CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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

[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-2023-XXXX-

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	TENTATIVE
Program:	Non-15 Discharges to Land
Region 5 Office:	Fresno
Discharger:	City of Dinuba
Facility:	Dinuba Wastewater Treatment Facility
Address:	6675 Avenue 412
County:	Tulare County
Parcel Nos.:	012-300-018-000, 012-300-013-000, 012-300-016-000, 012-300-017-000, 012-300-003-000, and 012-240-045
Prior Order(s):	82-113, 95-200

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 _____ October 2023.

_____

PATRICK PULUPA,
Executive Officer

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GLOSSARY

APN(s)	Assessor Parcel Number(s)
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 Tulare Lake Basin
bgs	Below Ground Surface
BOD	Biochemical Oxygen Demand (general term)
BOD_5	[Five-Day] Biochemical Oxygen Demand at 20°Celsius (specific analysis)
BPTC	Best Practicable Treatment or 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.
COC[s]	Constituent[s] of Concern
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DO	Dissolved Oxygen
DWR	California Department of Water Resources
EC	Electrical Conductivity
EIR	Environmental Impact Report
FDS	Fixed Dissolved Solids
FEMA	Federal Emergency Management Agency
LAA(s)	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

GLOSSARY

MCL	Maximum Contaminant Level per Title 22
mJ/cm2	Millijoules per Square Centimeter
N	Nitrogen
NCP	Nitrate Control Program
ND	Non-Detect
NE	Not Established
NM	Not Monitored
Recycled Water Policy	Policy for Water Quality Control for Recycled Water, State Water Board Resolution 2009-0011, as amended per Resolutions 2013-0003 and 2018-0057
R[O]WD	Report of Waste Discharge
RCRA	Resource Conservation and Recovery Act
SCP	Salt Control Program
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
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 Dinuba (Discharger) owns and operates the Dinuba Wastewater Treatment Facility (WWTF or Facility), which is located approximately 2 miles west of the City of Dinuba in Tulare County, Section 13, Township 16 S, Range 23 E, Mount Diablo Base and Meridian (MDB&M). The Facility's location is depicted on the Site Location Map in **Attachment A**. The existing plant has been in operation since 1921 and has undergone several renovations.

2. The Facility is comprised of the following Tulare County Assessor Parcel Numbers (APNs): 012-300-018-000, 012-300-013-000, 012-300-016-000, 012-300-017-000, and 012-300-003-000.

3. As the Facility owner and operator, the Discharger 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 - Process Flow Diagram

   c. Attachment C - Pond and Well Map

   d. Attachment D - Treatment Facility Map

   e. Attachment E – Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

   f. Standard Provisions & Reporting Requirements dated 1 March 1991 (SPRRs)
   https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/std_provisions/wdr-mar1991.pdf

5. Also attached is **Monitoring and Reporting Program R5-2023-XXXX** (MRP), which requires monitoring and reporting for discharges regulated under these WDRs. The Discharger shall comply with the MRP and subsequent revisions thereto as ordered by the Executive Officer or adopted by the Central Valley Water Board.

Regulatory History

6. Previous WDRs issued to the Facility include WDRs Order 82-113 (adopted on 24 September 1982) and WDRs Order 95-200 (adopted on 17 August 1995). Order 95-200 described the WWTF as having a headworks, primary and secondary clarifiers, a trickling filter, primary and secondary sludge digesters, three polishing ponds, unlined sludge drying beds, 48.8 acres of evaporation/percolation ponds for wastewater disposal, and 20 acres of alfalfa and oats for wastewater reclamation. Order 95-200 limited the monthly average dry weather discharge to 3.0 million gallons per day (MGD). The City of Dinuba has had a Pretreatment Program since 1994 due to historical issues with industrial discharges to the City's sewer collection system.

7. In a 20 August 2021 letter, the Central Valley Water Board Executive Officer issued the City a letter, pursuant to Water Code section 13260, requiring the submittal of a Report of Waste Discharge (RWD) due to the age of the existing WDRs (over 25 years old) and possible modifications made to the WWTF and associated discharge since the adoption of WDRs in 95-200. On 28 February 2022, the Discharger submitted a RWD (February 2022 RWD) prepared by AM Consulting Engineers, Inc.

Facility and Discharges

Existing Facility and Discharges

8. The WWTF treats and disposes municipal wastewater generated by residences and businesses in the City, consisting of approximately 6,500 connections. Table 1 below provides a breakdown of the types and number of sewer connections served by the City of Dinuba WWTF based on the February 2022 RWD.

Table 1 - Sewer Connections

Type of Connection	Number of Connections
Residential	5,522
Commercial	473
Residential Multifamily	166
City of Dinuba	176
Senior Discount	113
Residential Construction	67
Irrigation	23
Schools	30
Industrial	4

9. The current WWTF's treatment system consists of screening, secondary treatment (activated sludge treatment with the capability of providing denitrification), and secondary clarification. The WWTF currently has twelve ponds. The WWTF effluent is discharged to eleven evaporation/percolation ponds (see Attachment C for a map of the ponds). One additional pond, Pond 6, is used as an emergency wastewater storage basin. Sludge handling includes aerobic digestion followed by sludge dewatering (a screw press and further sludge drying on asphalt pavement). The process is summarized in the process flow diagram in Attachment B.

10. Influent WWTF flows are summarized for 2019 through 2022 in Table 2 below. WWTF flows are significantly less than the design flow of 3.0 MGD. The City's population, according to the 1990 census, was 12,743. The population increased to 24,461 in 2019, according to the 2019 California Department of Finance population estimates, resulting in an average annual population growth rate of 2.28 percent from 1990 to 2019. According to the RWD, assuming a long-term population growth estimate of 2.28 percent, it will take more than 15 years before the current design flow of 3.0 MGD is reached. Data presented for early 2023 showed that the WWTF influent flows significantly increased when there was heavy precipitation events.

Table 2 - Wastewater Flow

Year	Annual Average Flow (mgd)	Minimum Monthly Average Flow (mgd)	Maximum of Monthly Average Flow (mgd)
2019	2.01	1.97	2.05
2020	2.03	1.92	2.10
2021	2.09	2.02	2.15
2022	2.07	2.02	2.12

11. Influent water quality data is limited due to the limited constituents required per MRP 95-200. The 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) influent quality for 2019 through 2022 is summarized in Table 3 below.

Table 3 - Influent Water Quality

Constituent	2019	2020	2021	2022
TSS (mg/L)	615	505	426	436
BOD_5 (mg/L)	364	399	411	420

12. Table 4 below summarizes the effluent wastewater quality discharged to the evaporation/percolation ponds from January 2019 through December 2022 and

compares it to available data from 1995. Overall, the WWTF quality has improved since the current WDRs were adopted. The EC, BOD, and TSS concentrations are significantly lower than characterized in WDRs Order 95-200.

Table 4 - Treated Effluent Quality

Constituent	Units	Minimum	Maximum	Average	1995 Quality
pH	S.U.	5.9	7.9	6.9	--
Electrical Conductivity (EC)	µmhos/cm	700	920	764	1,030
BOD_5	mg/L	1.5	13.5	5.7	55
TSS	mg/L	3.9	44.6	7.5	31
Nitrate as N	mg/L	0.1	17	5.4	--
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	7.4	2.4	--

13. The RWD water balance used an average, area-weighted percolation rate of 2.65 inches/day, 3.00 MGD wastewater flow rate, and a 100-year return annual total precipitation of 27.84 inches per year (distributed monthly, in accordance with average monthly precipitation values). The RWD determined that 50 percent of the pond area would be needed for adequate percolation/evaporation during 100-year return total precipitation year.

Changes to WWTF Since 1995

14. In 1999, the Discharger upgraded the WWTF from a trickling filter system to an activated sludge system. The upgrades reportedly occurred because the BOD and flow loading to the existing trickling filters exceeded their design BOD and flow loading and the WWTF was experiencing effluent BOD_5 violations. Ruiz Food Products, Inc. (started up in 1991) created increased BOD, flows, and oil and grease loading to the WWTF. The single 2.85-million-gallon aeration basin consists of concrete on the bottom and sides, six aerators, and two mixers. The trickling filters were taken out of service but remain at the WWTF.

15. WDRs Order 95-200 stated that the Discharger used treated wastewater to irrigate up to twenty acres of cropland on City-owned property. According to available inspection reports and information in the case file, it appears the City implemented wastewater reclamation through 2005. However, according to the Discharger, the City has not reclaimed wastewater since 2005.

