

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

Fresno Office
1685 "E" St.
Fresno, CA 93706-2007

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

Redding Office
364 Knollcrest Dr. #205
Redding, CA 96002

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

WASTE DISCHARGE REQUIREMENTS ORDER R5-2021-0026



ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	Adopted
Program:	Non-15 Discharges to Land
Region 5 Office:	Fresno
Discharger:	City of Los Banos
Facility:	Los Banos Wastewater Treatment Facility
Address:	17963 W. Henry Miller Avenue, Los Banos, CA 93635
County:	Merced County
CIWQS Place ID:	273122
Prior Order(s):	92-014

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 22 April 2021.

PATRICK PULUPA,
Executive Officer

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GLOSSARY

Antidegradation Policy	Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16
Basin Plan	Water Quality Control Plan for the Sacramento River and San Joaquin River Basins
bgs	Below Ground Surface
BOD_[5]	[Five-Day] Biochemical Oxygen Demand at 20° Celsius
BPTC	Best Practicable Treatment and Control
CEQA	California Environmental Quality Act, Public Resources Code section 21000 et seq.
CEQA Guidelines	California Code of Regulations, Title 14, section 15000 et seq.
C.F.R.	Code of Federal Regulations
COC[s]	Constituent[s] of Concern
DO	Dissolved Oxygen
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EC	Electrical Conductivity
EIR	Environmental Impact Report
FDS	Fixed Dissolved Solids
FEMA	Federal Emergency Management Agency
IPP	Industrial Pretreatment Program
LAA	Land Application Area

lbs/ac/yr	Pounds per Acre per Year
µg/L	Micrograms per Liter
µmhos/cm	Micromhos per Centimeter
MG[D]	Million Gallons [per Day]
mg/L	Milligrams per Liter
msl	Mean Sea Level
MRP	Monitoring and Reporting Program
MW	Monitoring Well
MCL	Maximum Contaminant Level per Title 22
mJ/cm²	Millijoules per Square Centimeter
ORP	Oxygen Reduction Potential
N	Nitrogen
ND	Non-Detect
NE	Not Established
NM	Not Monitored
Recycled Water Policy	<i>Policy for Water Quality Control for Recycled Water, State Water Board Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057</i>
R[O]WD	Report of Waste Discharge
RCRA	Resource Conservation and Recovery Act
SPRRs	Standard Provisions and Reporting Requirements
SERC	State Emergency Response Commission
TDS	Total Dissolved Solids

Title 22.....California Code of Regulations, Title 22

Title 23.....California Code of Regulations, Title 23

Title 27.....California Code of Regulations, Title 27

TKN.....Total Kjeldahl Nitrogen

Unified Guidance.....Statistical Analysis of Groundwater Monitoring Data at
RCRA Facilities, Unified Guidance (USEPA, 2009)

USEPA.....United States Environmental Protection Agency

VOC[s].....Volatile Organic Compound[s]

WDRs.....Waste Discharge Requirements

WQO[s].....Water Quality Objective[s]

FINDINGS

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

Introduction

1. The City of Los Banos (City or Discharger) owns and operates the Los Banos Wastewater Treatment Facility (WWTF or Facility), at 17963 W. Henry Miller Avenue just east of Los Banos in Merced County, Sections 1, 6, 7, and 8, Township 10 S, Range 11 E, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Site Location Map in **Attachment A**.
2. The Facility is comprised of the following Merced County Assessor Parcel Numbers (APNs): 073-021-001, 073-021-010, 073-022-005, 073-022-006, 073-022-007, 073-022-010, 073-022-011, and 073-022-014.
3. As the owner and operator of the Facility, the City is responsible for compliance with the Waste Discharge Requirements (WDRs) prescribed in this Order.
4. The following materials are attached and incorporated as part of this Order:
 - a. Attachment A—SITE LOCATION MAP
 - b. Attachment B—SITE PLAN
 - c. Attachment C—FLOW SCHEMATIC
 - d. Attachment D—RECYCLED WATER SYMBOL
 - e. Standard Provisions & Reporting Requirements dated 1 March 1991 (SPRRs)
 - f. Information Sheet
5. Also attached is **Monitoring and Reporting Program R5-2021-0026** (MRP), which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP and subsequent revisions thereto as ordered by the Executive Officer.

Regulatory History

6. The Facility is currently regulated by WDRs Order 92-014, which authorizes the discharge of up to 2.5 million gallons per day (mgd) to a series of unlined treatment and disposal ponds with reuse for irrigation on approximately 245 acres of pasture for non-milking animals on land owned by the City.

7. WDRs Order 92-014 allowed the Discharger to increase flows up to 4.9 mgd upon completion of an expansion project including construction of additional treatment and storage ponds and increasing the land application area to 395 acres. The majority of the expansion project was completed in 1998 allowing for an approved flow increase to 4.0 mgd. On 9 March 2019, the Discharger submitted a technical report certifying completion of the final elements of the expansion project (new headworks and influent pump station). In a letter dated 29 August 2019, the Central Valley Water Board Executive Officer approved the certification report allowing the flow increase to 4.9 mgd.
8. Given the age of the existing WDRs, the Central Valley Water Board issued the Discharger a 13260/13267 letter on 6 May 2019 requesting the Discharger to submit a Report of Waste Discharge (RWD) in order to update its WDRs to ensure compliance with current plans and policies.
9. On 1 October 2019, the Discharger submitted a RWD and technical report prepared by Stantec Consulting Services, Inc. (Stantec). The RWD was initially determined incomplete, but additional information to complete the RWD was submitted on 5 February 2020.
10. According to the RWD, there are no plans to increase flows over 4.9 mgd or modify treatment and disposal methods at the Facility.

Existing Facility and Discharge

11. The Los Banos WWTF serves the City of Los Banos in western Merced County. The WWTF receives wastewater from residential, commercial, institutional, and industrial sources. Based on 2018 Census data, the City of Los Banos serves an estimated population of about 40,000 people.
12. Source water for the City is provided by 13 groundwater supply wells. Results from the 2014 and 2017 Consumer Confidence Reports show that source water for the City is fair for nitrate with an average nitrate (as N) of 5.9 mg/L. For salinity, the source water is poor with an average EC of 1,090 $\mu\text{mhos/cm}$, which is above the recommended secondary Maximum Contaminant Level (MCL) of 900 $\mu\text{mhos/cm}$. Average sodium and chloride concentrations are also high at 96 mg/L and 131 mg/L, respectively.
13. The City's sanitary sewer collection system consists of sewer pipes, manholes, and/or other conveyance system elements. The system currently utilizes 13 lift stations with over 130 miles of sewer pipe and covers approximately 4,500 acres.
14. The Facility includes an influent pump station, headworks, flow meter, four large facultative treatment ponds (Ponds 1, 2, 5, and 6), three effluent storage/disposal ponds (Ponds 3, 4, and 7), a recirculating pump station, two irrigation pump

stations, and two tailwater return stations. A general site plan depicting the ponds and land application areas (LAAs) and a process flow schematic showing flow paths between the ponds and LAAs are provided in **Attachment B** and **Attachment C**, respectively (incorporated herein).

15. Information on the wastewater treatment ponds and storage/disposal ponds is provided in Table 1.

Table 1. Pond Details

Name	Function	Surface Area (acres)	Depth (ft)	Total Pond Volume (million gallons)	Available Storage Capacity (million gallons)
Pond 1	Treatment	85	5.5	152	55
Pond 2	Treatment	85	5.5	152	55
Pond 3	Storage/Disposal	42	6.9	95	95
Pond 4	Storage/Disposal	90	6.9	203	203
Pond 5	Treatment	70	8.6	195	130
Pond 6	Treatment	70	9.6	218	130
Pond 7	Storage/Disposal	67	10.4	226	66
Total	--	509	--	1,241	734

16. The Facility is designed to treat an average dry weather flow of up to 4.9 mgd, with a peak hourly wet flow of 12 mgd. In the early 2000's influent flows to the Facility were projected to increase at about 4.2 percent per year and reached a level of about 3.5 mgd in 2005. However, over the last decade flows have decreased slightly and have remained relatively stable for the last several years at just under 3.0 mgd. Table 2 shows average daily influent flows to the Facility for 2013 through 2019.

