water Code
WDRs.....	Waste Discharge Requirements
WID.....	Woodbridge Irrigation District
WQOs.....	Water Quality Objectives
µmhos/cm.....	Micromhos per Centimeter



## FINDINGS

The California Regional Water Quality Control Board, Central Valley Region, (Central Valley Water Board) finds that:

### Introduction

1. E. & J. Gallo Winery (Discharger) owns and operates Turner Road Vintners, which has a wastewater treatment system for winery process wastewater. The winery consists of two facilities: Turner Road Vintners East (TRV East) and Turner Road Vintners West (TRV West), collectively referred to as Facilities. The Facilities are separated by approximately two thirds of a mile of agricultural land not owned by the Discharger, as shown on Attachments A and B, which are attached hereto. TRV East is located at 4614 West Turner Road and TRV West is located at 5852 West Turner Road, near Lodi in San Joaquin County (Section 1, T3N, R5E, MDB&M). The TRV East address is used as the mailing address for the Facilities.
2. On 14 September 2023, the Discharger submitted a Report of Waste Discharge (RWD) that describes the discharge of wastewater to land. Additional information was submitted in October, November, and December 2023, and April and May 2024.
3. E. & J. Gallo Winery purchased Turner Road Vintners from Constellation Brands in 2021. As owner and operator of the Facilities, the E. & J. Gallo Winery is responsible for compliance with Waste Discharge Requirements (WDRs) regulating discharges to land. Prior to Constellation Brands ownership, Turner Road Vintners was owned and operated by Sebastiani Vineyards, Inc.
4. The Discharger also owns parcel APN 025-110-200-000, located along the southwest boundary of the TRV West Facility. However, the parcel is primarily used for the Discharger's trucking business to park trucks and is not used for the treatment or application of wastewater. Therefore, it is not included in these WDRs.
5. The Facilities are currently regulated under WDRs Order 99-103, adopted by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) on 28 July 1999. Order 99-103 allows a monthly average dry weather flow up to 0.65 million gallons per day (mgd). Due to the age of the existing permit, an updated Order is required. Therefore, this Order rescinds and replaces Order 99-103.
6. The following materials are attached and incorporated as part of this Order:
  - a. Attachment A – Site Location Map
  - b. Attachment B – Site Features Map
  - c. Attachment C – Groundwater Well Location Map
  - d. Attachment D – Wastewater Flow Schematic
  - e. Attachment E – Wastewater Flow Directions for the Wetlands

- f. Attachment F – Effluent Concentration Trends
  - g. Information Sheet
  - h. Standard Provisions and Reporting Requirements dated 1 March 1991 (SPRRs) ([1 March 1991 SPRRs](#))
7. Also attached is **Monitoring and Reporting Program (MRP) R5-2024-XXXX**, which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP, and any subsequent revisions thereto, as ordered by the Executive Officer or adopted by the Central Valley Water Board.

**Facility and Discharge**

8. The Facilities occupy approximately 87 acres (24 acres at TRV East and 63 acres at TRV West), consisting of a processing area, warehouses, a bottling plant, and a wastewater treatment system.
9. The Facilities process up to 120,000 tons of grapes annually as well as receiving grape juice and finished wine. As part of the winemaking operations, grapes are crushed, fermented, pressed, filtered, stabilized, aged, bottled, and packaged. All receiving and winemaking processes occur at TRV West. Finished wine is transferred to TRV East for bottling, packaging, temporary storage, and distribution.
10. Source water for the Facilities is supplied by four on-site wells: Well #1 West and Well #3 West for TRV West and Well #3 East and Well #4 East for TRV East, as shown on Attachment C, which is attached hereto. The source wells are completed to a total depth between 135-175 feet below ground surface (bgs). Water quality data for select constituents are summarized below. Data were not available for Well #1 West. Average concentrations for data collected between 2012 and 2022 are presented. The following acronyms are defined as follows and are used throughout this Order.

EC = Electrical Conductivity                      NA = data not available  
 mg/L = milligrams per liter                      TDS = total dissolved solids  
 N = nitrogen    µmho/cm = micromhos per liter

**Table 1. Source Water Quality**

Constituent	Units	Well #3 West	Well #4 East	Well #3 East
TDS	mg/L	270	NA	NA
EC	µmhos/cm	475	NA	NA
Nitrate as N	mg/L	0.7	<0.4	3.2
Nitrite as N	mg/L	<0.4	<0.4	<0.4
Sodium	mg/L	44	NA	NA

Constituent	Units	Well #3 West	Well #4 East	Well #3 East
Chloride	mg/L	32	NA	NA

Table Source: 2023 RWD.

11. The processing area at TRV West is mostly paved with asphalt or concrete and covers approximately 20.5 acres in the southern portion of the property. TRV West includes an office, maintenance area, grape receiving area, tank farms, crush pad, wastewater treatment system, and other small buildings. Process wastewater generated at TRV West is primarily from crushing activities, fermentation, cleaning and sanitizing equipment, and storm water. All on-site storm water is captured from TRV West and discharged to the wastewater treatment system located in the northern portion of TRV West.
12. TRV East is mostly paved with asphalt or concrete. Components of the facility include a truck receiving area, wine storage tanks, bottling buildings, parking, maintenance area, other small buildings, and a storm water pond. At TRV East, process wastewater is generated from bottling, sanitizing and cleaning equipment, and storm water from 9.9 acres of processing areas. Storm water from processing areas is collected using a series of catch basins that route storm water to the TRV East process wastewater sump. In non-processing areas (approximately 11.8 acres), storm water is directed to an on-site storm water pond in the southern portion of TRV East, as shown on Attachment B.
13. The wastewater treatment system used by Facilities is located in the northern portion of TRV West and consists of an Advanced Integrated Pond System (AIPS), constructed Wetland, a Storage Lake, and land application areas (LAAs).
14. Chemicals used at the Facilities that may impact wastewater quality include:
  - Alkali Cleaners
  - HD Spec Cleaner
  - Peracetic Acid
  - Vinsation HD
  - Chem-Aqua(s)
  - Hydrogen Peroxide
  - Sterox
  - Vinox PRO
15. Wastewater at both Facilities is discharged to process wastewater sumps (TRV East sump and TRV West sump) and then screened using rotary screens, as shown on Attachment D, which is attached hereto. Wastewater from TRV East is pumped to the TRV West Facility through a pipeline located along the southern edge of Turner Road and is commingled with TRV West wastewater prior entering the treatment system, as shown on Attachment D. Wastewater flow volumes are measured separately at each Facility and then combined and reported as a total flow into the treatment system. Total flow volumes are summarized below.

**Table 2. Wastewater Flow Volumes**

Year	Annual Flow Volume (MG)	Maximum Monthly Flow (gallons per day [gpd])
2019	40.9	183,116 September
2020	25.2	176,296 August
2021	32.5	244,934 October
2022	45.9	329,325 September
WDRs 99-103 Effluent Limit: 650,000 gpd		

16. After the wastewater from both Facilities is commingled, wastewater is discharged to a 5.4-acre AIPS that consists of four anaerobic/aerobic ponds, labeled as AIPS 1 – 4 on Attachment D. The ponds can be operated in parallel for primary and secondary process wastewater treatment. Each pond has a surface area of 1.35 acres and a 12-foot depth with 1-foot-thick compacted clay liners. The total capacity of the four ponds combined is 15.6 million gallons (MG) (2023 RWD), not including two feet of freeboard. Rip rap is installed along the sidewalls to minimize erosion. Currently, wastewater is discharged first to Ponds 3 and 4, which are used in parallel as primary digesters. In Ponds 3 and 4, process wastewater is injected into the deep anaerobic zone of the ponds which is overlain by a 4-foot layer of aerated water. From Ponds 3 and 4, wastewater flows to Pond 2, which provides aerobic treatment, and then Pond 1, which acts as a clarifier. Historically, flow directions into the ponds have changed directions based on treatment needs. In each of these ponds, there are aspirating aerators and conventional aerators that maintain a 4-foot layer of aerated water.
17. Wastewater samples are collected after the AIPS system, as shown as sample location S1 on Attachment D. Wastewater quality for the main constituents of concern is summarized below. Average annual and maximum concentrations for select constituents for monitoring years 2019 to first quarter 2023 are presented. Concentrations are in mg/L unless noted otherwise.

**Table 3. AIPS Wastewater Quality**

Constituent		2019	2020	2021	2022	2023
Nitrate as N	Avg	0.2	0.2	0.7	0.9	0.3
	Max	0.6	0.2	5.8	3.6	0.5
EC (µmhos/cm)	Avg	745	854	695	761	522
	Max	1,100	1,450	1,050	1,130	590
TDS	Avg	464	526	501	503	317
	Max	640	910	690	810	350
BOD <sub>5</sub>	Avg	79	59	66	49	33
	Max	185	121	223	91	53

18. After treatment in the AIPS, wastewater is discharged to a 15-acre on-site manmade wetland (Wetland). The Wetland is not considered a water of the United States as there are no connections to surface water, the Wetland is not a traditional navigable water, and the Wetland is used for disposal of wastewater. Therefore, the Wetland is regulated under these WDRs.
19. The Wetland is used for polishing treated wastewater as well as storage and disposal. The storage capacity of the Wetland is 12.8 MG (RWD, 2023), not including two feet of freeboard. Flow directions through the Wetland are shown on Attachment E.
20. Wastewater discharged to the Wetland first flows through the cattail portion of the Wetland, into the aeration lake portion, and to the bullrush portion of the Wetland. The cattail and bullrush areas are each divided into two sections using berms. In addition to the cattails and bullrush, the Wetland is also vegetated with various other aquatic plants. The cattail portion of the Wetland is approximately 2 feet deep and the bullrush and aeration lake portions are 8-10 feet deep. The Wetland was designed, installed, and operated to promote mixing of the wastewater and to prevent the breeding of mosquitos. The Wetland is inspected daily for erosion and overgrown vegetation. If issues are identified, they are remedied promptly.
21. Wastewater samples are collected from the Wetland prior to discharging to the Storage Lake. This sample location (S2 on Attachment D) was the compliance sample point for the effluent limits (monthly averages) established in WDRs Order 99-103. Average annual and maximum concentrations for select constituents for monitoring years 2019 to first quarter 2023 are presented. Units are mg/L unless noted otherwise.