16. In early October 2007, the WWTF ponds were about to overflow due to delayed maintenance of the ponds. Seven of the ten disposal ponds (at that time) were at or above their maximum allowed freeboard elevation. The remaining three ponds were within 0.6 feet of the maximum allowed freeboard. Part of the long-term solution was to add additional disposal ponds. In 2010, the Discharger added two

more unlined evaporation/percolation ponds, Ponds 11 and 12. In addition, the Discharger disks each pond every year and deep rips the ponds as necessary (about every two to four years).

17. In 2010, the Discharger also upgraded the WWTF's sludge management system by adding a high-density polyethylene (HDPE) lined aerobic digester, a screw press, and asphalt pavement for further drying, handling, and removal of the sludge. The current plan is that biosolids will be hauled offsite and land applied by Jim Brisco Enterprises, Inc. at a land application area regulated by State Water Resources Control Board (State Water Board) Water Quality Order 2004-0012-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.* The existing unlined sludge drying beds remaining at the WWTF and are mostly not used. However, sludge drying beds (e.g., Sludge Beds 3, 4, 5, and 6) have been used in emergencies (e.g., when the single sludge screw press breaks down).

18. The following improvements are currently under consideration, or in progress for the WWTF:

    a. Addition of a fourth influent pump;

    b. Replacement of the existing surface aerators for the activated sludge aeration basin with fine bubble diffusers;

    c. Addition of a new 65-foot diameter secondary clarifier for a total of three clarifiers at the WWTF; and

    d. Addition of a new screw press to the existing sludge dewatering facilities for redundancy.

Industrial Pretreatment Considerations

19. 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, affect the ability of wastewater to percolate into the soil, 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.

20. The Discharger began implementing an Industrial Pretreatment Program in 1994 to address consistent problems with the industrial waste discharges (primarily from food processors) to the WWTF (e.g., grease loading upsetting the biological treatment processes and sealing of the bottoms of the percolation/evaporation ponds). WDRs 95-200 states the program was effective in decreasing grease and organic matter in the waste stream and significantly decreased the likelihood of biological upsets at the treatment facility.

21. Currently, the City of Dinuba reportedly has one Significant Industrial User (SIU) that discharges to the City's collection system, Ruiz Food Products, Inc. Monthly average of daily flows and monthly average of BOD_5 readings for their discharge for 2021 and first 6.5 months of 2022 are summarized in Table 5 below. The number in parentheses in the top portion of each cell is the number of months. The number in parentheses in the bottom portion of each cell is the range of values.

Table 5 - Flow and BOD From Ruiz Food Products, Inc.

	2021	2022
Monthly Average Flow (gpd)	220,000 (12) (180,000 -248,000)	199,000 (7) (180,000 – 213,000)
Monthly Average BOD_5 (mg/L)	775 (12) (411 – 2,069)	580 (7) (453 -705)

22. Based on available information, the City of Dinuba has an Industrial Pretreatment Program; however, it is unclear if the program is adequate to meet the Facility's needs, and to prevent the various potential issues associated with discharges of industrial waste to the WWTF. Therefore, these WDRs require the Discharger to conduct an evaluation of the City's current Industrial Pretreatment Program and either demonstrate it is adequate to meet the WWTF's needs or provide a work plan for updating the City's Industrial Pretreatment Program.

Site-Specific Conditions

Topography, Climate and Land Use

23. The site elevation at the WWTF is approximately 318 to 325 feet above mean sea level and is mostly flat. The maximum slope of around 6% occurs at the side slope of the former landfill (see Attachment C). The soils below the site are primarily Delhi loamy sand (62.9%) on the western side of the site, Flamen loam (8.2%) along the eastern border of the site, and Hanford sandy loam (28.9%) between the other two areas, according to the Web Soil Survey published by the United States Department of Agriculture, Natural Resources Conservation Service. As part of the water balance for the February 2022 RWD, RWD estimated a percolation rate for each of the twelve ponds, then computed an area-weighted average percolation rate of approximately 2.65 inches per day.

24. The Dinuba WWTF is in a semi-arid climate characterized by hot, dry summers and cool winters. The rainy season generally extends from October through April. Based on the data from the nearest, similar California Irrigation Management System (CIMIS) station (Station 39- Parlier), the area has an annual average (1984-2022) precipitation of 10.5 inches, and an average reference evapotranspiration (ET) of 54 inches per year. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal), the Facility is not located within a 100-year floodplain.

25. Land uses in the vicinity include a golf course on city-owned land, deciduous crops, vineyards, citrus and subtropical crops, and pasture. Residential development for the City is moving west. There is also a housing development bordering the west side of the golf course.

Groundwater and Subsurface Conditions

26. The City obtains its source water from eight groundwater supply wells. Average source water quality data for selected parameters from the City's 2017, 2019, and 2021 (the years that are available) Annual Drinking Water Quality Reports (https://sdwis.waterboards.ca.gov/PDWW/JSP/WaterSystemDetail.jsp?tinwsys_is_number=5932&tinwsys_st_code=CA&wsnumber=CA5410002) are presented in Table 6 below.

Table 6 - Source Water Quality

Constituent	Units	2017	2019	2021
EC	µmhos/cm	400	400 (see note 1)	399

Constituent	Units	2017	2019	2021
TDS	mg/L	254	254 (see note 1)	266
Nitrate as N	mg/L	5.6	4.4	5.8
Iron	µg/L	67.4	234	30
Sulfate	mg/L	11	11 (see note 1)	14
Chloride	mg/L	26	26 (see note 1)	21

1. The required monitoring frequency for this constituent is once every three years so the 2019 listed result is a restatement of the 2017 result.

27. The WWTF is located in the eastern portion of Kings Subbasin, which generally consists of a single unconfined to semi-confined aquifer system. WDRs Order 95-200 states groundwater was first encountered at depths to 53 to 62 feet below ground surface (bgs). However, chronic groundwater level declines have been documented across wide areas of the Kings Subbasin. For the third quarter of 2022, the groundwater level in the active monitoring wells at the Facility ranged between 82 to 90 feet bgs.

28. The Fall 2022 California Department of Water Resources (DWR) Sustainable Groundwater Management Act (SGMA) map (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels) generally shows that regional groundwater flow is from north to south. The Discharger's monitoring/annual reports indicate a groundwater mound/ridge is present below the WWTF's percolation ponds. The mound/ridge has been present intermittently since at least 2002.

29. The WWTF has a groundwater monitoring well network consisting of ten groundwater monitoring wells (see Attachment C for monitoring well locations). Out of the ten monitoring wells, only four monitoring wells (MW-3, MW-6A, MW-8, and MW-9) still can regularly be sampled. Most of the other wells went dry between 2009 and 2010. MW-2 went dry in 2013. MW-1 went dry in 2015.

30. Table 7, below, presents the monitoring well network construction details. Groundwater monitoring wells MW-1, MW-2, and MW-3 were installed in the early 1990s (Attachment C) around the former landfill. Groundwater monitoring wells MW-4, MW-5, MW-6, and MW-7 were installed in 2002. MW-4 and MW-5 were installed to monitor groundwater downgradient of the sludge drying beds. MW-6 was installed to serve as a downgradient monitoring well for the percolation ponds and to monitor water quality in the mound. MW-7 was installed to serve as an upgradient well. MW-7 was damaged during construction in 2009 and was replaced with MW-7R. To address decreased groundwater conditions and dry monitoring wells, the Discharger installed MW-6A, MW-8, and MW-9 in

2018 as downgradient wells. Further information about the monitoring wells is included below.