Table 2. Daily Flow Measurements (2013 to 2019)

Year	Average (mgd)	Minimum (mgd)	Maximum (mgd)
2013	2.87	2.73	3.07
2014	2.93	2.73	3.05
2015	2.89	2.73	3.04
2016	2.77	2.58	2.86
2017	2.75	2.50	2.86

Year	Average (mgd)	Minimum (mgd)	Maximum (mgd)
2018	2.50	2.31	2.89
2019	2.75	2.61	2.90

17. As part of the treatment process, effluent is recirculated between the treatment and storage/disposal ponds. Screened influent entering the system flows to the recirculating pump station where it is mixed with treated effluent and sent to the treatment ponds. The recirculation contributes additional oxygen and nutrients for microbial activity to enhance organic and nitrogen removal and balance organic loading within the system.
18. The new headworks includes a mechanical bar screen and compactor. Screenings collected at the headworks are deposited in a dumpster and hauled off to a local landfill for disposal. Residual solids (i.e., sludge) from the wastewater treatment process will collect on the bottom of the ponds over time. Given their size it can take many years for the accumulation of sludge in the bottom of the treatment ponds to reach a level that would impair the treatment process. According to the Discharger, accumulated sludge in the ponds is monitored regularly and, when necessary, the individual pond is drained, and the sludge hauled off to a landfill or nearby composting facility for disposal. According to the Discharger, this is expected to occur sometime within the next five years.
19. As required by their existing MRP, the Discharger collects influent and effluent samples for pH, EC, 5-day biochemical oxygen demand (BOD₅), and total suspended solids (TSS) on a monthly or twice monthly basis. According to the Discharger, influent samples consist of a composite sample collected at the headworks prior to the recirculating pump station, and effluent samples consist of a grab sample collected from Pond 7 adjacent to the discharge point to the irrigation system. Table 3 summarizes average influent and effluent concentrations for these constituents based on available data from January 2017 to December 2019.

Table 3. Influent and Effluent Wastewater Quality (2017 to 2019)

Constituent/ Parameter	Unit	Influent	Effluent
pH	std. units	7.0	8.5
EC	µmhos/cm	1,794	2,875
BOD ₅	mg/L	531	46
TSS	mg/L	517	154

20. To further characterize the discharge, the Discharger collected 11 effluent samples between 2017 and 2019 for nitrogen constituents and three influent and effluent samples for nitrogen constituents and general minerals on 18 December 2019, 8 January and 14 January 2020. Table 4 compares influent and effluent sampling results from these sampling events with source water quality data and Maximum Contaminant Levels (MCLs).

Table 4. Expanded Wastewater Characterization

Constituent/Parameter	Source Water	Influent	Effluent	MCLs
Nitrate as N, (mg/L)	5.9	<0.5	1.3	10 (see 1 below)
Ammonia as N, (mg/L)	--	40	0.2	--
TKN, (mg/L)	--	46	14.3	--
Total Nitrogen, (mg/L)	--	46	16	--
EC, (µmhos/cm)	1,092	2,100	3,867	900 – 1,600 (see 2 below)
Alkalinity as CaCO ₃ , (mg/L)	240	387	640	--
Calcium, (mg/L)	83	88	103	--
Chloride, (mg/L)	131	353	793	250 – 500 (see 2 below)
Iron, (mg/L)	--	1.13	0.05	0.3 (see 3 below)
Magnesium, (mg/L)	42	46	96	--
Manganese, (mg/L)	--	0.037	0.035	0.05 (see 3 below)
Sodium, (mg/L)	96	250	613	--
Sulfate, (mg/L)	129	133	240	250 – 500(see 2 below)
TDS, (mg/L)	700	1,267	2,233	500 – 1,000 (see 2 below)

- 1 Primary MCL
- 2 Secondary MCL range (Recommended – Upper)
- 3 Secondary MCL

21. Based on the available data the treatment system provides about 90 percent reduction in BOD and about 65 percent reduction in nitrogen. However, the salinity of the discharge is high with EC, TDS, and chloride in the influent above their respective recommended secondary MCLs. The further increase in the salinity of the effluent is likely due to evapoconcentration in the ponds.
22. The RWD included a Salinity Evaluation that looked at potential sources of salinity in the discharge. The Salinity Evaluation identified four main sources of salinity in the discharge, including:

- Source water, which already exceeds recommended secondary MCLs for EC and TDS;
- Widespread use of water softeners;
- Industrial dischargers (primarily food processors); and
- Infiltration of saline groundwater into the collection system.

The Salinity Evaluation recommended that the City maintain its sewer collection system to minimize infiltration, work with industrial dischargers to reduce salt loads into the system, and ban the use of self-generating water softeners for new developments. This Order requires the Discharger to continue its efforts to control and reduce salinity in its discharge as part of a Salinity Reduction Study Workplan and provide annual progress reports as part of its MRP. In addition, the Discharger will be required to take part in the new Salinity Control Program, which became effective on 17 January 2020.

Land Application Areas

23. Effluent is applied as irrigation water on land adjacent to the Facility, which is owned by the City. The LAAs identified as the North LAA and East LAA consist of approximately 397 acres of pasture. According to the Discharger, these pasture areas are used for livestock grazing of non-milking animals.
24. Treated effluent is applied to the LAAs via flood irrigation during the irrigation season. According to the RWD, the pasture areas are surrounded by a 12-inch berm and equipped with a tailwater return system, which collects all excess runoff from the LAAs including storm water runoff and returns it to the WWTF at the recirculating station for the ponds.
25. The Facility relies on evapotranspiration, evaporation, and percolation for effluent disposal. According to the water balance, at current flows there is sufficient storage within the pond system to store all effluent during the wet season for a normal year and a 100-year wet year. Based on the calculations, for a normal precipitation year, when flows approach 4.9 mgd there will be sufficient storage within the pond system to store all of the effluent and precipitation falling on the ponds during the wet season (i.e., approximately 180 days). However, in the event of a 100-year wet year, excess precipitation may require the Discharger to flood the LAAs to a depth of about six inches between February and April to provide additional storage. Calculations show that there is sufficient capacity within the system to dispose of the excess water before the next rain season. In addition, with the containment berms and tailwater return system, there are sufficient protections on the LAAs to prevent runoff to adjoining properties and nearby surface waters. This potential temporary disposal method was recognized and allowed in WDRs Order 92-014.

Industrial Pretreatment Considerations

26. Certain industrial wastes, when discharged to wastewater treatment facilities without adequate controls, may cause one or more of the following problems:
- a. **Interference or Upset.** Discharges of high volumes or concentrations of certain waste constituents can inhibit or interfere with proper operations, thereby impairing the WWTF's ability to treat wastewater and potentially preventing compliance with WDRs.
 - b. **Sludge Management.** Industrial wastes, particularly metals and other toxic constituents, can limit available sludge management alternatives, thereby increasing the cost of sludge management and disposal. Contaminated biosolids may also be unsuitable as a soil amendment.
 - c. **Pass-Through.** Some industrial wastes may not receive adequate treatment and pass through the treatment system in concentrations that can could unreasonably degrade groundwater quality and/or prevent recycling of domestic wastewater.
 - d. **Other Hazards.** Additionally, the discharge of explosive, reactive, or corrosive wastes can cause damage to the wastewater collection system or the treatment works, as well as threaten the safety of workers and/or the general public.
27. The City has four major industrial dischargers (Los Banos Abattoir, Kagome Foods, California Dairies, and Peluso Cheese). According to the RWD, these dischargers make up less than 19 percent of the flows to the Facility. As part of their sewer management program, the City collects data on flows, wastewater quality, and source control for these dischargers. Pertinent information related to these dischargers is presented in Table 5.

Table 5. Industrial Dischargers

Industrial Discharger	Industry Type	Permitted Flow (mgd)	Permitted BOD Load (lbs/day)	Average EC (µmhos/cm)
Los Banos Abattoir	Meat Processor and Dairy	0.047	2,000	2,768
Kagome Foods	Food Processor	0.400	750	2,241
California Dairies	Milk Processor	0.400	7,500	2,928
Peluso Cheese	Cheese Processor	0.034	2,500	2,874

28. Based on the available data and current flows at the Facility, an Industrial Pretreatment Program will not be required at this time. However, the MRP requires the Discharger to report relevant information collected on industrial dischargers under its existing sewer management program annually as part of its MRP. This Order also may be subsequently revised to require compliance with an approved program, if necessary.

Water Recycling Considerations

29. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms.
30. The State Water Board's Division of Drinking Water (DDW), which is charged with establishing drinking water quality standards for the protection of public health, has promulgated a criteria for the use of recycled water throughout California, codified as California Code of Regulations, title 22 (Title 22), section 60301 et seq.
31. In accordance with Title 22, in April 2008, the Discharger submitted to the California Department of Public Health (now DDW) a Title 22 Engineering Report for the reuse of "undisinfected secondary recycled water." (See Title 22, § 60301.230 [defining term]) for irrigation on pasture for grazing of non-milking animals.
32. The use of undisinfected secondary recycled water for irrigation of pasture for non-milking animals as allowed by this Order is consistent with the April 2008 Title 22 Engineering Report.
33. The discharges authorized herein are consistent with the State Water Board's *Policy for Water Quality Control for Recycled Water* (Recycled Water Policy), Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057; and Central Valley Water Board Resolution R5-2009-0028 (*Resolution in Support of Regionalization, Reclamation, Recycling and Conservation for WWTPs*).