**Table 4. Wetland Wastewater Quality**

Constituent		2019	2020	2021	2022	2023
Nitrate as N	Avg	0.6	0.2	0.01	0.9	0.2
	Max	3.1	0.2	0.2	9	0.4
EC (µmhos/cm)	Avg	780	819	705	652	561
	Max	912	1270	971	1,190	584
TDS	Avg	492	493	468	428	370
	Max	630	770	600	760	400
BOD <sub>5</sub>	Avg	30	19	19	29	9
	Max	90	27	38	170	12

22. Treated process wastewater from the Wetland is discharged to the Storage Lake. The Storage Lake is 8 acres in size, unlined, and has a capacity of 26 MG (RWD, 2023). Supplemental irrigation water from WID is routinely added to the Storage Lake during the summer months to maintain adequate water levels to support irrigation needs and maintain Wetland health.

23. Wastewater quality data collected from the Storage Lake are summarized below. Concentrations are in mg/L unless noted otherwise.

**Table 5. Storage Lake Wastewater Quality**

Constituent		2019	2020	2021	2022	2023
Nitrate as N	Avg	0.2	0.2	0.2	0.6	1.9
	Max	0.5	0.2	1.4	3.8	2.7
EC (µmhos/cm)	Avg	230	528	295	217	269
	Max	340	776	393	288	272
TDS	Avg	230	259	180	137	163
	Max	340	460	240	190	170
BOD <sub>5</sub>	Avg	5	6	7	4	4
	Max	12	11	15	7	13

24. Water from the Storage Lake is used to irrigate 12 acres of land application areas that consist of landscaped areas around TRV West, as shown on Attachment B. The LAAs are sprinkler irrigated as needed, primarily from April through October.
25. Effluent samples collected from the Wetland are used for compliance purposes. However, wastewater samples are collected from each component of the treatment system (AIPS, Wetland, and Storage Lake) and discussed in Findings 17, 21, and 23. A comparison of wastewater quality associated with each treatment component is summarized below. Average concentrations for data collected between July 2014 through March 2023 are shown. Concentrations of constituents generally decrease as the wastewater is treated through the treatment system. In addition, the wastewater quality from these Facilities is considered better quality than other wineries, when comparing average concentrations of constituents associated with other wineries based on the State Water Resources Control Board's (State Board) General Order for Winery Process Water (Order WQ 2021-0002-DWQ; Table 2). A comparison between concentrations from these Facilities and average concentrations presented in the General Order is included in Attachment F.

**Table 6. Effluent Quality Comparison**

Constituent	Treatment Component		
	AIPS	Wetland	Storage Lake
EC (µmhos/cm)	779	753	402
TDS (mg/L)	508	494	243
Nitrate as N (mg/L)	0.6	0.4	0.5
BOD <sub>5</sub> (mg/L)	69	24	6

26. The Wetland and Storage Lake at TRV West provide habitat for a variety of species of plants and animals year-round, as well as migratory species passing

through the area. Cattails, algae, and other aquatic plants native to the area are able to thrive in these ponds with the nutrients and residual organic matter provided from the winery process wastewater. WID water is added to the AIPS and Storage Lake on an as-needed basis, generally during the summer months, to maintain a consistent water levels in the ponds and Wetland to support the health of the ecological habitat.

27. Water quality samples collected from four locations within the WID are summarized below. Concentrations for each constituent from the four samples are averaged together.

**Table 7. WID Water Quality**

Sample Date	Units	TDS (mg/L)	Nitrate as N	Chloride (mg/L)	Sodium	Sulfate	Iron	Manganese
6/2023	mg/L	32.5	ND	1.1	2.25	1.1	0.21	0.02

Data Source: [Woodbridge Irrigation District Water Quality Testing Results](https://www.woodbridgeirrigation.org/wid-water-quality-testing-results) (https://www.woodbridgeirrigation.org/wid-water-quality-testing-results).

28. Solids generated at the TRV West Facility from wine processing activities consists of grape stems, skins, leaves, and seeds. The solids are collected in a dumpster or dried on a paved area south of the AIPS and then temporarily stored in a dumpster. The dried solids are hauled offsite regularly by a vendor where they are used as a soil amendment. Solids are not land applied on-site or stored on unpaved areas.
29. Storm water on the southern portion of the TRV East Facility (approximately 11.8 acres) is discharged to a 1.2-acre Storm Water Pond located in the southern portion of the Facility. In the northern portion of TRV East, storm water is collected in catch basins and combined with TRV East process wastewater, as described in Finding 11.
30. Water balances for a 100-year return period and an average precipitation year included the AIPS, Wetland, Storage Lake, 12 acres of LAAs, and WID supplemental water. The water balances indicated that the wastewater treatment system has sufficient capacity to manage the rainfall with expected process water volumes from both TRV East and TRV West by infiltration, evaporation, and landscape irrigation. In addition, nutrient loadings show that nitrogen from water in the Storage Lake is significantly lower than landscaping needs, and additional fertilizer may be needed. Percolation losses based on the water balance included in the 2023 RWD are summarized below.

**Table 8. Water Balance Summary**

Treatment System Component	Percolation Losses at 86 MG/year	
	MG/year	Inches/year
AIPS	1.82	12.4
Wetland	26.5	65.1
Storage Lake	27	124.2
LAAs	48.9	48.9

31. Domestic wastewater at TRV East and TRV West is discharged to septic systems. There are three leach fields, one at the TRV West Facility and two at the TRV East Facility, with each system regulated by San Joaquin County Environmental Health Department. Domestic wastewater and process wastewater are not commingled at TRV East or TRV West.

**Facility Changes**

32. In 2025, the Discharger plans to move the solids storage area to a concrete lot on the south end of the TRV West Facility, as shown on Attachment B. The solids will be allowed to dry temporarily in a dumpster prior to offsite disposal. Any runoff from this area will be collected and routed to the AIPS. As required by Provision J.1.a, the Discharger is required to notify the Central Valley Water Board 30-days prior to the use of the new solids storage area.
33. WDRs Order 99-103 did not require the Discharger to regularly monitor or document freeboard for the wastewater treatment system. This Order requires the installation of permanent staff gauges in the AIPS, Wetland, and Storage Lake (see Provision J.1.b).

**Compliance and Enforcement History**

34. No compliance issues have been identified by or reported to the Central Valley Water Board for these Facilities in the last 20 years. There have been no odor complaints filed with the San Joaquin Valley Air Pollution Control Board.

**Site-Specific Conditions**

35. Land use surrounding the Facilities is mainly agricultural (viticulture, mixed farming, and dairies). The TRV East Facility is bounded on the west by railroad tracks. Sutter Home Winery West Facility and dairies are located within 1.5 miles northwest of the Facility, with less than seven residents located near the treatment system.
36. Topography in the vicinity of the Facilities is relatively flat, with the ground surface sloping gradually from east to west. TRV East has surface elevations of



approximately 20 to 25 feet above mean sea level (amsl) and TRV West has surface elevations of approximately 10 to 18 feet amsl. Surface water drainage in the area of the TRV East and West Facilities is to Sycamore Slough, tributary to South Fork Mokelumne River. The Facilities are within Lower Mokelumne Hydrologic Area (No. 531.20), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

37. Three soil types are mapped at the facilities: Acampo Sandy Loam, Devries Sandy Loam and Tokay Fine Sandy Loam. TRV West is almost entirely underlain by the Acampo Sandy Loam. The TRV East facility is underlain by the Tokay Fine Sandy loam, but the central and southern portion of the parcel is underlain by the Acampo Sandy Loam soils, which are characterized as moderately well drained with slow run off and moderately rapid permeability.
38. The climate in the project area, like much of California's Central Valley, is characterized by hot, dry summers and cool, moist winters. Climate data were collected from the California Irrigation Management Information System (CIMIS) Manteca Station 70. Average precipitation for 2000 through 2022 was 11.5 inches per year (in/yr). Average reference evapotranspiration (Eto) was 52.9 in/yr for the same period (CIMIS, 2023). The 100-year return period annual precipitation (26.6 in/yr) is calculated from the average dataset and distributed monthly in accordance with average historical precipitation patterns.
39. Both Facilities are located in FEMA Flood Zone X, defined as located between the limits of the 100-year and 500-year Floodplain, area with a 0.2% (or 1 in 500 chance) annual chance of flooding.

### **Groundwater Conditions**

40. Lodi is located within the Eastern San Joaquin Subbasin of the San Joaquin River Groundwater Basin, San Joaquin River Hydrologic Region. Water-bearing units of the subbasin include undifferentiated deposits of alluvium and flood basin deposits of the Laguna Formation. The Plio-Pleistocene Laguna Formation consists of discontinuous lenses of fluvial sand and silt with lesser amounts of clay and gravel.
41. Shallow groundwater in the Lodi area occurs within the alluvial flood plain deposits to depths of greater than 20 feet bgs. The depth to groundwater is as little as a few feet below ground surface in some areas, especially near unlined canals and surface water bodies such as Sycamore Slough.
42. Shallow groundwater depth and flow conditions can vary depending on location, season, land use, nearby pumping (i.e., construction dewatering, agricultural wells, and irrigation, etc.), and the proximity and flow stage of nearby surface water bodies. As a result, changes in agricultural land use, irrigation practices, and regional pumping have likely altered the groundwater flow regime. The local

topography and low horizontal gradient suggest a low net horizontal movement of shallow groundwater.

43. The current groundwater monitoring network consists of five shallow groundwater monitoring wells (MW-1 to MW-5), which are shown on Attachment C. Well construction details are summarized below.

**Table 9. Monitoring Well Construction Details**

Well ID	Well Depth (feet bgs)	Screened interval (feet bgs)	Location (see Table Note 1)
MW-1	35	8.5 – 33.5	TRV West upgradient well
MW-2	36	10 – 35.2	TRV West upgradient well
MW-3	36	9.25 – 34.25	TRV East downgradient
MW-4	23.5	7 – 22	TRV West cross/downgradient
MW-5	21.5	5 - 20	TRV West cross/downgradient

Table Note 1: Monitoring well locations (up-, down-, and cross-gradient) are presented as identified in the groundwater monitoring reports and 2023 RWD, prepared and stamped by licensed professionals.

44. Calculated groundwater elevations and depths to groundwater are summarized below and presented as the minimum and maximum depths reported between 2019 and first quarter 2023.