Table 7 – Monitoring Wells Construction Details

Well No.	Date Completed	Drilled Depth (feet)	Annular Seal (feet)	Perforated Interval (feet)	Gravel Pack (feet)
MW-1	6/30/92	83	0-50	58-78	50-80
MW-2	7/1/92	75	0-50	55-75	50-75
MW-3	7/3/92	100	0-70	80-100	70-100
MW-4	3/11/02	49	0-15	19-49	15-55
MW-5	3/13/02	50	0-15	20-50	15-52
MW-6	3/12/02	59	0-21	29-59	21-63
MW-6A	5/21/18	121	0-85	95-120	90-121
MW-7	4/10/02	49	0-15	19-49	15-55
MW-7R (see note 1)	8/14/09	80	0-39	40-80	39-80
MW-8	5/22/18	161	0-125	135-161	130-161
MW-9	5/23/18	121	0-85	95-120	90-121

1. MW-7R replaced MW-7.

31. Table 8, below, summarizes available groundwater data for 2020 through 2022 from the onsite groundwater monitoring well network. MW-3, MW-6A, and MW-8 have similar constituent concentrations, generally representative of the Facility's percolated effluent quality. MW-9 appears to be influenced by the seepage from the nearby canal, Kennedy Wasteway. The number of reported sample results for this period was typically eight results. Presently there is no upgradient monitoring well. This Order requires the Discharger to reevaluate the existing monitoring well network to determine if it is adequate for monitoring the Facility's impact on underlying groundwater. Based on staff's review of available information, the Facility's monitoring well network does not have sufficient active wells to monitor the groundwater conditions upgradient of the Facility and evaporation/percolation ponds and downgradient of the aerobic digester and asphalt-paved sludge drying areas.

Table 8 - Current Monitoring Well Data

Constituent	Units	MW-3	MW-6A	MW-8	MW-9
EC	µmhos/cm	973 (910-1000)	835 (750-920)	819 (800-830)	398 (330-490)
TDS	mg/L	640 (600-680)	544 (460-600)	559 (530-560)	269 (210-310)

Constituent	Units	MW-3	MW-6A	MW-8	MW-9
Chloride	mg/L	119 (110-130)	111 (100-130)	106 (100-120)	48 (20-62)
Sodium	mg/L	92 (86-96)	128 (110-140)	109 (100-110)	65 (49-79)
Nitrate as N	mg/L	5.6 (3.6 – 8.3)	3.1 (1.9-5.4)	2.6 (2.2-3.2)	1.1 (0.7-1.4)
Calcium	mg/L	81 (74-89)	39 (30-49)	44 41-47	14 (7.5-22)
Magnesium	mg/L	28 (26-31)	14 (11-16)	19 (17-21)	5 (3-7.1)
Sulfate	mg/L	52 (43-60)	48 (26-66)	54 (34-78)	22 (14-34)
Iron	mg/L	ND (ND-1.7)	ND (ND - ND)	ND (ND - ND)	ND (ND - ND)
Potassium	mg/L	4.2 (4 – 4.6)	3.2 (3-3.4)	4.0 (3.9-4.1)	2.7 (2-4.8)

Statutory Authority

32. 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.*

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

34. 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).).

35. 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.*

36. 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

37. 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

38. This Order implements the Central Valley Water Board's Water Quality Control Plan for the Tulare Lake 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.)

39. Per the Basin Plan, beneficial uses of underlying groundwater at the Facility include the following: municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PRO), water contact recreation (REC-1), and wildlife habitat (WILD).

Water Quality Objectives

40. The numeric WQO for bacteria is expressed as the most probable number (MPN) of coliform organisms per 100 mL of water. For MUN-designated groundwater, the objective is 2.2 MPN/100 mL over any seven-day period.

41. The narrative WQO for chemical constituents in groundwater generally provides that groundwater shall not contain constituents in concentrations adversely affecting beneficial uses. For MUN-designated waters, the Basin Plan further requires that such water, at a minimum, meet the primary and secondary

maximum contaminant levels (MCLs) specified in California Code of Regulations, title 22 (Title 22).[1] (See Title 22, §§ 64431, 64444, 64449.)

42. 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.

43. To the extent necessary, narrative WQOs are quantified, on a site-specific basis, as numeric limits for constituents with potential to adversely impact designated uses. In determining a site-specific numeric limit, the Central Valley Water Board considers relevant published criteria.

Salt and Nitrate Control Programs

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

For the Salt Control Program, dischargers that are unable to comply with stringent salinity requirements will instead need to meet performance-based requirements and participate in a basin-wide effort known as the Prioritization and Optimization Study (P&O Study) to develop a long-term salinity strategy for the Central Valley. The Discharger was issued a Notice to Comply for the Salt Control Program on 5 January 2021 (**CV-SALTS ID: 2660**). The Discharger elected to participate in the P&O Study (i.e., Alternative Permitting Approach). In the interim, to maintain existing salt discharges and minimize salinity impacts, this Order does the following:

a. Requires the discharger to continue efforts to control salinity in its discharge to the extent reasonable, feasible, and practicable; and

b. Sets a Salinity Action Level for the discharge of treated wastewater to the evaporation/percolation ponds. The current WDRs include an Electrical Conductivity (EC) limit of source water concentration plus 500 µmhos/cm,

[1] The Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

based on the Tulare Lake Basin Plan's effluent limitations for discharges to land. This EC limit was removed as part of the Basin Plan amendments adopted by Resolution R5-2018-0034. Based on the available data, the Facility's discharge has historically complied with this limit, as shown in Table 9, below. Therefore, to ensure the City maintains current salinity discharge concentrations, these WDRs specify an EC Salinity Action Level of
500 µmhos/cm plus source water.

Table 9 - Influent and Effluent EC Data

Year	Source Water EC[1] (µmhos/cm)	Effluent EC[1] (µmhos/cm)	Net EC Increase (µmhos/cm)
2019	388 (1)	739 (12)	351
2020	379 (1)	767 (12)	388
2021	436 (1)	785 (12)	349
2022	434 (1)	766 (11)	332

1. The number in parentheses is the number of monthly average sample results.

45. The Discharger was sent a Notice to Comply letter for the Nitrate Control Program on 29 May 2020. For the Nitrate Control Program, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the new nitrate program either individually (Pathway A) or collectively with other dischargers (Pathway B). The Facility is in the Groundwater Subbasin 5-22.08 (San Joaquin Valley Groundwater Basin – Kings Subbasin), a Priority 1 basin/sub-basin. In response to the Nitrate Notice to Comply, the Discharger selected Pathway B on 8 March 2022. The Discharger is currently an active participant in the Kings Management Zone.

46. 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

47. The *Statement of Policy with Respect to Maintaining High Quality Waters in California*, State Water Board Resolution 68-16 (Antidegradation Policy), which is incorporated as part of the Basin Plan, prohibits the Central Valley Water Board from authorizing degradation of "high quality waters" unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in

water quality less than as prescribed in applicable policies; and (3) is minimized through issuance of WDRs that will result in the best practicable treatment or control (BPTC).Groundwater quality monitoring at the Facility dates to the 1990sCompliance with the Antidegradation Policy will be determined based on available data from the 1990s (Antidegradation Baseline).

48. To better characterize groundwater conditions, staff reviewed available historic groundwater quality data (e.g., onsite groundwater monitoring data from 1997). WDRs Order 95-200, Information Sheet, stated groundwater was generally of good quality for salinity with EC around 345 µmhos/cm to 500 µmhos/cm. Table 10, below, compares the 1997 groundwater monitoring well network concentrations to current groundwater concentrations. The data cited in Table 10, from 2020 to 2022, is data from Monitoring Wells MW-3, MW-6A, MW-8, and MW-9, which includes downgradient data and groundwater under the influence of seepage from the Kennedy Wasteway.

Table 10 - Comparison of Groundwater Quality for 1997 and 2020-2022

Constituent/Parameter	1997 Groundwater Quality	2020-2022 Groundwater Quality
Nitrate (as N)	1.6 to 21.7 mg/L	0.7 mg/L to 5.4 mg/L
TDS	243 mg/L to 784 mg/L	210 mg/L to 680 mg/L
EC	768 µmhos/cm to 1,275 µmhos/cm	270 µmhos/cm to 1,000 µmhos/cm
Chloride	36 mg/L to 165 mg/L	20 mg/L to 130 mg/L

49. Constituents of concern (COCs) that have the potential to degrade groundwater include salinity (i.e., EC or TDS), nitrogen (nitrate as nitrogen and TKN), and pathogens (i.e., total coliform), as discussed below. No total coliform data is shown in Table 11, as there is no current total coliform data (effluent or groundwater).