Site-Specific Conditions

Topography, Climate and Land Use

34. The Facility is in the western portion of Merced County on the west side of the San Joaquin Valley. Topography in the area is relatively flat at an approximate elevation ranging from about 95 to 100 feet above mean seal level (msl).
35. Drainage in the area is by sheet flow to the northeast toward Mud Slough a tributary to the San Joaquin River. To prevent runoff the LAAs are surrounded

by 12-inch berms and a tailwater return system to collect excess runoff and return it to the Facility.

36. Soils in the area are predominantly fine textured clay loams from alluvial marine deposits. According to the Web Soli Survey published by the United States Department of Agriculture, Natural Resources Conservation, predominant soil types in the vicinity of the Facility and LAAs are Stanislaus clay loam, Edminster loam, and Britto clay loam. The Stanislaus clay loam on the North LAA is moderately well drained and slightly to moderately saline. The Edminster loam and Britto clay loam soils in the East LAA are poorly to very poorly drained and moderately to strongly saline.
37. Climate in the Central Valley is characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry.
38. Based on data from the nearest weather station (Los Banos Detention Reservoir), the Facility has an annual average precipitation of 9 inches, and a mean pan evaporation of 107.8 inches per year. Reference evapotranspiration for the area is about 56.7 inches per year.
39. According to National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Atlas 14, Vol. 6 (rev. 2014), 100-year and 1,000-year, 24-hour rainfall events are estimated to result in 3.0 and 4.47 inches of precipitation, respectively.¹
40. According to the Federal Emergency Management Agency's (FEMA) [Flood Insurance Rate Map](https://msc.fema.gov/portal) (<https://msc.fema.gov/portal>), the Facility is not located within a 100-year floodplain.
41. Land uses in the vicinity of the Facility include open land and natural wetlands to the east, irrigated agriculture to the north, south, and west, and the City of Los Banos to the southwest. Along the western boundary of the Facility are the concrete-lined San Luis Canal and the unlined Santa Fe Canal. The Santa Fe Canal, at its closest point to the Facility, is approximately 100 feet from Ponds 1 and 4 and 350 feet from Pond 5. The Sant Fe Canal carries irrigation water and agricultural drainage for the Grassland Water District.

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

42. Typical crops grown in the area include forage, pasture, and grain crops. Irrigation water is provided by the Grassland Water District as well as irrigation supply wells in areas where groundwater is suitable.

Groundwater and Subsurface Conditions

43. Groundwater in the area is largely derived from surface water and subsurface flows from the Sierra Nevada and Coast Ranges as well as deep percolation from precipitation and irrigated agriculture.
44. According to the DWR Information Center Interactive Maps, depth to groundwater in the vicinity of the Facility and LAAs ranged from about 10 to 25 feet bsg between Spring 2014 and Spring 2018. Regional groundwater flow in the area is generally to the northeast toward Mud Slough and the San Joaquin River.
45. Data pertinent to characterizing first-encountered groundwater prior to 1968 is limited due to the wide variability in well construction, screened intervals, sampling dates, and constituents monitored. A review of water quality information including the State Water Resources Control Board’s (State Water Board) [Groundwater Ambient Monitoring Program \(GAMA\) database](https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/) (https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/) identified eight wells within about two miles of the Facility used to determine historical groundwater quality in the area. Information on these wells is provided in Table 6.

Table 6. Historical Groundwater Quality

Well	Year Sampled	EC (µmhos/cm)	TDS (mg/L)	Nitrate as N (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Manganese (mg/L)
37057120494101	1979	2,230	2,140	1.3	290	420	0.47
37059120485201	1965	1,930	1,240	0.8	220	260	--
09S10E36R001M	1964	1,120	754	0.1	77	124	
370604120491101	1964	1,120	662	0.2	79	120	
370604120480801	1956	2,460	1,570	0.3	420	380	--
370330120480401	1949	1,800	1,200	1.6	350	140	
10S10E01M001M	1990	2,060	1,400	--	220	279	0.05
10S11E17Q001M	1949	3,900	2,600	<0.1	722	510	--

46. While the depths of these wells and the screened intervals are unknown, it appears that groundwater quality for salinity in the area prior to 1968 was poor. Data for EC, TDS, and chloride in most of the wells exceeded the recommended and/or upper secondary MCLs of 900 to 1,600 µmhos/cm for EC, 500 to 1,000 mg/L for TDS, and 250 to 500 mg/L for chloride.

47. The Facility also has a network of 12 monitoring wells that monitor shallow groundwater around the Facility and LAAs. Eight of these monitoring wells (MW-1U, MW-4U, MW-6U, MW-7U, MW-9U, MW-10U, MW-11U, and MW-12U) monitor first-encountered groundwater above 25 feet below surface grade (bsg). Four monitoring wells (MW-2L, MW-3L, MW-5L, and MW-8L) monitor deeper groundwater between 25 to 50 feet bsg. The monitoring wells were first installed in 1997 except for four monitoring wells (MW-9U, MW-10U, MW-11U, and MW-12U) that were installed in 2009 to expand the network and monitor groundwater at greater distances both upgradient and downgradient of the ponds and LAAs.
48. Depth to groundwater in these wells appears to fluctuate based on seasonal and climatic conditions ranging from about four feet bsg (above the invert of the ponds) to about 25 feet bsg. According to the RWD, groundwater flow in the upper zone is to the northeast toward Mud Slough and the trough of the Valley, while groundwater flow in the lower zone is to the north parallel to the trough of the Valley. Monitoring well locations are depicted in **Attachment B**.
49. The monitoring wells are sampled on a quarterly basis for EC, nitrate as N, ammonia as N, manganese, and total organic carbon.
50. Upgradient (background) groundwater quality from monitoring wells sampled between 2015 and 2019 is summarized in Table 7.

Table 7. Average Upgradient Groundwater Quality

Well	EC (µmhos/cm)	Nitrate as N (mg/L)	Ammonia as N (mg/L)	Manganese (mg/L)	Total Organic Carbon (mg/L)
MCLs	900 to 2,200 (see 1 below)	10 (see 2 below)	--	0.05 (see 3 below)	--
MW-6U	1,113	2.38	0.1	0.043	1.71
MW-7U	1,295	3.75	0.1	0.686	1.34
MW-10U	2,467	31.94	<0.1	0.200	2.31
MW-11U	10,293	110.7	0.1	2.254	3.99
MW-2L	4,528	0.50	<0.1	0.083	4.16
MW-8L	952	0.68	0.1	0.260	1.65

1. EC Secondary MCL range: Recommended level 900 µmhos/cm; Upper level 1,600 µmhos/cm; Short-term level 2,200 µmhos/cm.
2. Primary MCL.
3. Secondary MCL.

51. Downgradient groundwater quality from monitoring wells sampled between 2015 and 2019 is summarized in Table 8.

Table 8. Average Downgradient Groundwater Quality

Well	EC (µmhos/cm)	Nitrate as N (mg/L)	Ammonia as N (mg/L)	Manganese (mg/L)	Total Organic Carbon (mg/L)
MCL	900 to 2,200 (see 1 below)	10 (see 2 below)	--	0.05 (see 3 below)	--
MW-1U	2,500	0.95	<0.1	0.004	2.72
MW-4U	4,789	2.62	0.14	0.991	3.17
MW-9U	6,878	1.09	0.1	2.002	3.56
MW-12U	40,176	0.67	0.11	9.367	10.09
MW-3L	4,456	0.66	0.1	0.039	3.07
MW-5L	1,093	0.53	<0.1	0.676	1.80

1. EC Secondary MCL, range: Recommended level 900 µmhos/cm; Upper level 1,600 µmhos/cm; Short-term level 2,200 µmhos/cm.
 2. Primary MCL.
 3. Secondary MCL.
52. Nitrate as N exceeds the MCL of 10 mg/L in up-gradient monitoring wells MW-10U and MW-11U, with the highest concentrations present in MW-11U. Monitoring well MW-11U is located furthest upgradient from the Facility and is in an agricultural area on the other side of the Santa Fe and San Luis Canals. Reducing conditions might account for lower nitrate concentrations in groundwater closer to the Facility; however, there is little to no ammonia present in these monitoring wells to indicate significant nitrogen contributions from the discharge. This Order requires increased monitoring for nitrogen forms including total Kjeldahl nitrogen and total nitrogen as well as metals, including arsenic, to better evaluate potential groundwater degradation due to nitrogen and reducing conditions.
53. EC levels in all the monitoring wells exceeds the recommended secondary MCL of 900 µmhos/cm and, in most cases, the short-term level of 2,200 µmhos/cm. Some of the upgradient monitoring wells (MW-6U, MW-7U, and MW-8L) with EC levels near the recommended secondary MCL may be influenced by higher quality irrigation water from the nearby unlined Santa Fe Canal. The highest EC is reported in upgradient monitoring well MW-11U (10,293 µmhos/cm) and downgradient monitoring well MW-12U (40,176 µmhos/cm). Both these monitoring wells are at some distance from the Facility and there are several monitoring wells closer to the ponds and LAAs with significantly lower EC levels. In addition, MW-12U is on the edge of the wetland area known as the Salt Marsh around Mud Slough with elevated soil salinity as high as 90,000 µmhos/cm, which could account for the high EC in groundwater at this location.