**Table 10. Depth to Groundwater**

Well ID	Top of Casing Elevation (feet msl)	Depth to Groundwater (feet bgs)	Corresponding Groundwater Elevations (feet msl)
MW-1	16.09	6.5 – 16.1	9.6 - 0
MW-2	16.76	6.6 – 16.2	10.2 – 0.6
MW-3	24.22	21 – 29.5	3.2 – (-5.3)
MW-4	17.18	8.0 – 17.6	9.2 – (-0.4)
MW-5	16.47	8.3 – 17.6	8.2 – (-1.1)

45. Horizontal groundwater flow direction is generally to the southeast but has varied between northeast and southeast. It should be noted that while MW-3 is identified

as a downgradient well (downgradient from the wastewater treatment system), approximately two thirds of a mile of agricultural land not owned by the Discharger is located upgradient of MW-3, between the discharge areas (AIPS, Wetland, Storage Lake, and LAAs) and MW-3. It is not known what agricultural and fertilization practices take place in the area between the two TRV Facilities, making it difficult to use MW-3 to identify downgradient groundwater impacts specifically from the TRV West Facility.

46. Groundwater has been monitored at the Facilities since 2000 from MW-1, MW-2, and MW-3, and 2004 from MW-4 and MW-5. Maximum and average concentrations are shown below using all available groundwater data for select constituents.

**Table 11. Groundwater Quality**

Constituent (mg/L)		Upgradient		Downgradient		
		MW-1	MW-2	MW-3	MW-4	MW-5
TDS	Avg	460	434	664	940	1,128
	Max	860	1,070	980	1,300	1,500
EC (µmhos/cm)	Avg	748	702	1,480	1,457	1,713
	Max	1,240	1,670	996	1,900	2,200
Nitrate as N	Avg	0.5	0.3	15	4	0.3
	Max	12.6	2.7	54	12	1
Sulfate	Avg	26	20	53	73	31
	Max	100	145	88	120	44
Chloride	Avg	33	34	37	62	71
	Max	47	97	49	110	120
Total Alkalinity	Avg	328	318	403	719	983
	Max	460	600	500	990	1,400
Hardness	Avg	95	192	268	489	652
	Max	262	950	340	680	950

47. Concentration trends for TDS, EC, nitrate as nitrogen, and sulfate were evaluated using intrawell evaluations and groundwater data over the last 20 years to determine if groundwater quality has been stable or consistent over time. No statistically significant trends and decreasing concentration trends, except for nitrate as nitrogen in MW-4 (downgradient well), were observed.

**Table 12. Groundwater Concentration Trends**

Well ID	Constituents			
	EC	Nitrate as N	Sulfate	TDS
MW-1	No trend	Decreasing	Decreasing	Decreasing
MW-2	Decreasing	Decreasing	Decreasing	Decreasing
MW-3	No trend	Decreasing	Decreasing	No trend

Well ID	Constituents			
	EC	Nitrate as N	Sulfate	TDS
MW-4	Decreasing	Increasing Table Note 1	Decreasing	Decreasing
MW-5	Decreasing	No trend	No trend	Decreasing

Table Note 1: When evaluating the concentration trend for nitrate as N in MW-4, the trend has been stable over the last 5 years (see Finding 48 below.)

48. MW-4 is located in an area where groundwater quality could also be impacted from potential sources located upgradient and off-site from MW-4. The area surrounding the TRV West has been used for long-term agricultural purposes. MW-3, located downgradient from MW-4 at TRV East, shows a decreasing concentration trend for nitrate as nitrogen. As discussed in Finding 42, this well is located downgradient of an agricultural field not owned or managed by the Discharger. Concentrations of nitrate as nitrogen are less than the Primary MCL of 10 mg/L in MW-4. Nitrate as nitrogen concentration trends in MW-4 over the last five years shows a stable trend. This five-year interval includes the time the Discharger purchased (2021) and has since owned the Facility.

**Legal Authorities**

49. 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. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonable required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.*

50. 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).)

51. This Order and its associated 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.*

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

### **Basin Plan Implementation**

53. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan), which designates beneficial uses for surface water and groundwater within its scope and establishes WQOs necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.)
54. The nearest surface water bodies are Sycamore Slough, located approximately three miles west of the TRV West Facility, and the South Fork of the Mokelumne River, located approximately seven miles west of the TRV West Facility. An irrigation canal run along the TRV West's western boundary. There are no direct surface water connections between the Facilities and the Sycamore Slough, South Fork Mokelumne River, or the irrigation canal.
55. The Facilities are located within the Lower Mokelumne Hydrologic Area (No. 531.20) and the beneficial uses of the Mokelumne River include agricultural irrigation and stock watering, contact recreation, canoeing and rafting recreation, other non-contact recreation, warm and cold freshwater habitat, warm and cold-water migration, warm and cold-water spawning, and wildlife habitat.
56. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
57. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
58. The Basin Plan's numeric WQO for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 milliliter (mL) in MUN groundwater.

59. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require MUN-designated waters to meet the MCLs specified in Title 22 of the California Code of Regulations (Title 22). The Basin Plan recognizes that the 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.
60. The narrative toxicity WQO requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
61. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative WQO is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative WQO.
62. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as Water Quality of Agriculture by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) of less than 700  $\mu\text{mhos/cm}$ . There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with groundwater EC up to 3,000  $\mu\text{mhos/cm}$ , if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. The type of landscaping grown at TRV West can change in the area affected by the discharge.

### **Salt and Nitrate Control Programs Reopener**

63. On 31 May 2018, the Central Valley Water Board adopted Basin Plan amendments incorporating the Salt Control Program and Nitrate Control Programs. (Resolution R5-2018-0034.) The Basin Plan amendments became effective on 17 January 2020. On 10 December 2020, the Central Valley Water Board adopted revisions to the Basin Plan amendments 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)). Those revisions became effective on 10 November 2021.
64. 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. For the Salt Control Program, the Central Valley Water Board issued the Discharger a Notice to Comply (**CVSALTS ID: 2581**). The Discharger

submitted a Notice to Intent and elected to participate in the Prioritization and Optimization Study (P&O Study) under the Alternative Salinity Permitting Approach. 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 discharges to the extent reasonable, feasible, and practicable; and
  - b. Sets a performance-based limit of **750 mg/L for TDS** (annual average flow-weighted limit) for effluent sample location S2 (compliance point) and will be considered representative of wastewater quality in the Wetland. This performance-based concentration limit is less than the effluent requirement for TDS in WDRs Order 99-103.
65. For the Nitrate Control Program, dischargers 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 (Pathway B). For the Nitrate Control Program, the Discharger falls within the Eastern San Joaquin Subbasin (subbasin 5-22.01), a Priority 2 Basin. Notices to Comply letters for Dischargers in Priority 2 Basins were mailed on 29 December 2023. Dischargers are required enroll in the Nitrate Control Program by 26 February 2025. Based on the 2023 RWD, the Discharge may join the local Management Zone and participate in local efforts to reduce nitrate levels in groundwater.
66. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs to ensure the goals of the Salt and Nitrate Control Programs are met. This Order may be amended or modified to incorporate any newly applicable requirements. More information regarding this regulatory planning process can be found on the [Central Valley Water Board's CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity).  
([https://www.waterboards.ca.gov/centralvalley/water\\_issues/salinity](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity))

### **Compliance with Antidegradation Policy**

67. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Resources Control 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 the discharge(s) causing such degradation will be consistent with the maximum benefit to the people of California, will not unreasonably affect beneficial uses, and will not result in water quality worse than applicable WQOs. Any discharge to high quality waters must meet requirements that will result in the best practicable treatment or control (BPTC) necessary to

assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State will be maintained.

68. Groundwater monitoring wells were installed in 2000 and 2004. Compliance with the Antidegradation Policy is therefore based on all available groundwater data.
69. For the purposes of this Order, constituents and parameters in effluent with the potential to degrade groundwater and/or affect beneficial uses include salts (represented by EC and TDS), nitrate as nitrogen, and BOD<sub>5</sub>.
70. A summary of effluent quality compared to annual averages for upgradient and downgradient groundwater is presented below. Flow-weighted annual averages were calculated using analytical data collected from the Wetland, which was the compliance sampling location in WDRs Order 99-103. MW-1 and MW-2 are considered upgradient monitoring wells and MW-3, MW-4, and MW-5 are considered downgradient wells based on groundwater monitoring reports and the 2023 RWD.

**Table 13. Data Comparison**

Constituent	Year	Upgradient Groundwater (see Note 1)	Effluent (flow weighted annual average)	Downgradient Groundwater
EC (µmhos/cm)	2021	518	636	1,210
	2022	522	487	1,037
TDS (mg/L)	2021	346	433	874
	2022	377	431	892
Nitrate as N (mg/L)	2021	0.2	0.03 (see Note 2)	6.38
	2022	0.2	0.09 (see Note 2)	4.5
Sulfate (mg/L)	2021	7.4	NA	43
	2022	8.8	NA	40

**Note 1:** Due to the close proximity of MW-1 and MW-2 to the irrigation canal, there is some uncertainty in using these upgradient wells to compare upgradient to downgradient groundwater quality to evaluate groundwater impacts. The better-quality water in the irrigation canal percolating to shallow groundwater can result in diluting the shallow groundwater near the monitoring wells. The groundwater quality reported in MW-1 and MW-2, which may be influenced by the better-quality canal water, would not be considered representative of true upgradient/background groundwater quality in the area. In addition to comparing upgradient groundwater conditions to downgradient conditions, intrawell evaluations were conducted on all five monitoring wells to determine if concentration trends in each well were stable. Stable concentration trends can indicate ongoing, significant groundwater degradation is not occurring and the Discharger is maintaining current efforts to control levels of salinity in the discharge, as required by the Alternative Salinity Approach for the Salt Control Program.

**Note 2:** Flow weighted annual averages for nitrate as N were not calculated due to



the low concentrations (less than 0.1 mg/L). Average annual concentrations are shown.

71. Table 13 below summarizes concentration trends in effluent using all available data (2014 to February 2023) from the three sample locations (AIPS effluent, Wetland samples, and Storage Lake samples). The concentration trends are either decreasing or show no statistically significant trends, as shown in Attachment F, indicating the system is operating as designed.

**Table 14. Effluent Concentration Trends**

Treatment System Component	Constituents		
	TDS	EC	BOD <sub>5</sub>
AIPS	No trend	No trend	No trend
Wetland	No trend	No trend	No trend
Storage Lake	Decreasing	No trend	No trend

- a. **Salinity (Electrical Conductivity).** Electrical conductivity is a measure of the capacity of water to conduct electrical current and is an indicator of salinity. Flow weighted annual averages for EC in effluent are less than the potential WQO of 700 µmhos/cm (agricultural water quality goal) for monitoring years 2021 and 2022. Concentration trends in effluent from all three sample locations show no statistically significant trends using all available effluent data (reported since 2014 and collected from the AIPS, Wetland, and Storage Lake).