Table 11 - Constituents with Potential for Degradation

Constituent	Units	Effluent[1]	1997 Groundwater Quality	Down-gradient wells[2]	MCLs
EC	µmhos/cm	764 (700-920)	768 -1,275	330–1,000	900 – 1,600
TDS	mg/L	-	243 - 784	210-650	500-1,000
Nitrate (as N)	mg/L	5.4 (0.1 – 17)	1.6 – 21.7	1.9-8.3	10
TKN	mg/L	2.4 (0.9 – 7.4)	-	-	-

1. Range of effluent values from 2019 through 2022.

2. Range of down-gradient groundwater monitoring values for 2020 through 2022.

   a. **Salinity (EC and TDS).** The Facility's annual average effluent EC level was 739 µmhos/cm in 2019, 767 µmhos/cm in 2020, 785 µmhos/cm in 2021, and 766 µmhos/cm for 2022. Current background groundwater data is unavailable for the Facility. However, the current downgradient groundwater data for the Facility shows similar or improved salinity concentrations compared to the 1997 groundwater quality. Based on the available data, some salinity degradation may result from the Facility's discharge. Current groundwater data shows downgradient salinity concentrations around or below the lower secondary MCLs but generally above the conservative 700 µmhos/cm numeric salinity value that is protective of the AGR beneficial use during Phase 1 of the Salt Control Program.

   To comply with the Salt Control Program, the Discharger selected to participate in the P&O Study, a basin-wide planning effort to develop a long-term salinity strategy for the Central Valley. Meanwhile, to help ensure the Discharger continues to implement salinity reduction and control measures and to protect groundwater quality, this Order includes a Salinity Action Level. Based on available source water EC and effluent EC values, the net increase (source water versus effluent) in the WWTF's discharge ranged from 332 µmhos/cm to 388 µmhos/cm for 2019 to 2022 (Table 9 above). Therefore, this Order includes a Salinity Action Level of the source average EC plus 500 µmhos/cm (as an annual average).

   b. **Nitrogen.** The Facility is an activated sludge system and the operators set the aerators to turn on and off, via a timer, allowing the creation of alternating high oxygen (aerobic) and low (or no) oxygen with nitrate present (anoxic) conditions in the aeration tank. The presence of anoxic conditions encourages the growth of denitrifying organisms, which converts nitrate to nitrogen gas and results in removal of nitrate from the wastewater. The Facility's annual effluent average TKN plus nitrate (typically the two principal sources of nitrogen in domestic wastewater) was 10.8 mg/L for 2019, 6.4 mg/L for 2020, 5.0 mg/L for 2021, and 9.1 mg/L for 2022. These values are close to or below the 10 mg/L nitrate drinking water MCL. Similarly, recent groundwater nitrate (as N) levels are all less than 10 mg/L (Table 11 above), which is improved conditions compared to 1997. The 1997 groundwater quality data showed nitrate (as N) readings above 10 mg/L.

   Nevertheless, to comply with the Nitrate Control Program, the Discharger elected to participate in the Kings Water Alliance Management Zone for the Nitrate Control Program to address nitrate issues in the local management zone.

c. **Pathogens.** The Facility does not provide disinfection as part of the treatment process. Currently groundwater is found around 82 and 90 feet bgs and the deepest ponds are around 8 feet deep. Prior to effluent reaching groundwater, effluent percolates through about 70 feet of soil composed of fine, medium, and coarse sands with some clay particles, which is expected to be sufficient to filter out pathogens (e.g., total coliform) and to prevent groundwater degradation with regards to total coliform. Therefore, the Facility's discharge should not have a significant impact on underlying groundwater with respect to total coliform. Nevertheless, the MRP requires the Discharger to monitor all groundwater monitoring wells for total coliform to evaluate any impacts to groundwater related to the Facility's discharge.

50. 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.

51. Generally, limited degradation of groundwater by some of the typical constituents of concern (e.g., EC and nitrate) released with the discharge from a municipal wastewater utility after effective source control and treatment, is consistent with maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. The degradation will not unreasonably affect present and anticipated beneficial uses of groundwater or result in water quality less than water quality objectives.

52. The Discharger proposes or the WDRs will require the Discharger to implement the following BPTC measures, which will minimize the extent of water quality degradation resulting from the Facility's discharge:

a. Secondary treatment of wastewater;

b. Compliance with flow, BOD, and TSS limitations;

c. Groundwater monitoring to monitor the potential impact of the Facility's discharge on the underlying groundwater;

d. Compliance with the Salt and Nitrate Control Programs;

e. Implementation of a pretreatment program;

f. Application of an EC Salinity Action Level of source plus 500 µmhos/cm;

g. Sludge/biosolids transported offsite for disposal;

h. Discontinue use of unlined sludge drying beds and cleanout of the old sludge drying beds; and

i. Use of certified operators to ensure proper operation and maintenance of the WWTF.

53. Based on the foregoing, the adoption of this Order is consistent with the State Water Board's Antidegradation Policy.

California Environmental Quality Act

54. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., a draft Environmental Impact Report (EIR) for the Dinuba Reclamation, Conservation, and Recreation and Wastewater Treatment Plant Master Plan (including installation of an improved sludge dewatering system) was circulated on 8 May 2006, a public hearing was held 12 June 2006, and the Final EIR was issued in June 2006. The discharges and other activities authorized under this Order fall within the scope of the proposed Project, as contemplated in the EIR.

Other Regulatory Considerations

Water Code Section 13149.2

55. These WDRs regulate a facility that may impact a disadvantaged community and includes an alternative compliance path that allows the Discharger time to come into compliance with water quality objectives (i.e., nitrogen and salinity). The Discharger has joined with other dischargers in the Kings Water Alliance Management Zone as part of the Nitrate Control Program to ensure safe drinking water for affected person(s). In addition, the Discharger has selected the Alternative Salinity Permitting Approach for the Salt Control Program, which provides an alternative approach for compliance with salinity limits through implementation of specific requirements (i.e., support facilitation and completion of the Salinity P&O Study). The Central Valley Water Board has satisfied the outreach requirements set forth in Water Code section 189.7 by conducting outreach in affected disadvantaged and tribal communities through its notice and comment procedures. Pursuant to Water Code section 13149.2, and as discussed in the following findings, the Central Valley Water Board reviewed readily available information and information raised by interested persons concerning anticipated water quality impacts in disadvantaged communities resulting from adoption of this Order. The Board also considered environmental justice concerns within the Board's authority previously raised by interested persons with regard to those impacts.

56. The Central Valley Water Board anticipates that the issuance of this Order may result in water quality impacts within the scope of the Board's authority. Specifically, this Order authorizes the continued discharge of wastewater with salinity concentrations above applicable WQOs. The WWTF's recent effluent EC averages around 760 µmhos/cm. Salinity (e.g., EC) concentrations in the immediate downgradient monitoring wells are generally above the 700 µmhos/cm numeric value protective of the AGR beneficial use and around or below the lower secondary MCLs. As discussed in the Findings above, the WWTF effluent net increase in salinity (compared to source water) ranges from 332 µmhos/cm to 388 µmhos/cm, which is reasonable for a domestic wastewater treatment facility. Furthermore, the Central Valley Water Board is unaware if the WWTF impacted nearby drinking water wells. With regards to nitrate, the WWTF's effluent has generally been below 10 mg/L (the nitrate primary MCL is 10 mg/L) and data from nearby groundwater wells show water quality levels below 10 mg/L for nitrate.

57. The Central Valley Water Board has identified the following measures available and within the scope of its authority to address the impacts of the Facility to nearby disadvantaged communities in Kings County: 1) require active participation in the P&O Study and compliance with the Salt Control Program, which is intended to identify long-term salinity management and control practices

and/or technologies; 2) require active participation in the Kings Water Alliance Management Zone and compliance with the Nitrate Control Program, which has the goals to ensure safe drinking water supply and achieve balanced nitrate loading within the management zone; 3) maintain current discharge concentrations for salt (e.g., establishing a Salinity Action level); 4) require sampling and monitoring of effluent and groundwater for nitrogen and salinity, 5) evaluate the City's existing pretreatment program, and 6) require the Discharger to cease the use of unlined sludge drying beds. All of these measures are required by this Order.

Human Right to Water

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

Threat-Complexity Rating

59. 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 waste discharge not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.

Title 27 Exemption

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

Stormwater

61. This Order does not cover stormwater and other discharges that are subject to the Clean Water Act's National Pollution Discharge Elimination System (NPDES). All onsite storm water is collected onsite. Onsite storm water is either collected and sent directly to the headworks or it collects in contained areas (e.g., the ponds) and percolates into the ground. Because all storm water at the WWTF is collected and disposed of onsite, the Discharger is not required to obtain coverage under *State 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

62. The City of Dinuba wastewater collection system consists of approximately seventy-two (72) miles of collection pipes. Wastewater flows to the WWTF by gravity and force mains. There are a total of eleven (11) lift or pump stations in the City of Dinuba service area.

63. Sanitary Sewer Overflows[2] (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

[2] 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.

mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor-caused blockages.