54. Manganese in most of the monitoring wells both upgradient and downgradient of the Facility exceeds the secondary MCL of 0.05 mg/L. Elevated manganese in groundwater could point to organic overloading and the potential for reducing conditions beneath the ponds. However, given the presence of elevated manganese upgradient of the ponds and limited historical groundwater data it is likely that manganese concentrations in groundwater could be a regional concern due to tight soil conditions in the area. This Order requires continued groundwater monitoring for manganese as well as other metals (i.e., iron and arsenic) that might be mobilized due to reducing conditions.
55. The monitoring wells are also sampled for total and fecal coliform organisms on a quarterly basis. According to the RWD, while there have been some detections for total and fecal coliform in the monitoring wells, the detections have been erratic and do not appear to correspond to a specific well or periods with high groundwater. Table 9 summarizes the number of total and fecal coliform organisms detections between 2009 and 2019 in the monitoring wells.

Table 9. Samples with Total and Fecal Coliform Organisms (2009 to 2019)

Well	Number of Samples	Total Coliform Organisms (Present)	Fecal Coliform Organisms (Present)
MW-1U	42	2	5
MW-2L	42	5	4
MW-3L	42	3	1
MW-4U	42	2	2
MW-5L	42	0	0
MW-6U	42	2	4
MW-7U	39	2	1
MW-8L	42	3	0
MW-9U	42	7	2
MW-10U	42	5	2
MW-11U	39	3	2
MW-12U	39	2	1

56. To address potential impacts of total and fecal coliform organisms in groundwater, this Order requires increased monitoring for total and fecal coliform organisms when groundwater levels are less than five feet below the pond invert

and requires the Discharger to conduct a Well Survey to identify water supply wells within two miles of the Facility that might be affected by the discharge.

Legal Authorities

57. 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.

58. Compliance with section 13263, subdivision (a), including implementation of applicable water quality control plans, is discussed in the findings below.
59. 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).)
60. 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.

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

Basin Plan Implementation

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

Beneficial Uses of Water

63. This Order implements the Central Valley Water Board’s Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Basin Plan), which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses. (See Wat. Code, § 13241 et seq.)
64. Local drainage is to Mud Slough, a tributary of the San Joaquin River. The beneficial uses of the Mud Slough (per the Basin Plan) include: agricultural supply (AGR); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); wildlife habitat (WILD); and spawning, reproduction and/or early development (SPAWN).
65. Per the Basin Plan, beneficial uses of underlying groundwater in the area are: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

Water Quality Objectives

66. The numeric WQOs for bacteria is expressed as the most probable number (MPN) of coliform organisms per 100 mL of water. For MUN-designated groundwater, the objective is an MPN of 2.2 organisms over any seven-day period.
67. The narrative WQOs for chemical constituents in groundwater generally provides that groundwater shall not contain constituents in concentrations adversely affecting beneficial uses. For MUN-designated waters, the Basin Plan further provides that water, at a minimum, meet the primary and secondary Maximum Contaminant Levels (MCLs) specified in California Code of Regulations, title 22 (Title 22).² (See Title 22, §§ 64431, 64444, 64449.)

² 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.

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

Salt and Nitrate Control Programs

72. 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 Salt and Nitrate Control Programs to address ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Board adopted Resolution No. 2019-0057 conditionally approving the Basin Plan amendments and directing the Central Valley Water Board to make targeted revisions to the amendments within one year after obtaining approval from the Office of Administrative Law. The Office of Administrative Law approved the Basin Plan amendments on 15 January 2020 (OAL Matter No. 2019-1203-03), which became effective on 17 January 2020.
73. For the Salt Control Program, the Discharger was issued a Notice to Comply (CV-SALTS ID 2671) with instructions and obligations for the Salt Control Program on 5 January 2021. The Discharger must submit a Notice of Intent by 15 July 2021 informing the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt

Permitting). Dischargers that are unable to comply with stringent salinity requirements for EC of 700 $\mu\text{mhos/cm}$ to protect AGR beneficial uses or 900 $\mu\text{mhos/cm}$ to protect MUN beneficial uses will need to meet performance-based requirements and participate in a basin-wide planning effort to develop a long-term salinity strategy for the Central Valley (i.e., participate in the Priority and Optimization Study per Option 2).

74. Based on available data, average influent and effluent EC at the Facility is approximately 1,800 $\mu\text{mhos/cm}$ and 2,900 $\mu\text{mhos/cm}$, respectively. Therefore, the Discharger may not be able to comply with the stringent EC limit of 700 $\mu\text{mhos/cm}$ to protect AGR beneficial uses in the vicinity of the discharge. Therefore, this Order:
 - a. Requires the Discharger to continue efforts to control salinity in the discharge and to submit and implement a Salinity Reduction Study Work Plan to identify sources and evaluate additional measures to reduce or eliminate sources of salinity in the discharge; and
 - b. Sets a performance-based 12-month average EC limit on the influent of 2,380 $\mu\text{mhos/cm}$.
75. The Nitrate Control Program was developed to address widespread nitrate pollution in the Central Valley. Upon receipt of a Notice to Comply, dischargers that are unable to comply with the stringent nitrate requirements will be required to take on alternative compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the Nitrate Control Program either individually (Pathway A) or collectively as part of a Management Zone Group (Pathway B).
76. For the Nitrate Control Program, the Central Valley Water Board identified areas, referred to as Priority 1 and Priority 2 basins, where nitrates in groundwater are more prevalent and therefore pose a higher risk to persons who rely on groundwater as a source of drinking water. Priority 1 and Priority 2 basins have timelines under which permittees are required to implement Nitrate Control Program requirements. The Facility falls within Groundwater Sub-basin 5-22.07 (San Joaquin Valley – Delta-Mendota Basin) a Priority 2 basin. Notices to Comply for Priority 2 basins will be issued within two to four years following the effective date of the amendments (17 January 2020).
77. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs. As such this Order may be amended or modified to incorporate any newly applicable requirements to ensure that the goals of the Salt and Nitrate Control Programs are met.

Antidegradation Policy

78. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of “high quality waters” unless it is shown that such degradation: (1) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; (2) will be consistent with the maximum benefit to the people of the State; and (3) is minimized through the discharger’s best practicable treatment or control (BPTC).
79. Given the partial availability of pre-1968 water quality information, compliance with the Antidegradation Policy will be determined based partly on pre-1968 water quality and site-specific groundwater data, as discussed below (Antidegradation Baseline). Table 10 below compares influent and effluent data for constituents of concern with pre-1968 groundwater for the area and average groundwater concentrations from the eight monitoring wells around the Facility that were installed in 1997 (MW-1U through MW-8L), and current average concentrations in those wells based on data from 2015 to 2019.

Table 10. Water Quality Comparison

Constituent	Influent	Effluent	Pre-1968 Groundwater	Monitoring Wells (1997)	Monitoring Wells (2015 to 2019)
EC, (µmhos/cm)	1,794	2,875	1,120 to 3,900	7,416 (2,148 - 21,200)	2,590 (952 - 4,789)
Sodium, (mg/L)	250	613	311	--	--
Chloride, (mg/L)	353	793	265	--	--
Nitrate as N, (mg/L)	<0.5	1.3	0.8	7.7 (1.5 - 14.3)	1.5 (<1 - 3.8)
Ammonia as N, (mg/L)	40	0.2	--	--	0.1 (<0.1 - 0.14)
Total Nitrogen, (mg/L)	46	16	--	--	--

80. Constituents of concern (COCs) for the WWTF’s discharge that have the potential to degrade groundwater include nutrients (i.e., nitrogen), salts (primarily EC, TDS, and chloride), and total coliform, as discussed below:

- a. **Nitrogen.** For nutrients such as nitrogen, the potential for degradation depends not only on the quality of the treated effluent but also onsite conditions and the ability of the vadose zone to provide an environment conducive to nitrification and denitrification to effectively convert the nitrogen compounds to nitrogen gas before it reaches groundwater. Most of the nitrogen in the wastewater is present as TKN and ammonia, which can readily convert to nitrate with some loss due to ammonia volatilization during treatment and land disposal.