EC concentrations in upgradient groundwater using data collected from MW-1 and MW-2 are less than effluent concentrations. In downgradient groundwater, using data collected from MW-3, MW-4, and MW-5, EC concentrations are greater than upgradient. This indicates that discharges to land have likely impacted groundwater (along with unknown farming practices conducted on the land located between TRV West and TRV East Facilities). However, concentration trends in effluent and downgradient monitoring wells show no statistically significant trend (MW-3) or decreasing trends (MW-4 and MW-5). This indicates that groundwater quality regarding EC has been maintained over time and has stabilized, as required by the Alternative Permitting Approach pathway for the Salt Control Program.

The Discharger is enrolled in the Salt Control Program and has elected to participate in the Prioritization and Optimization Study (P&O Study) under the Alternative Salinity Permitting Approach. As required under Alternative Salinity Permitting Approach, the Discharger must control their effluent quality and minimize salinity impacts. TDS concentrations, as described further in Finding 71.b, are used to represent overall salinity conditions in the wastewater for these Facilities. To maintain existing salt discharges and minimize salinity impacts, this Order sets a **performance-based effluent limit of 750 mg/L for TDS (annual**

**average flow weighted limit).** EC will continue to be analyzed in wastewater and groundwater samples.

- b. Salinity (FDS and TDS).** For the purposes of this evaluation, TDS is representative of overall salinity. The best measure for total salinity in groundwater is TDS. In effluent, FDS is the non-volatile fraction of TDS that has the potential to percolate or leach into shallow groundwater. Therefore, the best measure for total salinity in the process wastewater is FDS. However, WDRs Order 99-103 did not require wastewater samples to be analyzed for FDS. For this evaluation, TDS in wastewater was used as the measure for total salinity in effluent.

TDS concentrations in effluent, using all available effluent data from the three sample locations, show no statistically significant trends and decreasing concentration trends. As shown on Table 12, flow-weighted annual average concentrations for 2021 and 2022 are less than 450 mg/L. Concentrations in downgradient groundwater exceed concentrations in upgradient groundwater, indicating the discharge to land has likely contributed to impacts groundwater (along with unknown farming practices conducted on the land located between TRV West and TRV East Facilities). Average concentrations in downgradient groundwater are greater than the potential WQO for TDS of 500 mg/L. However, groundwater trends indicate that groundwater quality regarding TDS has been maintained for at least the last 20 years.

As described in Finding 71.a above, the Discharger is enrolled in the Salt Control Program. To maintain existing salt loads in the discharge and minimize further salinity impacts, this Order sets a **performance-based effluent limit of 750 mg/L for TDS (annual average flow-weighted limit)**. In addition, this Order requires wastewater to be analyzed for FDS for potential future evaluations. It should be noted that the TDS limit in this Order is lower than the effluent limit in WDRs Order 99-103, and therefore more restrictive. It appears the wastewater treatment system is operating more efficiently than when WDRs Order 99-103 was adopted in 1999.

- c. Nitrate as Nitrogen.** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality and the ability of the vadose zone below the Wetland and LAAs (landscaped areas) to support denitrification to convert nitrogen to nitrate or nitrogen gas (ammonia) before it reaches the water table.

Nitrate as nitrogen concentrations in effluent are less than 1 mg/L and groundwater averages are less than the Primary MCL of 10 mg/L in up- and downgradient groundwater monitoring wells. It appears that groundwater impacts from nitrate as nitrogen in the effluent have been limited, however, the effluent was not analyzed for total nitrogen, or more specifically TKN. TKN in effluent is the organic fraction of total nitrogen, which can be converted to nitrate with some

loss from volatilization. High TKN concentrations in effluent can result in nitrate as nitrogen impacts on groundwater. In downgradient groundwater, average concentrations of nitrate as nitrogen are less than the Primary MCL and show no statistically significant concentration trends over time. Nitrate as nitrogen concentrations have been detected in area supply wells in excess of the Primary MCL, indicating the presence of regional nitrate groundwater issues.

To address nitrogen concerns, the Discharger is required to enroll in the Nitrate Control Program by 26 February 2025 as they are located in a Priority 2 basin. The Nitrate Control Program will address all forms of nitrogen speciation, including total nitrogen and TKN. This Order requires the wastewater and groundwater to be analyzed for nitrate as nitrogen, total nitrogen, and TKN.

- d. **Sulfate.** Process wastewater was not previously monitored for sulfate; however, WDRs Order 99-103 included an effluent limit for sulfate of 250 mg/L (secondary MCL) because sulfate has the potential to be a constituent of concern in winery wastewater. Sulfate concentrations in groundwater are less than the secondary MCL of 250 mg/L and concentration trends are decreasing in MW-1 through MW-4, and in MW-5, the concentration trend is not statistically significant. Concentrations in downgradient wells generally are higher than the upgradient wells. This may be the result of discharges to land from TRV West and the long-term use of the area for agricultural purposes. While the discharge maybe contributing to sulfate groundwater impacts, the degradation is not impacting the beneficial use of groundwater. This Order requires sulfate to be monitored in the effluent and groundwater.
72. High BOD<sub>5</sub> concentrations can indicate an overloading of organic material which may produce anoxic conditions, resulting in the dissolution of metals (commonly iron and manganese) and groundwater degradation. The existing Order did not require groundwater to be monitored for metals. However, concentrations of BOD<sub>5</sub> in effluent are considered low when compared to other similar facilities, based on State Water Resources Control Board (State Board) General Order for Winery Process Water (Order WQ 2021-0002-DWQ). The dissolution of metals to an extent that it poses a threat to the beneficial uses of groundwater is not likely occurring. Based on no known or documented odor issues at the TRV West Facility (Finding 34), organic overloading is not occurring. However, for the protection of groundwater from potential impacts of dissolved metals, this Order requires the Discharger to analyze groundwater for specific metals, including dissolved iron and manganese, and sets a **performance based BOD<sub>5</sub> annual average flow-weighted effluent limit of 60 mg/L.**
73. This Order establishes effluent limits for the facility that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan

74. To the extent that receiving waters are high quality for any constituent in the regulated discharger, the Discharger has implemented the measures, which are intended to minimize the extent of water quality degradation resulting from the Facility's discharge:
  - a. Residual solids, including pomace, wood chips, diatomaceous earth, stems, skin, and seeds, are hauled off site to reduce nutrient loads to the ponds and LAAs.
  - b. Even application of wastewater to the landscaped areas (LAAs).
  - c. Compliance with effluent flow, BOD<sub>5</sub>, and TDS limitations.
  - d. Investing in best practice cleaning methods to reduce the use of salt-based cleaners.
  - e. Investigating best practice cleaning techniques to reduce time and chemical usage.
  - f. Enrollment in the P&O Study for the Salt Control Program and upcoming participation in the Nitrate Control Program.
75. The Discharger's implementation of the above-listed measures, which constitute BPTC, will minimize the extent of further water quality degradation resulting from the Facilities' continued discharge.
76. The economic prosperity of Central Valley communities and associated industry is of maximum benefit to the people of the State and provides justification for allowing the limited groundwater degradation that may occur pursuant to this Order. Degradation of groundwater by some typical waste constituents released with discharge from the Facility after effective source reduction, treatment and control, and considering the best efforts of the Discharger and magnitude of degradation, is of maximum benefit to the people of the state. There are currently 90 full-time employees that work at the Facilities.
77. Based on the foregoing, the adoption of this Order is consistent with the State Water Board Resolution 68-16.

### **California Environmental Quality Act**

78. The issuance of this Order, which prescribes requirements and monitoring of waste discharges at an existing facility, with negligible or no expansion of its existing use, is exempt from the procedural requirements of the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., pursuant to California Code of Regulations, title 14, section 15301.

### Other Regulatory Considerations

79. These WDRs regulate a facility that may impact a disadvantaged community and/or tribal community and includes an alternative compliance path that allows the Discharger time to come into compliance with a water quality objective (i.e., nitrate and salinity). 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. Pursuant to Water Code section 13149.2, the Central Valley Water Board reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of these WDRs. The Board also considered environmental justice concerns within the Board's authority and raised by interested persons with regard to those impacts. Comments from disadvantaged and/or tribal communities were not received.
80. The Central Valley Water Board anticipates that the issuance of these WDRs will result in water quality impacts within the scope of the Board's authority. Specifically, these WDRs authorize the continued discharge of wastewater with salinity concentrations above applicable water quality objectives. 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 the nearby disadvantaged communities in San Joaquin County: 1) active participation in and compliance with the Salt Control Program, 2) compliance with a performance-based salinity limitation, and 3) preparation and implementation of Salinity Evaluation and Minimization Plans to establish goals for potentially reducing salinity concentrations in the Facility's discharge, and 4) implementation of the BMPs described in Finding 74.
81. 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 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 SCP and NCP, respectively. Although the Basin Plans' Exceptions Policy for Salinity allows participants in these Programs 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.

82. This Order, which prescribes WDRs for discharges of wastewater, is exempt from the prescriptive requirements of California Code of Regulations, title 27 (Title 27), section 20005 et seq. (See Title 27, section 20090, subd. (b).)
83. Based on the threat and complexity of the discharge, the Facility is determined to be classified as 2B as defined below:
  - a. Category “2” – Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.
  - b. Category “B” – Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.
84. State Water Board Order 2014-0057-DWQ (NPDES General Permit CAS000001) specifies waste discharge requirements for discharges of storm water associated with industrial activities and requires submittal of a Notice of Intent by all industrial dischargers within its scope. All storm water at the Facilities is collected and discharged to the storm water basin or to the wastewater treatment system. Storm water is not discharged offsite or discharged to waters of the U.S. Coverage under the NPDES General Permit CAS000001 is not required at this time.
85. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
86. 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**

87. This Order is strictly limited in scope to those waste discharges, activities, and processes described and expressly authorized herein.
88. 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 RWD per Water Code section 13260.

89. Failure to file a new RWD before initiating material changes to the character, volume and/or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.
90. 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**

91. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
92. The Discharger, interested agencies, and 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. (Wat. Code, § 13167.5.)
93. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.
94. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

### **REQUIREMENTS**

**IT IS HEREBY ORDERED** that Waste Discharge Requirements Order 99-103 is rescinded (except for enforcement purposes) and, pursuant to Water Code sections 13263 and 13267, that the Discharger and their agents, employees, tenants, and successors shall comply with the following.