64. On 6 December 2022, the State Water Board adopted and on 5 June 2023 *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, State Water Board Order 2022-0103-DWQ (SSO General Order) became effective. It 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 of Dinuba's collection system exceeds one mile in length and the City of Dinuba has been enrolled under the SSO General Order since 5 June 2023.

Biosolids

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

Groundwater Wells

66. 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. 1981.)

67. 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

68. This Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein.

69. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and

timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (ROWD) per Water Code section 13260.

70. Failure to file a new ROWD before initiating material changes to the character, volume or timing of discharges authorized herein, shall constitute an independent violation of these WDRs.

71. 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

72. 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.

73. 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.)

74. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

75. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267: that WDRs Order 95-200 is rescinded (except for enforcement purposes); and that the Discharger and their agents, employees and successors shall comply with the following.

A. Standard Provisions and Reporting Requirements

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

B. Discharge Prohibitions

1. Waste classified as "hazardous" (per Cal. Code Regs., tit. 22, § 66261.1 et seq.) shall not be discharged at the Facility under any circumstance.

2. Waste constituents shall not be discharged or otherwise released from the Facility (including during treatment and storage activities) in a manner that results in:

   a. Violations of the Groundwater Limitations of this Order; or

   b. Conditions of “nuisance” or “pollution,” as defined per Water Code section 13050.

3. Except as otherwise expressly authorized in this Order, sewage and other waste shall not be discharged to surface waters or surface water drainage courses.

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.

5. Waste shall not be discharged from the Facility in a manner other than as described in this Order.

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

7. Discharge of wastewater from the wastewater treatment facility to the onsite former landfill, or adjacent to the onsite former landfill, such that it increases moisture in the fill material, is prohibited.

C. Flow Limitation

1. Influent monitored at INF-001 (as defined in the MRP), shall not exceed a monthly average daily dry weather flow of 3.0 million gallons per day (MGD).

D. Effluent Limitations

1. Effluent discharged to the evaporation/percolation ponds monitored at EFF-001 (as defined in the MRP), shall not exceed the limits specified in Table 12 below.

Table 12 - Effluent Limits

Constituent	Monthly Average	Daily Maximum
BOD_5	40 mg/L	80 mg/L
TSS	40 mg/L	80 mg/L

E. Salinity Action Level

1. To comply with the Salt Control Program, the Discharger selected the Alternative Salinity Permitting Approach (i.e., participate in the P&O Study). Therefore, as discussed in the Order Findings, this Order establishes a **Salinity Action Level of 500 µmhos/cm above the source water EC (as an annual average)**. As part of the Annual Monitoring report required per the MRP, the Discharger shall calculate the Facility's annual average effluent EC concentration (monitored at EFF-001) and the City's source water and compare the net increase to the Salinity Action Level. If the Facility's discharge exceeds the Salinity Action Level, the Discharger shall submit a **Salinity Action Level Report by 1 March** of the year following the exceedance of the Salinity Action Level. The Salinity Action Level Report shall, at a minimum, include the following:

    a. An evaluation of the Facility's salinity effluent levels. This evaluation shall discuss any changes to the source water for the area served by the WWTF, any new industrial dischargers discharging to the WWTF, any increased conservation efforts implemented within the WWTF service area (with flow data demonstrating decreased flows to the WWTF), and any other changes to the WWTF's collection or treatment system that could have contributed to the increased salinity concentrations.

    b. If additional time is needed to investigate the source(s) of the salinity in the Facility's discharge, the Salinity Action Level Report shall include a detailed work plan describing what actions the Discharger will conduct (with completion dates) to investigate the source(s) of salinity and report its findings to the Central Valley Water Board. The findings from the investigations shall be submitted to the Central Valley Water Board **no later than October 1st** of the year following the exceedance of the Salinity Action Level.

    c. The Salinity Action Level Report shall evaluate the potential impact the increased salinity concentrations could have on underlying groundwater and downgradient users. If additional time is needed

for this evaluation, the Salinity Action Level Report shall propose a submittal date (no later than October 1st of the year following exceedance of the Salinity Action Level).

F. Discharge Specifications

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

2. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.

3. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.

4. The discharge shall remain within the permitted evaporation/percolation ponds at all times.

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 (including the evaporation/percolation ponds) at an intensity that creates or threatens to create nuisance conditions.

8. As a means of ensuring compliance with Discharge Specification F.6, the dissolved oxygen (DO) content in the upper one foot of any evaporation/percolation pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If the DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Central Valley Water Board in accordance with **Section B.1** of the SPRRs. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.

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. 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. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications F.8 and F.9.

12. The Discharger shall properly maintain the WWTF evaporation/percolation ponds (e.g., disking and ripping the ponds as necessary) to ensure the ponds have sufficient percolation rates to comply with these WDRs.

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 evaporation/percolation ponds at least every five years beginning in 2024 and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir exceeds five percent of the permitted reservoir capacity, the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

G. Groundwater Limitations

Discharges of waste shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or background quality, whichever is greater:

1. Total coliform organism level of 2.2 MPN/100 mL over any seven-day period.

2. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, excluding salinity and nitrate provided the Discharger complies with Provision J.3 (i.e., complies with the Salt and Nitrate Control Programs).

3. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

H. Solids Disposal Specifications

1. Sludge[3] and Solid Waste[4] shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.

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

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

2. Onsite handling and storage of Residual Sludge,[5] Solid Waste, and Biosolids[6] shall be temporary (two 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. Specifically, **by 15 April 2026 as specified in Provision J.5**., the Discharger shall only store residual sludge, solid waste, or biosolids on properly lined surfaces with adequate containment systems.

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 2004-0012-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 2004-0012-DWQ, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 Code of Federal Regulations part 503, which are subject to enforcement by the U.S. EPA, not the Central Valley Water Board. If during the life of this Order, the State accepts primacy for

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

[6] 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.

implementation of part 503, the Central Valley Water Board may also initiate enforcement where appropriate.

6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

7. The Discharger shall maintain the integrity of the lined aerobic digester and asphalt-paved sludge drying area. Every three years, beginning in 2024, the Discharger shall test the integrity of the aerobic digester liner and the sludge drying area asphalt. If the testing determines the liner or asphalt integrity has been compromised (i.e., significant leaks), the Discharger shall provide a work plan (within three months) proposing a schedule to repair the liner and/or asphalt.

I. Pretreatment Provisions

1. The Discharger shall implement the necessary legal authorities, programs, and controls to ensure that the following wastes are not introduced to the treatment system:

   a. Wastes which create a fire or explosion hazard in the wastewater collection system or treatment works;

   b. Wastes which will cause corrosive structural damage to the treatment works;

   c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

   d. Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and/or loss of treatment efficiency;

   e. Heat in amounts that inhibit or disrupt biological activity in the treatment works unless it is designed to accommodate such heat;

   f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through; and

g. Any trucked or hauled wastewater or septage, except at points predesignated by the Discharger and subject to above conditions.

2. The Discharger shall implement the legal authorities, programs, and control necessary to ensure that industrial dischargers do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

   a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or

   b. Inhibit or disrupt treatment process or treatment system operations and either cause a violation of this Order or prevent water recycling, biosolids reuse, or sludge disposal.

3. The Discharger shall provide the requisite funding and personnel to implement the pretreatment program, conduct inspections and sampling and analysis of industrial discharges as needed, and use any available legal means to ensure compliance with the pretreatment program.

4. The Discharger shall periodically review the pretreatment program and make any changes that are needed to ensure compliance with this Order. Any update to the Discharger's pretreatment program shall be submitted for approval by the Executive Officer. Until any revised pretreatment program is approved, the Discharger shall implement the existing pretreatment program.

J. Provisions

1. The Discharger shall comply with the separately issued MRP R5-2023-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.

2. A copy of this Order including the MRP, Information Sheet, Attachments, and SPRRs, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

3. The Discharger shall comply with the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (and revised per Resolution R5-2020-0057) for addressing ongoing salt and nitrate accumulation in the Central Valley developed as part of the Central Valley Salinity Alternatives

for Long-Term Sustainability (CV-SALTS) initiative. As described in the Findings, the Discharger selected to be an active participant in the P&O Study for the Salt Control Program and Kings Management Zone for the Nitrate Control Program.