Based on the limited data for nitrogen constituents, the Facility provides treatment that reduces the average total nitrogen concentrations in the effluent by about 65 percent. In addition, groundwater monitoring downgradient of the Facility and LAAs shows combined nitrate and ammonia concentrations are relatively stable and well below the primary MCL of 10 mg/L. Based on the effluent quality and groundwater monitoring, the discharge may cause some groundwater degradation but should not cause groundwater to exceed WQOs for nitrates. To protect groundwater quality, this Order includes a groundwater limitation for nitrate (as N) of 10 mg/L and requires increased monitoring for nitrogen constituents in groundwater. Furthermore, the Discharger will be required to comply with the new Nitrate Control Program.

- b. **Salinity (EC and TDS).** For salinity, based on the available data, the discharge is high in salinity. With an influent EC of about 1,800 $\mu\text{mhos/cm}$ and a TDS of about 1,200 mg/L, the wastewater entering the Facility exceeds the upper secondary MCLs of 1,600 $\mu\text{mhos/cm}$ and 1,000 mg/L, respectively. Regional groundwater data shows EC in groundwater in the area prior to 1968 averaged about 2,055 $\mu\text{mhos/cm}$ (ranging from 1,120 $\mu\text{mhos/cm}$ to 3,900 $\mu\text{mhos/cm}$ as far back as 1949). This suggests that elevated salinity in groundwater has been present prior to the construction of the WWTF in the 1960s.

Groundwater monitoring at the site (Table 10) shows a relative decrease in salinity EC between the initial sampling done in 1997 when the monitoring wells were first installed compared to more recent sampling between 2015 and 2019, indicating that the discharge has not contributed significantly to salinity in groundwater and may have improved groundwater quality with respect to EC. To protect groundwater this Order does not allow an increase in the volume of the discharge and sets a performance-based 12-month average influent EC limit of 2,380 $\mu\text{mhos/cm}$. In addition, this Order also requires the Discharger to continue its efforts to control and manage salinity in its discharge and comply with the new Salinity Control Program.

- c. **Chloride.** Chloride in the discharge at about 350 mg/L is above pre-1968 groundwater concentrations of 265 mg/L. Therefore, the discharge may cause some groundwater degradation for chloride. However, the Discharger does not currently monitor for chloride in groundwater at the Facility. While some groundwater degradation may be expected, this Order sets a performance-based influent limit on EC, of which chloride is a contributor. This Order also requires the Discharger to prepare and implement a Salinity Reduction Study Workplan to evaluate salinity sources and implement BPTC measures to control salinity including chloride in the discharge and comply with the new Salt Control Program. In addition, the MRP will require the Discharger to begin regular monitoring for chloride in the discharge and groundwater at the site.
- d. **Total Coliform Organisms.** For coliform organisms, the potential for exceedance of the Basin Plan's numeric WQO depends on the ability of the vadose zone soils below the ponds to provide adequate filtrations. Historically, groundwater elevation in the area has risen above the bottom of the ponds. Furthermore, some monitoring wells have had sporadic detections of total and or fecal coliform. However, based on the available monitoring data since 2009, detections for coliform organisms have been inconsistent and do not appear to be related to periods of high groundwater. This Order requires increased monitoring for total and fecal coliform organisms when groundwater levels are less than five feet below the bottom of the deepest pond (93 feet above msl). In addition, the Discharger is required to conduct a Supply Well Survey to identify and document any water supply wells within two miles of the Facility which might be impacted by the discharge.
81. This Order establishes terms and conditions to ensure that the authorized discharge from the Facility will not excessively degrade groundwater quality, contribute to existing pollution, or unreasonably affect present and anticipated future beneficial uses.
82. Generally, the limited degradation of groundwater by some of the typical waste constituents of concern (e.g., nitrate, EC, and chloride) released with discharge from a municipal wastewater utility after effective source control, treatment, and control measures is consistent with the maximum benefit to the people of the State. The technology, energy, and waste management advantages of a municipal utility service far exceeds any benefit derived from a community otherwise reliant on concentrated individual wastewater treatment systems, and the impacts to water quality will be substantially less. Further, the economic prosperity of valley communities and associate industry is of maximum benefit to the people of the State, and therefore provides sufficient reason to accommodate continued operation of the Facility and some groundwater degradation provided

the terms of the Basin Plan are met. Accordingly, to the extent that any degradation occurs as a result of the Facility's continued operation, such degradation is consistent with the maximum benefit to the people of the State.

83. The Discharger implements, or will implement, as required by this Order the following BPTC measures, which will minimize the extent of water quality degradation resulting from the Facility's continued operation:
- a. Recirculating effluent through the treatment ponds to enhance biological treatment and reduce organics, and nitrogen concentrations in the discharge;
 - b. Discharge limits on flow, BOD₅, and EC;
 - c. Use of certified operators to ensure proper operation and maintenance of the Facility;
 - d. Reuse of effluent on pasture for non-milking animals at agronomic rates;
 - e. Containment berms and tailwater return systems around all LAAs;
 - f. Preparation and implementation of a Salinity Reduction Study Workplan;
 - g. Compliance with the Salt and Nitrate Control Programs; and
 - h. Expanded influent, effluent, and groundwater monitoring.
84. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

California Environmental Quality Act

85. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., the City of Los Banos certified a final Environmental Impact Report (EIR) in 1991 for construction and operation of the Los Banos Wastewater Treatment Facility in connection with an expansion project (Project) to increase treatment and disposal capacity to 4.9 mgd. The EIR determined that the project as proposed would not have a significant impact on water quality.
86. The Central Valley Water Board, as a "responsible agency" pursuant to CEQA, was consulted with in the development of the EIR, and determined that the compliance with waste discharge requirements would mitigate any significant impacts to water quality.

87. According to the City there are no plans to increase flows or modify treatment and disposal methods from what is allowed under existing WDRs Order 92-014. Therefore, 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 (CEQA Guidelines). The discharges authorized under this Order are substantially within parameters established under prior WDRs, particularly with respect to character and volume of discharges.

Other Regulatory Considerations

Human Right to Water

88. Pursuant to Water Code section 106.3, subdivision (a), it is “the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.” Although this Order is not subject to Water Code section 106.3, as it does not revise, adopt or establish a policy, regulation or grant criterion, (see §106.3, subd. (b)), it nevertheless promotes the policy by requiring discharges to meet maximum contaminant levels (MCLs) for drinking water, which are designed to protect human health and ensure that water is safe for domestic use.

Threat-Complexity Rating

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

Title 27 Exemption

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

Stormwater

91. This Order does not cover stormwater and other discharges that are subject to the Clean Water Act's National Pollution Discharge Elimination System (NPDES). Because all stormwater at the Facility is collected and disposed of onsite, the City is not required to obtain coverage under the statewide General Permit for Storm Water Discharges Associated with Industrial Activities, State Water Board Order 2014-0057 DWQ, NPDES General Permit CAS000001 (Industrial General Permit) at this time.

Sanitary Sewer Overflows

92. Sanitary Sewer Overflows³ (SSO), which typically consist of a mixture of domestic and commercial wastewater, often contain pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, suspended solids and other pollutants. When an SSO results in a discharge to surface water, it can cause temporary exceedances of water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair recreational use and aesthetic enjoyment of surface waters in the area. The most common causes are grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor-caused blockages.
93. On 2 May 2006, the State Water Board adopted *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, State Water Board Order 2006-0003-DWQ (SSO General Order), which requires that all public agencies owning or operating sanitary sewer systems with total system lengths in excess of one mile enroll under the SSO General Order. The City's collection system exceeds one mile in length and the City is enrolled under the General Order.

Biosolids

94. The United States Environmental Protection Agency (US EPA) has promulgated biosolids reuse regulations in Code of Federal Regulations (CFR), title 40, part 503, *Standards for the Use or Disposal of Sewage Sludge* (Part 503), which establishes management criteria for protection of ground and surface waters, sets limits and application rates for heavy metals, and establishes stabilization

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

and disinfection criteria. The Central Valley Water Board is not the implementing Agency for Part 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the US EPA.