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

1. Except as expressly provided herein, the Discharger shall comply with the SPRRs dated 1 March 1991, which are incorporated herein.

#### **B. Discharge Prohibitions**

1. Discharge of waste to surface waters or surface water drainage courses is prohibited. The Wetland and Storage Lake are not identified as a water of the U.S.

2. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
3. Wastewater treatment, storage, and disposal shall not cause conditions of pollution and/or nuisance, as those terms are defined by Water Code section 13050.
4. Discharge of waste classified as “hazardous”, as defined in the Title 22, section 66261.1 et seq., is prohibited.
5. Discharge of waste classified as “designated”, as defined in Water Code section 13173, in a manner that causes violation of Groundwater Limitations, is prohibited.
6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions for an entire community, neighborhood, or any considerable number of persons.
7. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Section E.2 of the SPRRs.
8. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
9. Discharge of toxic substances into any wastewater treatment system or land application area such that biological treatment mechanisms are disrupted is prohibited.
10. Application of residual solids to the LAAs (landscaped areas) is prohibited.
11. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.
12. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

### **C. Flow Limitations**

1. Effluent flows into the AIPS system shall not exceed the limits on Table 14 below. The total flow into the AIPS is the sum of the flow volumes from the TRV West process wastewater sump and flow volumes from the TRV East process wastewater sump. Flow meter locations are shown on Attachment D.



**Table 15. Flow Limits**

Flow Measurements	Flow Limit
Monthly Average Daily Flow (As determined by the total flow during the calendar month divided by the number of days in that month)	0.65 MGD
Total Annual Flow (As determined by the total flow for the calendar year)	86 MG

**D. Performance Based Effluent Limitations**

1. A flow-weighted annual average concentrations of TDS and BOD<sub>5</sub> in effluent in the Wetland (sample location **S2** shown on Attachment D) shall not exceed the limits in Table 15. The TDS limit is a performance-based limitation since the Discharger has elected to participate in the P&O Study in the Salt Control Program. The purpose of this limit is to ensure the Discharger is implementing appropriate performance-based measures at the Facilities.

**Table 16. Effluent Limitations**

Parameter	Limit	Units
TDS	750	mg/L
BOD <sub>5</sub>	60	mg/L

**E. Discharge Specifications**

1. The discharge shall remain within the permitted waste treatment/ containment structures and LAAs at all times.
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. As a means of monitoring odors, the dissolved oxygen (DO) content in the upper one foot of the AIPS, Wetland, and Storage Lake shall not be less than 1.0 mg/L for three consecutive sample events. If DO concentrations are less than 1.0 mg/L for three consecutive sampling events and offensive odors are perceivable beyond the property limits for an entire community or neighborhood, or considerable number of persons, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the odors within 30 days.

5. The Discharger shall design, construct, operate, and maintain the ponds and Wetland sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond or the Wetland 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 basin a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard (see Provision J.1.b). Until the staff gauges are installed, the Discharger is required to continue to observe/estimate and document the freeboard as required in Monitoring and Reporting Program **R5-2024-XXXX**.
6. Wastewater treatment, storage, ponds, and Wetland or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous 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.
7. On **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.5 and E.6.
8. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:
  - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
  - d. 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.
9. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate basins or control the flow of water within a basin) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

10. The Discharger shall monitor sediment accumulation in the AIPS at least every five years beginning in **2025**, and shall periodically remove sediment as necessary to maintain adequate storage capacity.
11. Storage of residual solids on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

#### **G. Groundwater Limitations**

Discharge of waste at or from any portion of the Facilities shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of ambient quality, whichever is greater:

1. Constituents in concentrations that exceed either the Primary or Secondary MCLs, as applicable, established in Title 22, excluding salinity since the Discharger has chosen to participate in the Alternative Salinity Permitting Approach for the Salt Control Program.
2. Contain taste- or odor-producing constituents, toxic substances, or any other constituent in concentrations that cause nuisance or adversely affect beneficial uses.

#### **H. Land Application Area Specifications**

1. The Discharger shall ensure that all water is applied and distributed with reasonable uniformity across the landscaped areas (LAA), consistent with good agricultural irrigation practices and reasonable agronomic rates.
2. Crops or other vegetation (which may include, but is not limited to pasture grasses, native grasses, orchard trees, and/or ornamental landscaping) shall be grown in the LAAs or any areas where on-site irrigation using wastewater may occur. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake.
3. Land application of wastewater shall be managed to minimize erosion.
4. The on-site irrigation areas shall be managed to prevent breeding of mosquitoes or other vectors.
5. LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Dischargers shall temporarily stop discharging immediately in the area of concern and implement corrective actions to ensure compliance with this Order.

6. Sprinkler heads shall be designed, operated, and maintained to create a minimum amount of mist.
7. Discharge to the LAAs (landscaped areas) shall not be initiated when the ground is saturated.
8. Any irrigation runoff (tailwater) shall be confined to the LAAs or returned to the treatment system and shall not enter any surface water drainage courses or non-processing area storm water system.

#### **I. Solids Disposal Specifications**

For the purpose of this Order, solid waste refers to solid inorganic matter removed by screens and soil sediments removed during the treatment process. Residual solids means organic food processing byproducts such stems, pomace, spent filter powder, oak chips, and diatomaceous earth that will not be subject to treatment prior to disposal.

1. Residual solids shall be removed from screens, sumps, and ponds as needed to ensure optimal operation, prevent nuisance conditions, and maintain adequate storage capacity.
2. Any handling and storage of solid waste, and residual solids shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
3. If removed from the site, solid waste, and residual solids shall be disposed of in a manner consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, and/or soil amendment sites operated in accordance with valid waste discharge requirements issued by a Regional Water Board) will satisfy this specification.
4. Any proposed change in residual solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

#### **J. Provisions**

1. The following reports shall be submitted pursuant to Water Code section 13267:
  - a. **Within 30 days** prior to the use of the new solids storage area, the Discharger shall submit a letter to the Central Valley Water Board that describes the features of the new location and how solids will be managed at this location.

- b. **By 1 October 2025**, the Discharger shall install and maintain in each pond a permanent staff gauge for freeboard measurements with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard. Permanent staff gauges shall be installed in the AIPS, Wetland, and Storage Lake. Until the staff gauges are installed, the Discharger shall estimate the freeboard and document the results as required by **MRP R5-2024-XXXX**.
    - c. If sediment from the AIPS, Wetland, or Storage Lake is to be removed and disposed of offsite, then within **90 days** prior to removal and disposal, the Discharger shall submit a Sediment Cleanout Plan. The plan shall describe action to be taken for sediment removal, drying, and disposal. The plan shall specifically describe the measures to be used to control runoff or percolate from the removed material as it is drying.
2. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of 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.
3. The Discharger shall submit the technical reports and work plans required by this Order for consideration and shall incorporate comments from the Central Valley Water Board 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.
4. The Discharger shall comply with Monitoring and Reporting Program **R5-2024-00XX**, 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.
5. The Discharger shall comply with the SPRRs.
6. 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.

7. 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 include 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.
8. The Discharger shall use BPTCs, including proper operation and maintenance, to comply with this Order.
9. As described in the SPRRs, 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.
10. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.
11. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or off-site reuse of effluent, used to justify the capacity authorized herein and assure 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 assure full compliance with this Order.
12. In the event of any change in control or ownership of the facility, 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.
13. 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 SPRRs 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.

14. In order to rescind WDRs that are no longer necessary because the discharge to land permitted under this Order has ceased, the Discharger must contact the Central Valley Water Board's Compliance and Enforcement Unit to determine appropriate wastewater treatment system closure requirements.
15. A copy of this Order including the MRP, Information Sheet, Attachments, and SPRR, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

### **ENFORCEMENT**

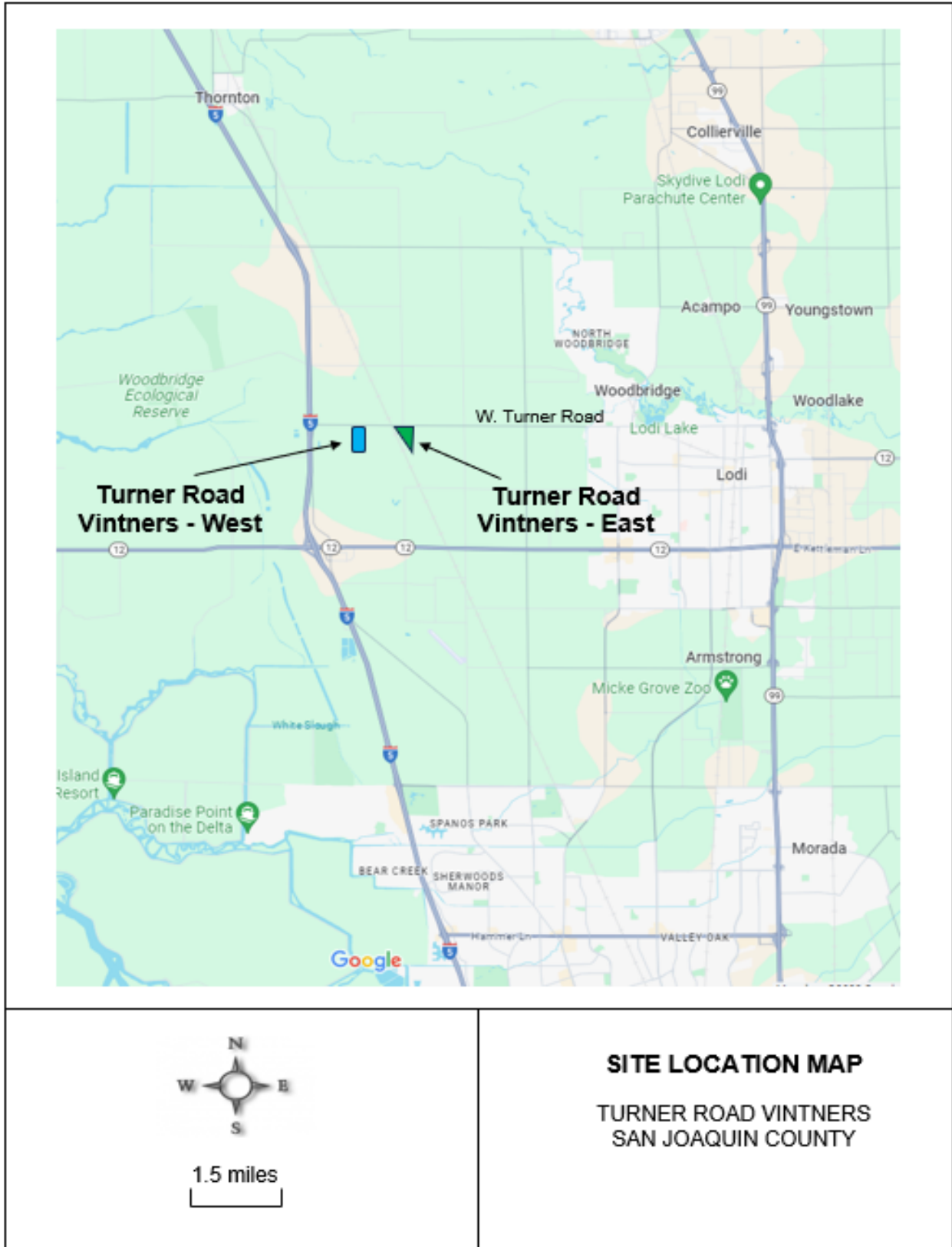
If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. 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 the right to take any enforcement actions authorized by law.