4. By **15 April 2024,** the Discharger shall submit a **Sludge Management Plan.** At a minimum, the plan shall include the following:

   a. Estimate the amount of sludge and scum generated from the WWTP.

   b. Describe how sludge (including sludge from the evaporation/percolation ponds), scum, and supernatant will be stored and disposed of to protect groundwater quality. Specifically, the Work Plan should demonstrate that all current and proposed storage, processing, and disposal systems are properly lined and contain a sufficient containment system.

   c. Describe the treatment, management, and storage requirements for the sludge and supernatant or water removed from the sludge, if the sludge will be subject to further treatment.

   d. Describe treatment and disposal of the residuals. If drying of residuals is planned, describe how that will be performed to prevent nuisance odors, prevent vectors, and protect groundwater quality.

   e. Describe cleaning of the aerobic digester, screw press, any other sludge processing equipment, and storage area.

   f. Discuss redundancy for the sludge management/processing equipment and the process for handling sludge if equipment breaks (e.g., the screw press, aerators, blowers, pumps, etc.).

   g. Include a list of required spare parts/equipment to have on site.

   h. Include an Operations and Maintenance Manual for the sludge management system, including a summary of scheduled maintenance required for the sludge management system.

5. By **15 April 2024**, the Discharger shall submit an **Unlined Sludge Surfaces Closure Work Plan** for Executive Officer approval that proposes actions to permanently decommission the unlined sludge drying beds at the WWTF such that they no longer threaten to violate Solids Disposal Specification H.2. The Work Plan shall include an implementation plan and schedule for actions with a final compliance date

no longer than **15 April 2026**. The Work Plan shall also include actions for sampling and removing impacted soils within the sludge drying beds.

6. **By 15 April 2024,** the Discharger shall submit a **Groundwater Monitoring Work Plan** that evaluates the adequacy of the current groundwater monitoring network and proposes a time schedule to install additional monitoring wells, as needed, to provide adequate coverage of the Facility and percolation/evaporation ponds. Specifically, the work plan shall propose the necessary monitoring wells to monitor groundwater conditions upgradient of the Facility and percolation/evaporation ponds and downgradient of the aerobic digester and sludge drying area. The Work Plan shall be prepared in accordance with, and include the items listed in the first section of **Attachment E** (Requirements for Monitoring Well Installation Work plans and Monitoring Well Installation Reports) incorporated herein.

7. Within nine months of the Executive Officer approval of the *Groundwater Monitoring Well Installation Work Plan* required per Provision J.6., the Discharger shall submit a **Groundwater Monitoring Well Installation Report** for all new groundwater monitoring wells constructed to comply with Provision J.6. The report shall be prepared in accordance with, and including the items listed in, the second section of **Attachment E** (Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports). The report shall describe the installation and development of all new monitoring wells and explain any deviation from the approved Work Plan.

8. By **14 October 2024,** the Discharger shall submit an **Industrial Pretreatment Program Evaluation.** The evaluation shall discuss the status of the current program, including administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels. The evaluation shall either provide a demonstration the current program is sufficient for the City to properly regulate industrial wastes discharge to the WWTF's collection system or a work plan (with specific deadlines) for updating the City's Industrial Pretreatment Program.

9. 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.

10. 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.

11. 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.

12. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.

13. 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.

14. 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.

15. 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.

16. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. section 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to SERC.

17. The Discharger shall comply with the requirements of the *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems* (Order WQ 2022-0103-DWQ), and any subsequent revisions thereto. Order WQ 2022-0103-DWQ requires the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.

18. 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.

19. 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.

20. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of SPRRs, 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.

21. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

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 — Process Flow Diagram

ATTACHMENT C — Pond and Well Map

ATTACHMENT D – Treatment Facility Map

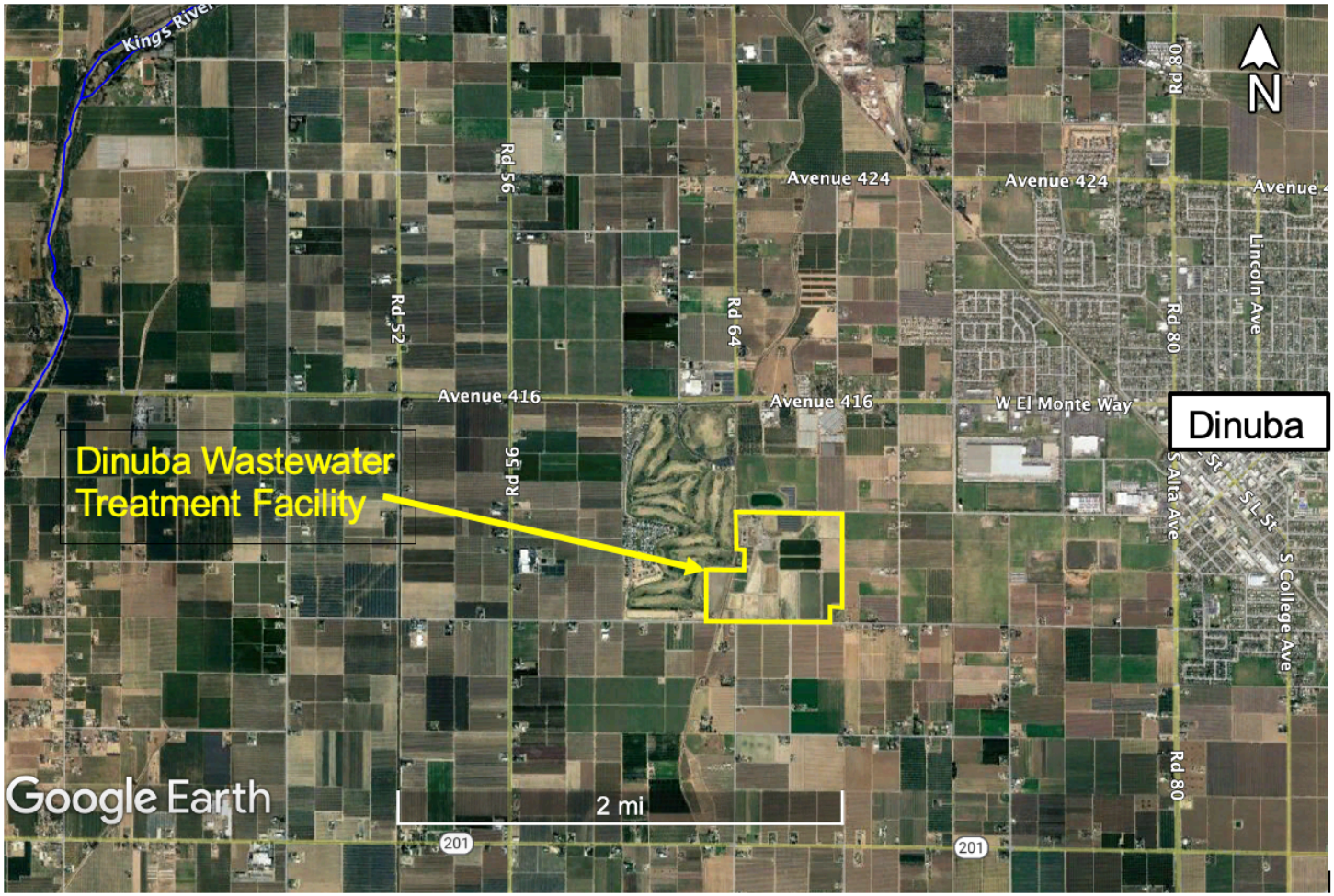
ATTACHMENT E – Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