Groundwater Wells

95. Existing DWR standards for the construction and destruction of groundwater wells, as well as any more stringent standards that are subsequently adopted, shall apply to all monitoring wells used to monitor impacts of wastewater storage or disposal governed by this Order. (see *Cal. Well Stds. Bulletin 74-90* [DWR, June 1991]; *Water Wells Stds. Bulletin 74-81* [DWR, Dec. 2918].)
96. 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

97. This Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein.
98. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (RWD) per Water Code section 13260.
99. Failure to file a new RWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.
100. 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

101. All of the above information, as well as the information contained in the attached Information Sheet (incorporated herein), was considered by the Central Valley Water Board in prescribing the WDRs set forth below.
102. The Discharger, interested agencies and other interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order,

and provided an opportunity to submit their written views and recommendations at a public hearing. (See Wat. Code, § 13167.5.)

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

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267: that Order 92-014 is rescinded (except for enforcement purposes); and that the Discharger and their agents, employees and successors shall comply with the following.

- A. Standard Provisions**—Except as expressly provided herein, the Discharger shall comply with the Standard Provisions and Reporting Requirements dated 1 March 1991 (SPRRs), which are incorporated herein.
- B. Discharge Prohibitions**
 1. Waste classified as “hazardous” (per Cal. Code Regs., tit. 22, §66261.1 et seq.), shall not be discharged at the Facility under any circumstance.
 2. Waste constituents shall be not be discharged or otherwise released from the Facility (including during treatment and storage activities) in a manner that results in:
 - a. Violations of the Groundwater Limitations of this Order; or
 - b. Conditions of “nuisance” or “pollution,” as defined per Water Code section 13050.
 3. Except as otherwise expressly authorized in this Order, sewage and other waste shall not be discharged to offsite surface waters or surface water drainage courses (including irrigation ditches outside of Discharger's control).
 4. Except as provided in Section E.2 of the SPRRs, incorporated herein, untreated wastes and partially treated wastes shall not bypass the treatment system (including treatment ponds).
 5. Waste shall not be discharged from the Facility in a manner other than as described in this Order.

6. Discharge of treated effluent to any site other than the treatment and/or storage ponds or recycled use areas (or LAAs) as described in this Order is prohibited.
7. Toxic substances shall not be discharged into the wastewater treatment system such that biological treatment mechanisms are substantially disrupted.

C. Influent Limitations

1. Influent flows to the Facility, monitored at INF-001 (as defined in the MRP), shall not exceed a monthly average dry weather discharge of 4.9 mgd.
2. The 12-month rolling average EC of the influent, monitored at INF-001 (as defined in the MRP), shall not exceed a maximum average of 2,380 $\mu\text{mhos/cm}$. Compliance shall be determined monthly using the average influent EC for the last 12 months.

D. Effluent Limitations

1. Effluent discharged to the LAAs monitored at EFF-001 (as defined in the MRP) shall not exceed the following effluent limit:

Table 11 — Effluent Limit

Constituent	Limit	Basis for Compliance Determination
BOD ₅	90 (mg/L)	Monthly Average

E. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations in this Order.
2. The discharge shall remain within the permitted waste treatment/containment structures and authorized recycled use areas (or LAAs) at all times.
3. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
4. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.5.

5. 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.
6. Public contact with wastewater at the Facility shall be prevented through such means as fences, signs, or acceptable alternatives.
7. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.
8. As a means of ensuring compliance with Discharge Specification E.7, the daily average dissolved oxygen (DO) content in the upper one foot of any wastewater storage pond (Ponds 3, 4, and 7) shall not be less than 1.0 mg/L for seven consecutive daily sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the daily average DO in any storage pond is below 1.0 mg/L for any sampling event, the Discharger shall implement daily DO monitoring (excluding weekends and holidays) at various points around the pond until the minimum DO concentration (or higher) is achieved for at least three consecutive days. If the daily average DO in any storage pond is below 1.0 mg/L for seven consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in accordance with **Section B.1** of the SPRRs. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.
9. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation

using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

11. Under extreme wet weather conditions, as for example a 100-year wet year, the LAAs may remain flooded to provide for additional storage as described in Finding 25 between February and April provided all water can be contained onsite.
12. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.9 and E.10.
13. 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.
14. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
15. The Discharger shall monitor sludge accumulation in the wastewater treatment and storage/disposal ponds at least once every five years and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir threatens to impact the pond(s) storage/disposal capacity the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

F. Groundwater Limitations

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

1. Nitrate as N of 10 mg/L.
2. Total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
3. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.
4. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Compliance with these limitations shall be determined annually as specified in the MRP using approved statistical methods.

G. Water Recycling Specifications

1. For the purpose of this Order, “recycled use area” means an area with defined boundaries where recycled water is used or discharged.
2. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to the Title 22 Engineering Report, as referenced in Finding 31, or an alternative Title 22 Engineering Report subsequently approved by DDW. (See Title 22, § 60323.)
3. The quality of recycled water generated by the Facility and applied to the recycled use areas (or LAAs) shall at least be equivalent to undisinfected secondary recycled water, as defined by Title 22, section 60301.900.
4. Recycled water shall be used in compliance with Title 22, section 60304. Specifically, uses of recycled water shall be consistent with those set forth in Title 22, section(s) 60304(a), 60304(b), 60304(c), and 60304(d).
5. Recycled water used for irrigation, or soil that has been irrigated with recycled water, shall not come into contact with the edible portions of food crops that may be eaten raw by humans. (Title 22, § 60304, subd. (e).)

6. Application of recycled water to the LAAs shall be reasonable and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by crops.⁴ As a mean of discerning compliance with this requirement:
 - a. Crops or landscape vegetation shall be grown on Use Areas, and cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.
 - b. Hydraulic loading of recycled water and supplemental irrigation water (if any) shall be managed to:
 - i. Provide water only when water is needed and in amounts consistent with that need;
 - ii. Maximize crop nutrient uptake;
 - iii. Maximize breakdown of organic waste constituents in the root zone; and
 - iv. Minimize the percolation of waste constituents below the root zone.
7. Grazing of milking animals within the LAAs is prohibited. [ref: Cal. Code Regs., Title 22, § 60304(d)(4)]
8. Tailwater runoff and spray of recycled water shall not be discharged outside of the LAAs.
9. Land application of wastewater shall be managed to minimize erosion within the LAAs.
10. The LAAs shall be managed to prevent breeding of mosquitoes or other vectors.

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

11. The LAAs and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

Table 12—Minimum Setbacks for Irrigation

Setback	Distance (ft.)
Toe of recycled water impoundment berm to domestic water supply well	150
Edge of use area to manmade or natural surface water drainage course	100
Edge of use area to domestic water supply wells	150
Edge of use area to occupied residence	100
Edge of Use Area Using Spray Irrigation to Public Park, Playground, School Yard, Or Similar Place of Potential Public Exposure	100

12. 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 Discharger shall temporarily stop recycled water use immediately and implement corrective actions to ensure compliance with this Order.
13. All storm water runoff from the LAAs shall be captured and recycled for irrigation or allowed to percolate within the LAAs.
14. Public contact with wastewater at the LAAs shall be controlled using fences, signs, and other appropriate means.
15. LAAs that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in **Attachment D**, which is attached and forms part of this Order, and shall include the following wording:

**“RECYCLED WATER – DO NOT DRINK”
“AGUA DE DESPERDICIO RECLAMADA – NO TOME”**

16. Alternative language will be considered by the Executive Officer if approved by DDW. (See Title 22, § 60310, subd. (g).)
17. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. Quick couplers, if used, shall be different than those used in potable water systems. (See Title 22, § 60310, subd. (i).)
18. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device. (See Title 22, §60310, subd. (h).)
19. Horizontal and vertical separation between pipelines transporting recycled water and those transporting potable water shall comply with Title 22, section 64572, except to the extent that DDW has specifically approved a variance.
20. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, Title 17, sections 7602(a) and 7603(a).
21. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.
22. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Health and Safety Code section 116815.
23. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance with Title 17, section 7605.

H. Solids Disposal Specifications

1. Sludge⁵ and solid waste⁶ shall be removed from screens, sumps, and ponds as needed to ensure optimal plant operation, prevent nuisance conditions, and maintain adequate storage capacity.
2. Onsite handling and storage of residual sludge,⁷ solid waste, and biosolids⁸ shall be temporary (2 years or less); and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the Groundwater Limitations of this Order.
3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.
4. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board except in cases where a local (e.g., county) program has been authorized by a regional water board. In most cases, this will mean the General Biosolids Order (State Water Resources Control Board Water Quality Order 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be covered by Order 2004-12-DWQ, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

⁵ For the purposes of this section, "**sludge**" means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes.

⁶ For the purposes of this section, "**solid waste**" includes grit and screenings generated during preliminary treatment at the Facility.

⁷ For the purposes of this section, "**residual sludge**" means sludge that will not be subject to further treatment at the Facility.