### **ADMINISTRATIVE REVIEW**

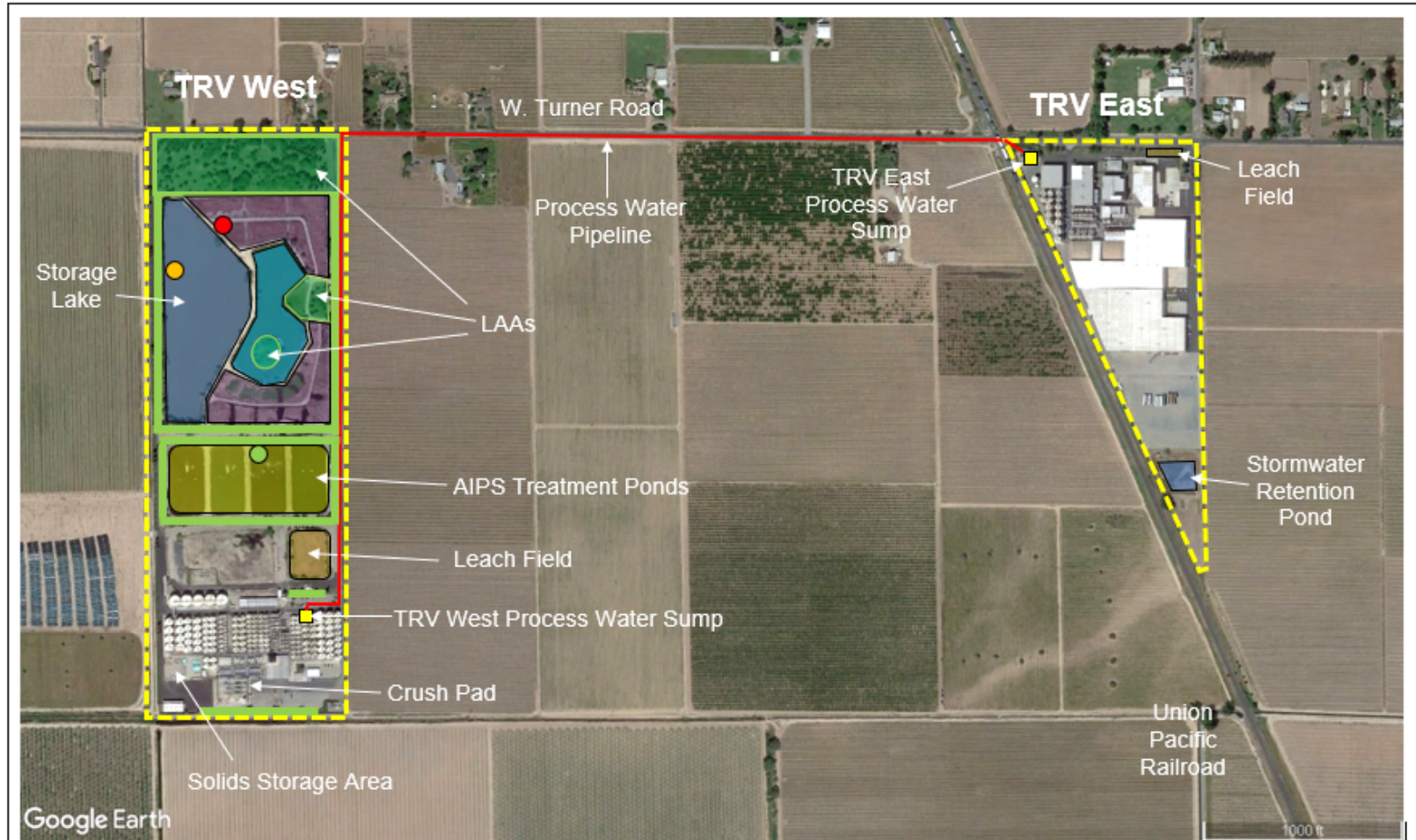
Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board for administrative review in accordance with Water Code section 13320, and California Code of Regulations, title 23, section 2050 et seq. To be timely, the State Water Board must receive the petition by 5 p.m. on the 30th day after the date of this Order, except that if the 30th day falls on a Saturday, Sunday or State Holiday, the petition must be received by the State Water Board by 5 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet on the [Water Boards Public Notice web page](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) ([http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)).



**ATTACHMENT A**



**ATTACHMENT B**



<b>LEGEND</b>	
	Facility Boundary
	Wastewater pipeline from TRV East to TRV West
	LAAs (landscaped areas)
	AIPS Treatment Ponds Sample Location (S1)
	Wetlands Sample Location (S2)
	Storage Lake Sample Location (S3)
	Wetland

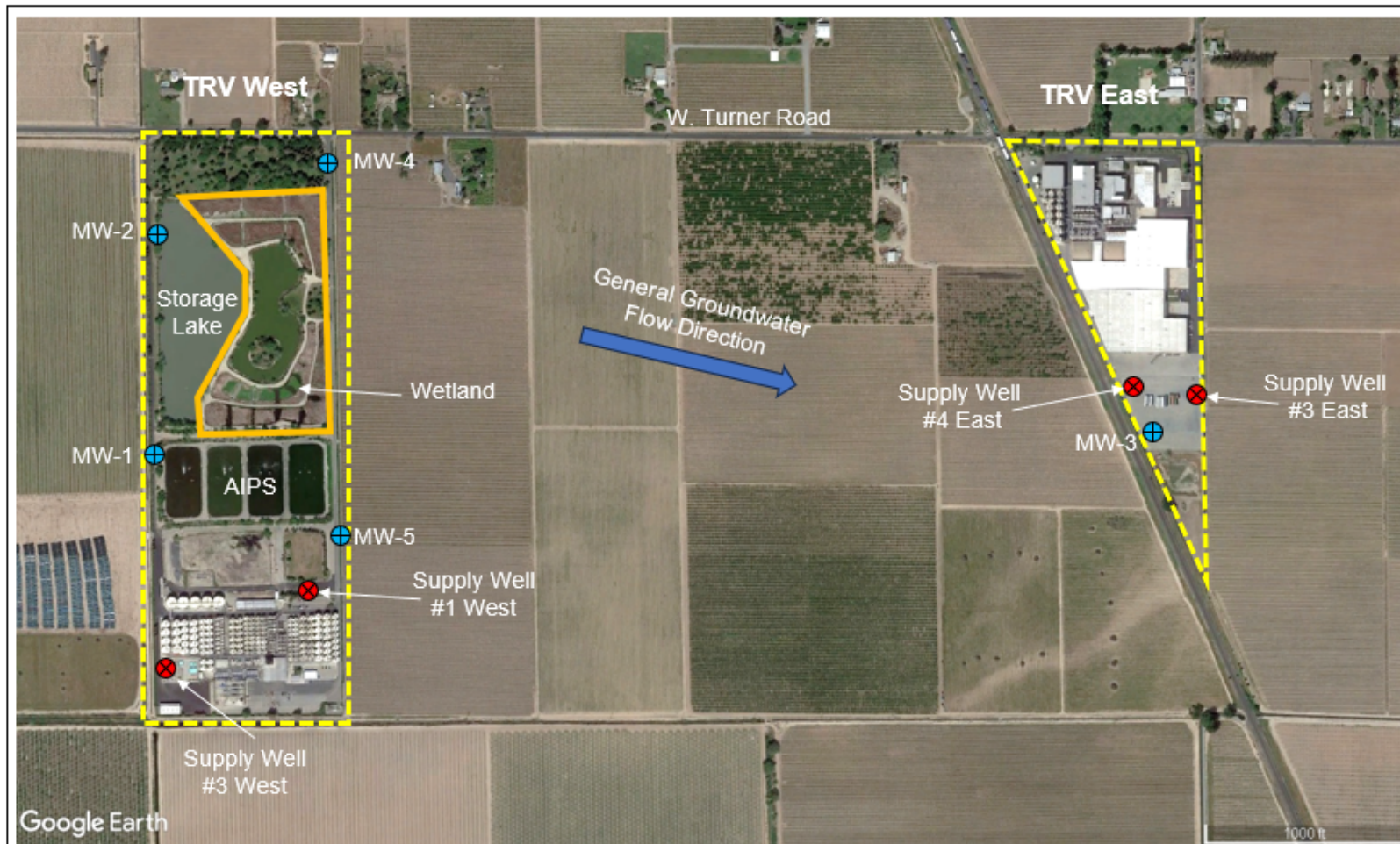
1,000 feet

All locations are approximately located.

**SITE FEATURES MAP**

TURNER ROAD VINTNERS  
 SAN JOAQUIN COUNTY

**ATTACHMENT C**



**Legend**

- Source Water Well
- ⊕ Groundwater Monitoring Well
- - - Facility Boundaries
- ▬ Wetlands

All locations are approximate.