Standard Provisions & Reporting Requirements

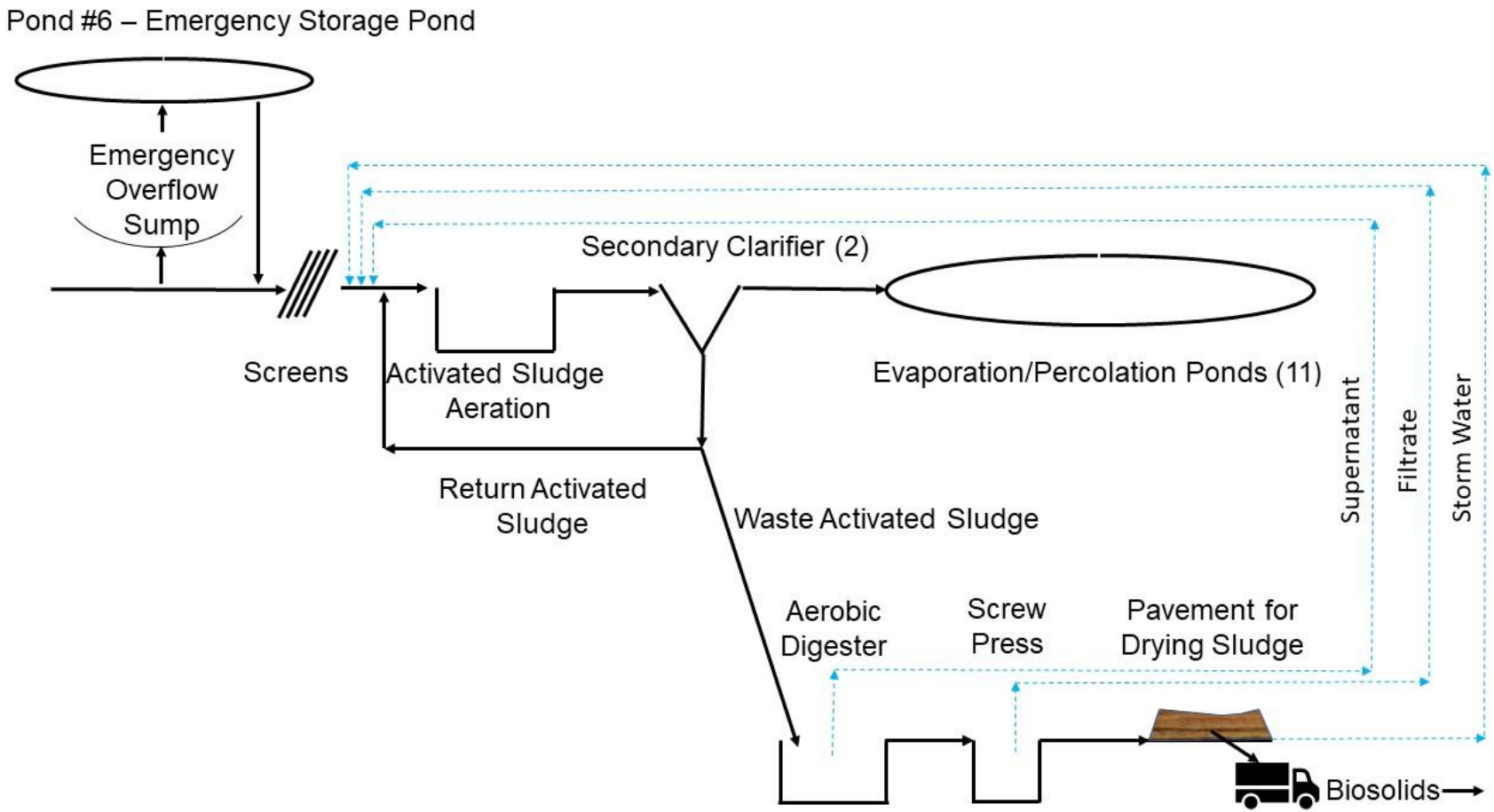
Information Sheet

Monitoring and Reporting Program R5-2023-XXXX

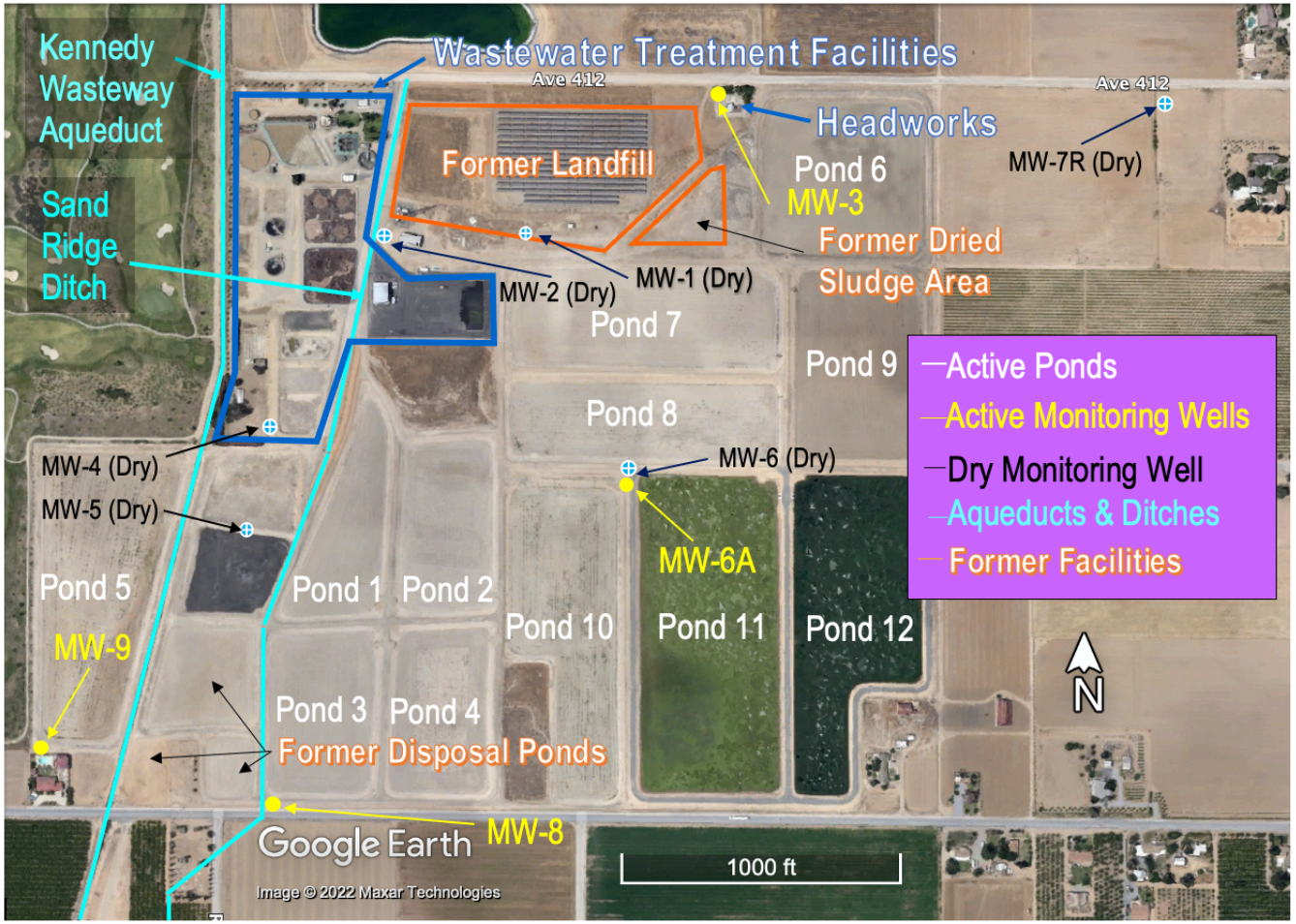
ATTACHMENT A — SITE LOCATION MAP



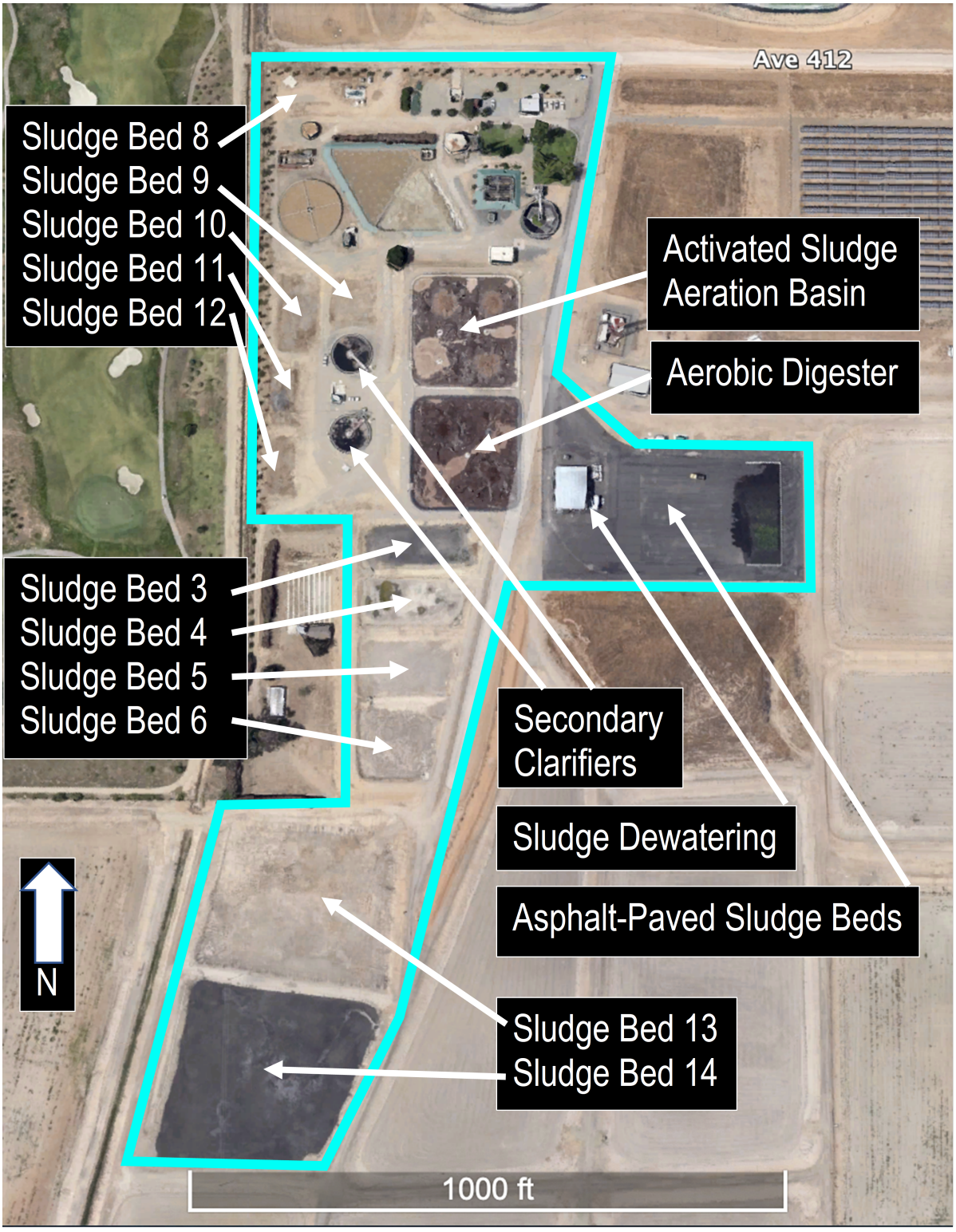
ATTACHMENT B — PROCESS FLOW DIAGRAM



ATTACHMENT C — POND AND WELL MAP



ATTACHMENT D — TREATMENT FACILITY MAP



ATTACHMENT E — REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND MONITORING WELLS INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approves the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2 below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

SECTION 1 - Monitoring Well Installation Workplan and Groundwater Sampling and Analysis Plan

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:

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

B. Drilling Details:

- Description of the on-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):

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

- **D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):**
    - Method of development to be used (i.e., surge, bail, pump, etc.)
    - Parameters to be monitored during development and record keeping technique
    - Method of determining when development is complete
    - Disposal of development water

- **E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):**
    - Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
    - Datum for survey measurements
    - List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

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

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

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

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

SECTION 2 - Monitoring Well Installation Report

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

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells
- Number of monitoring wells installed and copies of County Well Construction Permits
- Topographic map showing facility location, roads, surface water bodies

- Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

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

- On-site supervision of drilling and well installation activities
- Drilling contractor and driller's name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals and logging methods
- Well boring log (including the following):
  - Well boring number and date drilled
  - Borehole diameter and total depth
  - Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
  - Depth to first encountered groundwater and stabilized groundwater depth
  - Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form).

- Well construction diagram, including:
  - Monitoring well number and date constructed
  - Casing and screen material, diameter, and centralizer spacing (if needed)
  - Length of well casing, and length and position of perforated interval
  - Thickness, position and composition of surface seal, sanitary seal, and sand pack
  - Type of well caps (bottom cap either screw on or secured with stainless steel screws)

D. Well Development:

- Date(s) and method of development
- How well development completion was determined

- Volume of water purged from well and method of development water disposal
- Field notes from well development should be included in report

E. Well Survey (survey the top rim of the well casing with the cap removed):

- Identify the coordinate system and datum for survey measurements
- Describe the measuring points (i.e. ground surface, top of casing, etc.)
- Present the well survey report data in a table

Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

[Tentative] Waste Discharge Requirements Order R5-20233
For
City of Dinuba
Dinuba Wastewater Treatment Facility
Tulare County

INFORMATION SHEET

BACKGROUND