⁸ For the purposes of this section, "**biosolids**" refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities pursuant to federal and state regulations.

5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

I. Provisions

1. The reports/submittals required in this section shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision I.6.
2. **By 22 October 2021**, the Discharger shall submit a Groundwater Supply Well Survey. The Survey shall identify all irrigation and groundwater supply wells within a two-mile radius of the Facility. The Survey shall include information such as well logs and well construction details including depth of well, screened interval, presence of sanitary seal, if available.
3. **By 22 April 2022**, the Discharger shall submit a Salinity Reduction Study Workplan for Executive Officer approval. At a minimum, the Salinity Reduction Study Workplan shall include:
 - a. Data on current effluent salinity concentrations;
 - b. Identification of known salinity sources;
 - c. Description of current plans to reduce/eliminate known salinity sources;
 - d. Preliminary identification of other potential sources;
 - e. A proposed schedule for evaluating sources; and
 - f. A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

Implementation progress of the Salinity Reduction Study Workplan shall be reported each year in the Annual Monitoring Report required pursuant to Monitoring and Reporting Program R5-2021-0026.

4. At least **180 days prior** to any sludge removal and disposal, the Discharger shall submit a Sludge Cleanout Plan. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried biosolids will be removed from the site prior to the onset of the rain season (1 October). If the Discharger proposes to land apply biosolids at the effluent recycling site, the report shall include a Report of Waste Discharge and filing fee to apply for coverage under the Biosolids General Order 2004-0012-DWQ or any subsequent revisions.
5. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by 31 January.
6. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
7. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
8. The Discharger shall comply with Monitoring and Reporting Program R5-2021-0026, 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.

9. 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.
10. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
11. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
12. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.
13. 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.
14. The Discharger shall comply with the requirements of the Statewide General Waste Discharge Requirements (General WDRs) for Sanitary Sewer Systems (Water Quality Order 2006-0003), the Revised General WDRs Monitoring and Reporting Program (Water Quality Order 2008-0002-EXEC), and any subsequent revisions thereto. Water Quality Order 2006-0003 and Order 2008-0002-EXEC require the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

15. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
16. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
17. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and ensure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to ensure full compliance with this Order.
18. In the event of any change in control or ownership of the WWTF, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
19. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
20. A copy of this Order including the MRP, Information Sheet, Attachments, and SPRRs, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

ENFORCEMENT

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

ADMINISTRATIVE REVIEW

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. [Copies of the law and regulations applicable to filing petitions](#) are available on the Internet (at the address below) and will be provided upon request.

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

ATTACHMENTS

Attachment A—SITE LOCATION MAP
Attachment B—SITE PLAN
Attachment C—FLOW SCHEMATIC
Attachment D—RECYCLED WATER SYMBOL

Information Sheet

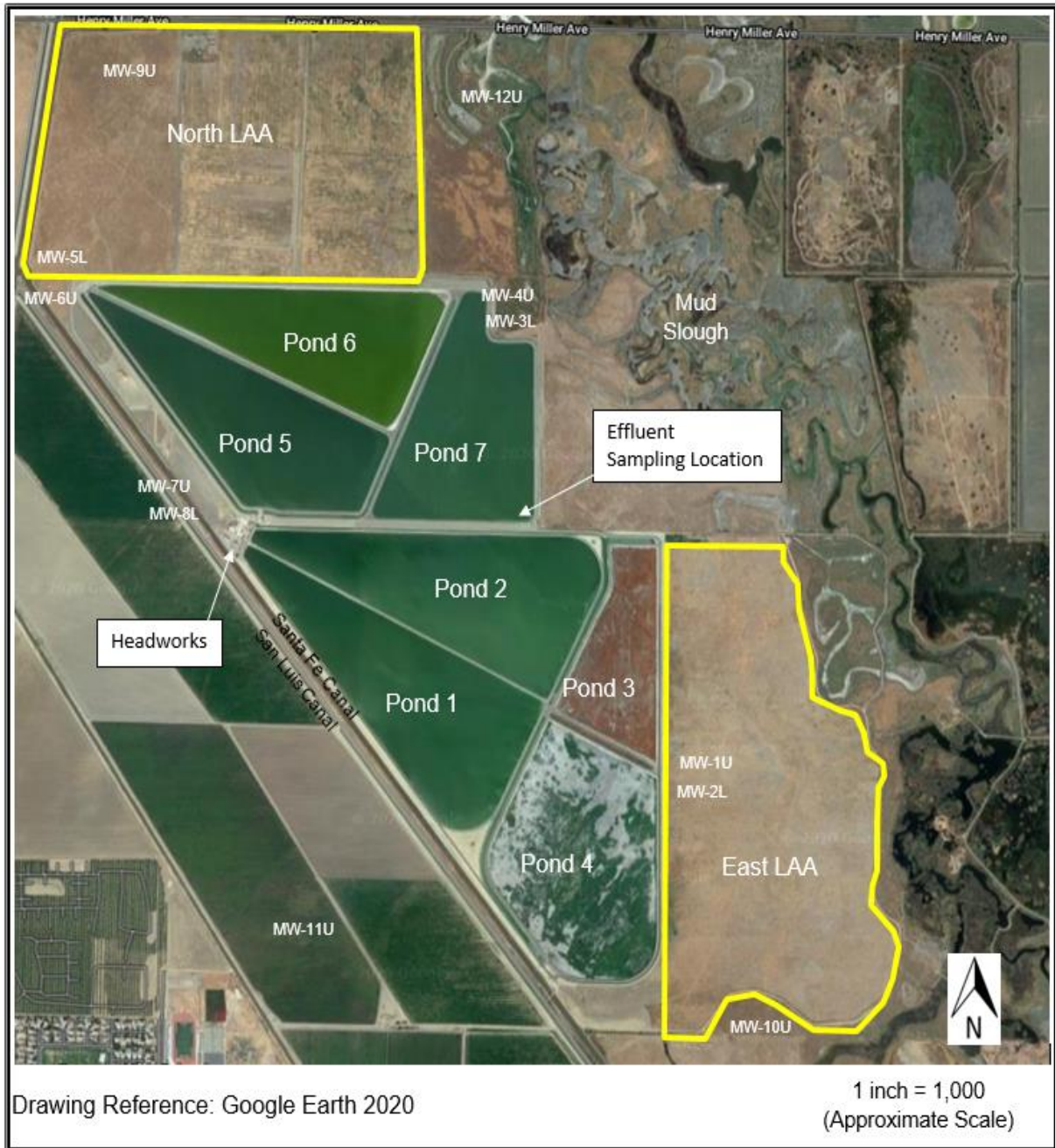
Standard Provisions and Reporting Requirements (SPRRs), dated 1 March 1991