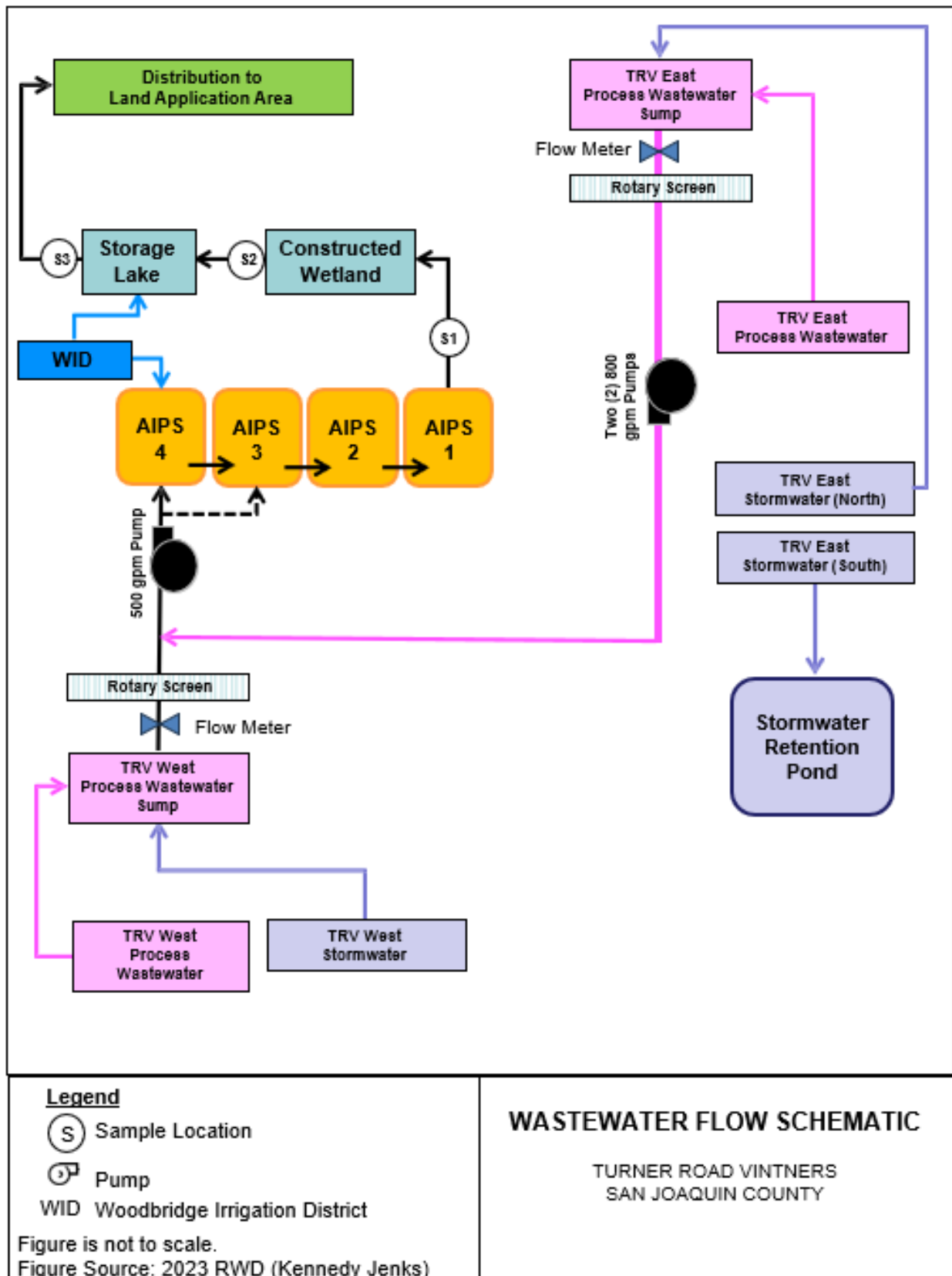


1,000 feet

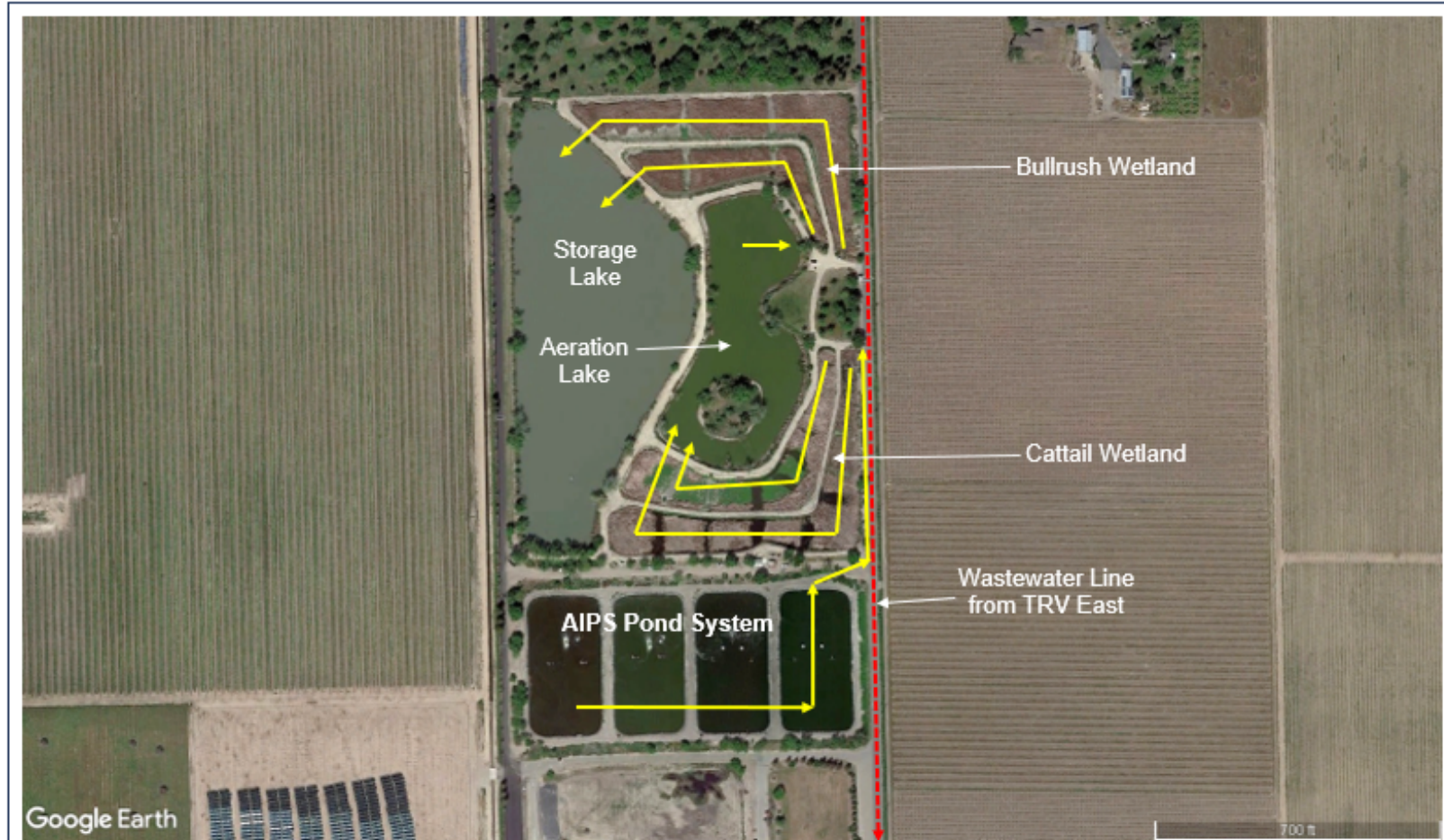
**GROUNDWATER WELLS**

TURNER ROAD VINTNERS  
 SAN JOAQUIN COUNTY

ATTACHMENT D



ATTACHMENT E



**Legend**

- Wastewater flow direction through treatment system
- - - Wastewater pipeline from TRV East

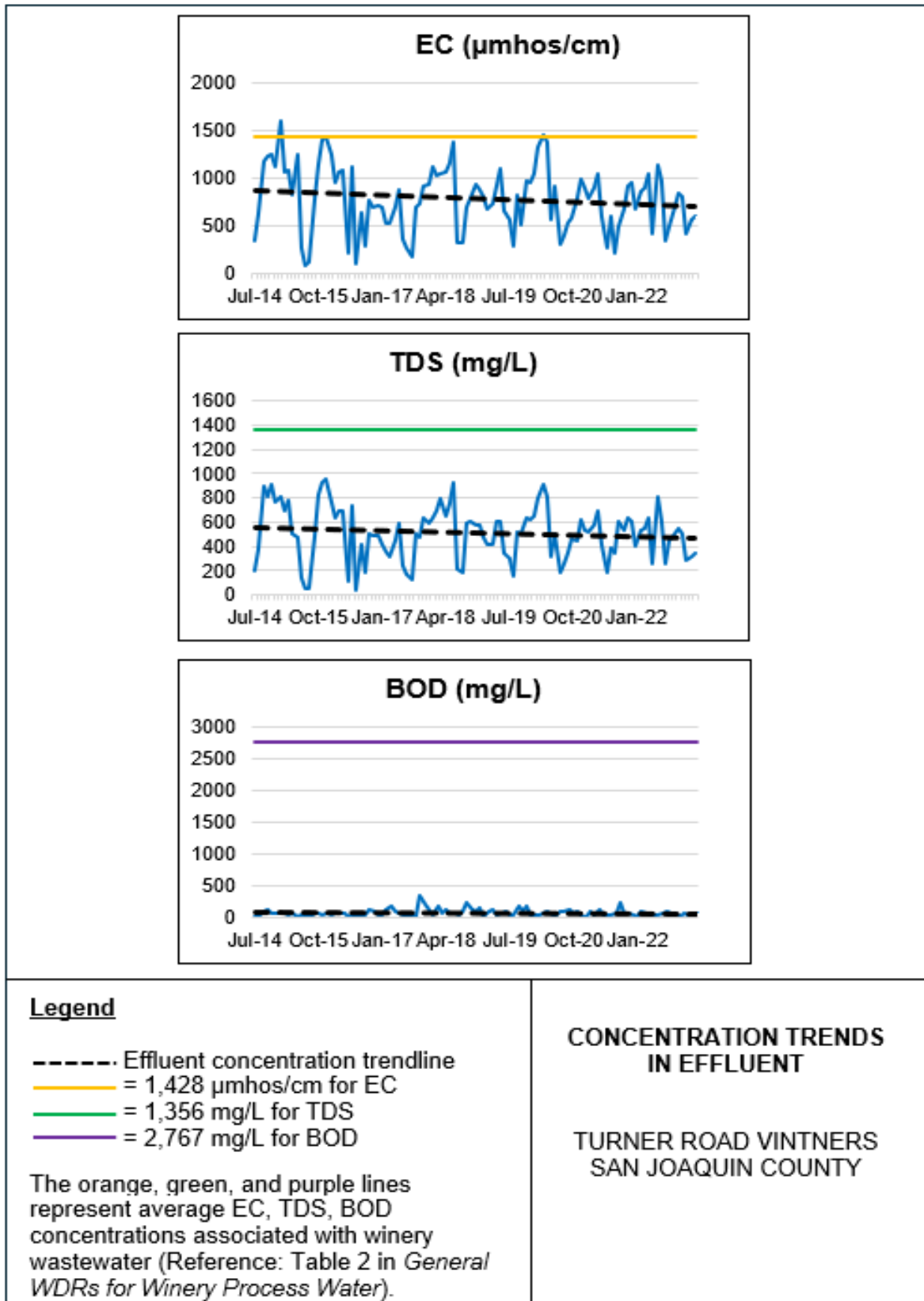


700 feet

**WASTEWATER FLOW DIRECTIONS FOR THE WETLANDS**

TURNER ROAD VINTNERS  
SAN JOAQUIN COUNTY

ATTACHMENT F



## INFORMATION SHEET

### Facility and Discharge Description

E. & J. Gallo Winery (Discharger) owns and operates Turner Road Vintners, a winery that generates process wastewater that is discharged to land, and is located near Lodi in San Joaquin County. The winery consists of two facilities: Turner Road Vintners East (TRV East) and Turner Road Vintners West (TRV West), and are collectively referred to as Facilities. The Facilities are separated by approximately two thirds of a mile of agricultural land not owned by the Discharger. The two Facilities process up to 120,000 tons of grapes annually as well as receiving grape juice and finished wine. Process wastewater generated at TRV West is primarily from crush, fermentation, cleaning and sanitizing equipment, and all on-site storm water. Wastewater at TRV East is generated from bottling, sanitizing, and cleaning equipment, and storm water from processing areas. Wastewater from both Facilities is commingled and treated by the wastewater system located in the northern portion of TRV West.

The wastewater treatment system consists of an AIPS, an onsite constructed Wetland, a Storage Lake, and LAAs (landscaped areas). The Facilities' permitted flow limit in WDRs Order 99-103 is 650,000 gpd.

Wastewater generated at both Facilities is directed to process wastewater sumps at each Facility (TRV East sump and TRV West sump) and then screened using rotary screens. Wastewater flows volumes are measured separately at each Facility. Wastewater from TRV East is then pumped to the wastewater treatment system at TRV West. The flows are combined in pipe just before discharging to the AIPS and reported as a total wastewater flow volume.

The AIPS consists of four anaerobic/aerobic ponds that can be operated in parallel for primary and secondary process wastewater treatment. Each pond has a surface area of 1.35 acres and a 12-foot depth with 1-foot-thick compacted clay liners for a combined AIPS capacity of 15.6 million gallons (MG) (2023 RWD). Wastewater from the AIPS is directed to a 15-acre onsite, constructed Wetland for further treatment and polishing. After flowing through the Wetland, wastewater is discharged to the 26 MG Storage Lake. Water from the lake is used for landscape irrigation. Wastewater samples are collected from each of the treatment components (AIPS, Wetland, and Storage Lake).

Constituents of concern in winery wastewater generally consists of salts, represented by EC and TDS, nitrate as nitrogen, and BOD<sub>5</sub>. A comparison of wastewater quality as the wastewater moves through the treatment system is summarized below.

**Information Sheet Table 17. Effluent Quality Comparison**

Constituent	Treatment Component		
	AIPS	Wetland	Storage Lake
EC ( $\mu\text{mhos/cm}$ )	779	753	402
TDS (mg/L)	508	494	243
Nitrate as N (mg/L)	0.6	0.4	0.5
BOD <sub>5</sub> (mg/L)	69	24	6

Based on data presented above, concentrations generally decrease as the wastewater moves through the treatment process. Concentration trends for EC, TDS, nitrate as nitrogen, and BOD<sub>5</sub> in effluent show no significant concentration trends or decreasing trends.

Concentrations of constituent from these Facilities are less than average concentrations associated with other wineries, based on State Boards' General Order for Winery Process Water (Order WQ 2021-0002-DWQ; Table 2).

The LAAs consist of approximately 12 acres of landscaped areas around the treatment system at TRV West. The LAAs are sprinkler irrigated as needed using water from the Storage Lake, primarily from April through October.

Residual solids, including grape stems, seeds, skins, and leaves, generated at TRV West are collected in a dumpster or dried on a lot in the southwest portion of TRV West. The dried solids are stored on a paved area until they are hauled off site and are not land applied at the Facilities.

### **Groundwater Considerations**

The groundwater monitoring network currently consists of five shallow groundwater monitoring wells. Groundwater generally flows to southeast, but has varied between northeast and southeast. Depths to groundwater range from approximately 6.5 to 30 feet bgs.

Concentration trends for TDS, EC, and nitrate as nitrogen in groundwater show no statistically significant trends or decreasing concentration trends, with the exception of nitrate as nitrogen in MW-4 (downgradient well).

Nitrate as nitrogen concentrations have all been less than the Primary MCL of 10 mg/L, and has not caused pollution or impacted beneficial uses of groundwater. It should be noted that MW-4 is located in an area where groundwater quality could also be impacted from potential sources located upgradient and off-site from MW-4. The area surrounding the TRV West has been used use for long-term agricultural purposes. MW-3, located downgradient from MW-4 at TRV East, shows a decreasing concentration trend for nitrate as nitrogen.



### Antidegradation

TDS, nitrate as nitrogen, and EC, typical constituents in winery wastewater, have the potential to degrade groundwater at these Facilities. A summary of effluent concentrations compared to upgradient and downgradient groundwater quality is present below.

**Information Sheet Table 18. Data Comparison**

Constituent	Year	Effluent (flow weighted annual average)	Upgradient Groundwater	Downgradient Groundwater	Potential GW WQO
EC (µmhos/cm)	2021	636	518	1210	700
	2022	487	522	1037	
TDS (mg/L)	2021	433	346	874	500
	2022	431	377	892	
Nitrate as N (mg/L)	2021	0.03 (see Note 1)	0.2	6.38	10
	2022	0.09 (see Note 1)	0.2	4.5	

Note 1: Flow weighted annual averages for nitrate as N were not calculated due to the low concentrations (less than 0.1 mg/L). Average annual concentrations are shown.

It appears that discharges to the treatment system and LAAs have impacted groundwater quality. Salinity issues in groundwater will be addressed by the Salt Control Program and the Discharger (**CVSALTS ID: 2581**) has elected to participate in the Alternative Salinity Permitting Approach. As required by the Alternative Salinity Permitting option, the Discharger is required to maintain existing salt discharges and minimize salinity impacts. This Order sets a **performance-based effluent limit of 750 mg/L for TDS (annual average flow weighted limit)**, based on historic salinity concentrations and trends. The TDS effluent limit is lower than the limitation included in Order 99-103 and is therefore considered more protective of groundwater. EC will continue to be analyzed in wastewater and groundwater samples.

Nitrate as nitrogen concentrations in groundwater are less than the Primary MCL of 10 mg/L. While degradation from nitrate as nitrogen in the wastewater has impacted groundwater, nitrate issues will be addressed as part of the Nitrate Control Program. The Discharger falls within the Eastern San Joaquin Subbasin, a Priority 2 Basin. Notices to Comply letters for Dischargers in Priority 2 Basins were mailed on 29 December 2023. Dischargers are required enroll in the Nitrate Control Program by 26 February 2025. The Discharger has indicated they intend to participate in the Management Zone permitting option under the Nitrate Control Program.

High BOD<sub>5</sub> concentrations in wastewater can indicate excessive organic material present in the wastewater, which has the potential to produce anoxic conditions, resulting in the dissolution of metals (commonly iron and manganese) and groundwater degradation. BOD<sub>5</sub> concentrations in effluent are considered low (averages less than 35 mg/L at the compliance point) when compared to effluent quality from similar wineries,

based on State Board’s General Order for Winery Process Water (Order WQ 2021-0002-DWQ). The Discharger may increase production within the next few years, while remaining within the permitted flow limit included in this Order. The BOD<sub>5</sub> effluent limit was increased from 40 mg/L as a monthly average and 80 mg/L as a daily maximum limit required under Order 99-103 to **60 mg/L as a performance based BOD<sub>5</sub> annual average flow-weighted effluent limit** to allow the Discharger flexibility in operations as higher flows may result in increases in BOD<sub>5</sub> concentrations. Based on professional judgement, historical Facility information, and BPTC measures, the increase in the effluent limit is not expected to result in impacts to groundwater which would impact beneficial uses or result in any odor issues. In addition, the effluent and groundwater will be analyzed for standard metals, which includes dissolved iron and manganese. A BOD<sub>5</sub> loading limit to the LAAs is not required at this time due to the low BOD<sub>5</sub> concentrations in effluent and no identified odor issues.

**Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions**

This Order sets wastewater flow limits and effluent concentration limits as follows.

**Information Sheet Table 19. Flow and Effluent Limits**

<b>Measurements/Parameters</b>	<b>Limit</b>
Monthly Average Daily Flow (As determined by the total flow during the calendar month divided by the number of days in that month)	<b>0.65 MGD</b>
Total Annual Flow (As determined by the total flow for the calendar year)	<b>86 MG</b>
TDS	<b>750 mg/L</b> (performance based annual average flow weighted limit)
BOD	<b>60 mg/L</b> (annual average flow weighted limit)

WDRs Order 99-103 did not include a total annual flow limit. This Order sets an annual flow limit, which caps the total volume of wastewater discharged to land annually, based on the Discharger’s water balance. The monthly average daily flow limit of 650,000 gpd in this Order is the same as Order 99-103, with the exception of the removal of the dry weather flow requirement.

**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 waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. The Order includes

effluent, pond, residual solids, and water supply monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the requirements and specifications in 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 waters and soils of 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 conditionally approving the Central Valley Water Board Basin Plan amendments and directing 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 (OAL) approved the Basin Plan amendments on 15 January 2020. (OAL Matter No. 2019-1203-03).

Pursuant to the Basin Plan amendments, dischargers will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments (17 January 2020). Upon receipt of the Notice to Comply, the Discharger will have no more than six months to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting). The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. 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 (**CVSALTS ID: 2581**) has chosen to pursue Option 2 (Alternative Salinity Permitting Approach).

For the Nitrate Control Program, the Discharger falls within the Eastern San Joaquin Subbasin (5-22.01), a Priority 2 Basin. Dischargers are required to enroll in the Nitrate Control Program by 26 February 2025. [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.