Monitoring and Reporting Program R5-2021-0026

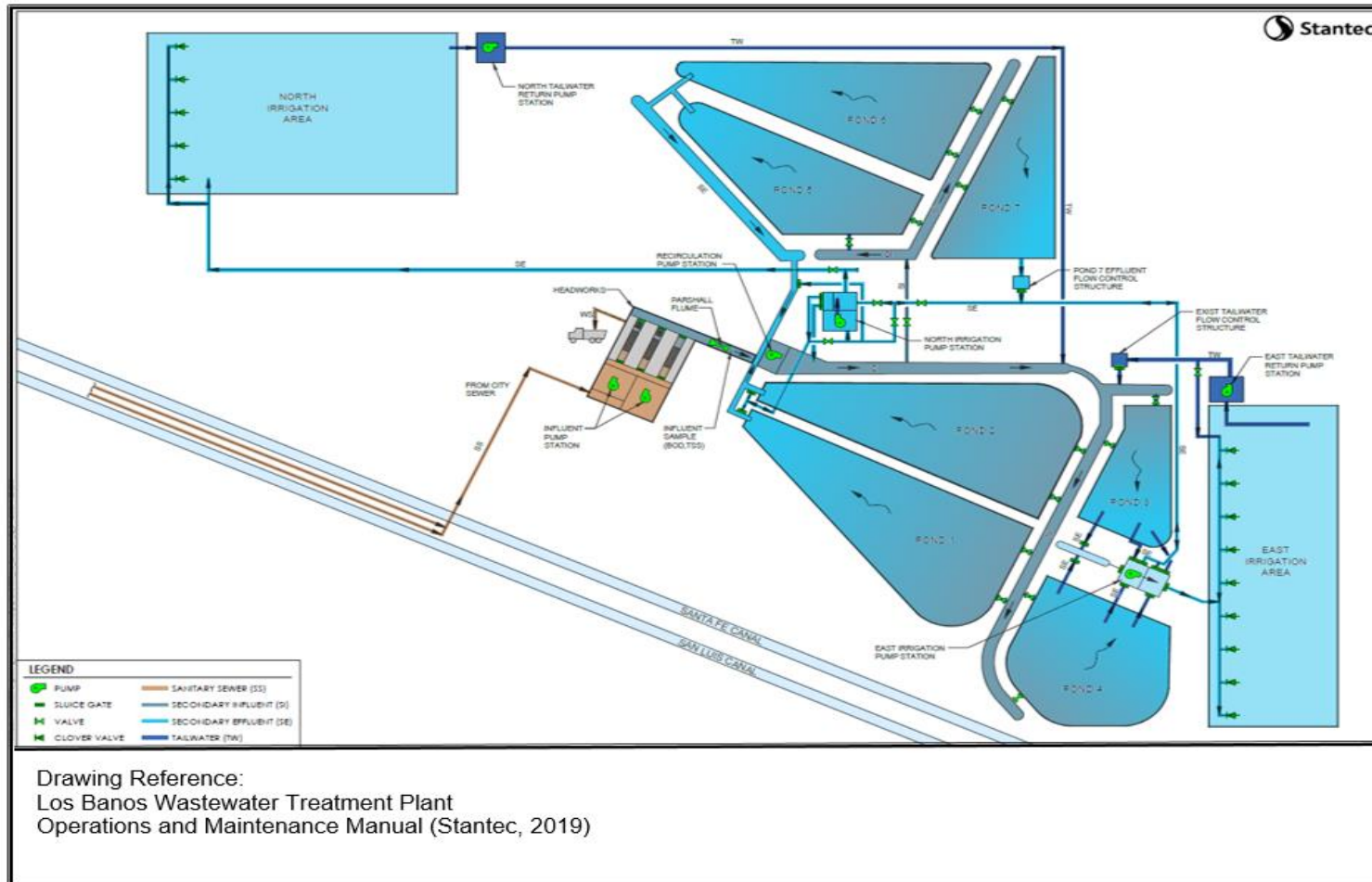
ATTACHMENT A—SITE LOCATION MAP



ATTACHMENT B—SITE PLAN



ATTACHMENT C—FLOW SCHEMATIC



ATTACHMENT D—RECYCLED WATER SYMBOL



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2021-0026
FOR
CITY OF LOS BANOS
LOS BANOS WASTEWATER TREATMENT FACILITY
MERCED COUNTY

INFORMATION SHEET

BACKGROUND

The City of Los Banos (City or Discharger) owns and operates the Los Banos Wastewater Treatment Facility (WWTF or Facility), which serves an estimated population of about 40,000 residents (2018 Census data). The Los Banos WWTF receives wastewater from residential, commercial, institutional, and industrial sources. The Facility is currently regulated by WDRs Order 92-014, which initially authorized the discharge of up to 2.5 million gallons per day (mgd) to a series of unlined treatment and disposal ponds with reuse for irrigation on approximately 245 acres of pasture for non-milking animals on land owned by the City.

WDRs Order 92-014 allowed the Discharger to increase flows up to 4.9 mgd upon completion of a major expansion project including construction of additional treatment and storage ponds and increasing the pasture area to 395 acres to increase treatment and disposal capacity. The majority of the expansion project was completed in 1998 allowing for an approved flow increase to 4.0 mgd. On 9 March 2019, the Discharger submitted a technical report certifying completion of the final elements of the expansion project (new headworks and influent pump station). In a letter dated 29 August 2019, the Central Valley Water Board approved the certification report allowing the flow increase to 4.9 mgd.

FACILITY AND DISCHARGE

The WWTF includes an influent pump station, headworks, flow meter, four large facultative treatment ponds (Ponds 1, 2, 5, and 6), three effluent storage/disposal ponds (Ponds 3, 4, and 7), a recirculating pump station, two irrigation pump stations, and two tailwater return stations. The ponds have a combined available storage capacity of about 734 million gallons. According to the Discharger, the ponds were constructed of compacted clay to minimize percolation. The Facility is designed to treat an average dry weather flow of up to 4.9 mgd, with a peak hourly wet flow of 12 mgd. Current flows average about 2.5 to 2.8 mgd. As part of the treatment process, effluent is recirculated between the treatment and storage/disposal ponds. Screened influent entering the system flows to the recirculating pump station where it is mixed with treated effluent and sent to the treatment ponds. The recirculation contributes additional oxygen and nutrients for microbial activity to enhance organic and nitrogen removal and balance

organic loading within the system. The Facility relies on evapotranspiration, evaporation, and percolation for effluent disposal.

Effluent is applied as irrigation water during the irrigation season on land adjacent to the Facility, which is owned by the City. The LAAs identified as the North LAA and East LAA consist of approximately 397 acres of pasture. According to the Discharger, these pasture areas are used for livestock grazing of non-milking animals. The pasture areas are surrounded by a 12-inch berm and equipped with a tailwater return system, which collects all excess runoff from the LAAs including storm water runoff and returns it to the WWTF at the recirculating pump station.

The water balance shows that at current flows there is sufficient storage within the pond system to store all effluent during the wet season for a normal year and a 100-year wet year. Based on the calculations, for a normal precipitation year, when flows approach 4.9 mgd there will be sufficient storage within the pond system to store all of the effluent and precipitation falling on the ponds during the wet season (i.e., approximately 180 days). However, in the event of a 100-year wet year, excess precipitation may require the Discharger to flood the LAAs to a depth of about six inches between February and April to provide additional storage. Calculations show that there is sufficient capacity within the system to dispose of the excess water before the next rain season. In addition, with the containment berms and tailwater return system, there is sufficient protections on the LAAs to prevent runoff to adjoining properties and nearby surface waters.

GROUNDWATER CONSIDERATIONS

Groundwater conditions are discussed in Findings 43 to 56 of the Order. A review of the water quality information on the State Water Resources Control Board's Groundwater Ambient Monitoring Program (GAMA) database shows that groundwater quality in the area was relatively good for nitrates but of poor quality for salinity including EC, TDS, sodium, and chloride prior to 1968.

The Discharger installed a monitoring well network at the Facility in 1997. Depth to groundwater in these wells appears to fluctuate based on seasonal and climatic conditions ranging from about four feet bsg (above the invert of the ponds) to about 25 feet bsg. WDRs Order 92-014 required quarterly groundwater monitoring for total and fecal coliform organisms. While there have been some detections for total and fecal coliform in the monitoring wells the detections have been scattered and do not appear to correspond to a specific well or during periods of high groundwater (based on limited sampling data). Often when a positive hit is detected the nearby or adjacent well is non-detect before, during, and after the sampling event. In addition, some of the detections for fecal coliform were reported when total coliform was significantly lower or non-detect in the same sample raising questions on the validity of the results.

To address the potential for shallow groundwater this Order requires increased monitoring for total and fecal coliform during periods when groundwater levels are greater than five

feet below the bottom of the deepest pond (i.e., groundwater elevation greater than 93 feet above msl) and requires the Discharger to conduct a Groundwater Supply Well Survey to identify all water supply wells within two miles of the Facility.

ANTIDegradation

State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of “high quality waters” unless it is shown that such degradation: (1) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; (2) will be consistent with the maximum benefit to the people of the State; and (3) is minimized through the discharger’s best practicable treatment or control (BPTC).

The antidegradation analysis and conclusions are discussed in Findings 78 through 84 of the Order.

DISCHARGE PROHIBITIONS, LIMITATIONS, DISCHARGE SPECIFICATIONS, AND PROVISIONS

This Order maintains the existing flow limit of 4.9 mgd from WDRs Order 92-014 and sets a new effluent limit for 5-day biochemical oxygen demand of 90 mg/L (consistent with use of a pond treatment system). To address the high salinity in the discharge this Order requires the Discharger to prepare and implement a Salinity Reduction Study Workplan and sets a performance-based maximum 12-month rolling average EC limit of 2,380 $\mu\text{mhos/cm}$ on the influent. This limit was set based on current average annual EC levels in the influent plus 25% to allow some flexibility for water conservation efforts and remains below current average groundwater EC levels (2,590 $\mu\text{mhos/cm}$) in the area of the ponds to prevent further groundwater degradation for salinity.

MONITORING REQUIREMENTS

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

SALT AND NITRATE CONTROL PROGRAMS REGULATORY CONSIDERATIONS

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the 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). A Notice to Comply was issued on 5 January 2021. The Discharger must submit a Notice of Intent by 15 July 2021 informing 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 Nitrate Control Program, the Facility falls within Groundwater Sub-Basin 5-22.07 (San Joaquin Valley Delta-Mendota Basin), a priority 2 Basin. Notices to Comply for Priority 2 Basins will be issued within two to four years after the effective date of the Nitrate Control Program.

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

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.