The City of Dinuba (Dinuba) owns and operates the Dinuba Wastewater Treatment Facility (Facility or WWTF), which is regulated under Waste Discharge Requirements (WDRs) Order No. 95-200, which was adopted by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) in August 1995. The effluent limits for the WWTF are listed in Table 1 below. The following is a brief summary of the Facility and associated discharges recognized/authorized in the current WDRs Order No. 95-200:

Table 1 - WDRs Order No. 95-200 Limits

Constituent	Order 95-200 Limit
Flow (dry-weather)	3.0 mgd (monthly average)
BOD	40 mg/L (monthly average) and 80 mg/L (daily maximum)
Settleable Solids	0.2 mL/L (monthly average) and 0.5 mL/L (daily maximum)
Electrical Conductivity (EC)	EC of the discharge shall not exceed the average EC of the source water plus 500 µmhos/cm

Order 95-200 described the WWTF as having a headworks, primary and secondary clarifiers, a trickling filter, primary and secondary sludge digesters, three polishing ponds, unlined sludge drying beds, 48.8 acres of evaporation/percolation ponds, and 20 acres of alfalfa and oats for wastewater reclamation. The Order 95-200 also stated the City of Dinuba has had an Industrial Pretreatment Program since 1994 due to historical issues with industrial discharges.

CURRENT WASTEWATER TREATMENT FACILITY AND DISCHARGE

The WWTF provides undisinfected secondary treatment via activated sludge and secondary clarification. The Facility's treatment system was upgraded to activated sludge in 1999. Effluent disposal is to eleven evaporation/percolation ponds and one additional pond (Pond 6) is used as an emergency storage basin. Sludge treatment includes aerobic digestion followed by a screw press and then further drying on asphalt pavement. The aerobic digestion, screw press, and pavement were added around 2010 to replace the sludge drying beds. According to the Discharger, the primary clarifier remains with piping in place but is bypassed. All sludge is hauled off and disposed via

Brisco. The activated sludge aeration basin has a concrete liner and the aerobic digester has a single 40-mil High Density Polyethylene (HDPE) liner.

FACILITY EVAPORATION PONDS, EMERGENCY STORAGE, AND WATER BALANCE

As previously stated, the WWTF has eleven evaporation/percolation ponds and one emergency storage pond (Pond 6). Ponds 11 and 12 are the newest ponds, constructed in 2010. Effluent pond dimensions are shown below in Table 2.

Table 2 – Effluent Pond Dimensions

Pond No.	Surface Area (acres)	Depth (feet)	Volume (million gallons)
1	4.7	4.7	6
2	5.3	4.3	6.3
3	5.7	4	6.5
4	5.5	3.7	5.6
5	10.0	2.4	6.5
6	8.1	4.3	10
7	8.9	6	15
8	7.0	6	11.7
9	8.0	5.5	12.8
10	8.8	4	10.1
11	14.2	8.3	35.6
12	10.7	8.3	26.2
Total	**91.4**		**152.2**

The 2022 Report of Waste Discharger (RWD) water balance used an average, area-weighted percolation rate of 2.65 inches/day, 3.00 MGD wastewater flow rate, and a 100-year return annual total precipitation of 27.84 inches per year (distributed monthly, in accordance with average monthly precipitation values). The RWD determined that 50% of the pond area would be needed for adequate percolation/evaporation during 100-year return annual total precipitation.

The wastewater facility had some problems with excessive grease loading from food processors in the early 1990s. Excessive grease loading consistently upset the biological processes and caused the sealing of the evaporation/percolation pond bottoms. In response to the excessive grease loading issues, the Discharger increased the disposal area, disked and/or ripped the pond bottoms, and started to implement an industrial pretreatment program. In October 2007, a problem was encountered when a plant operator had stopped the routine of disking/ripping the pond bottoms for several years. In early October 2007 all the ponds were close to, at, or less than the two-foot

minimum freeboard. The City made an emergency request to discharge treated wastewater effluent in depressions on City-owned property. Later in October 2007 the City proposed the construction of Ponds 11 and 12.

The WWTF disposal practices have changed over the years since the adoption of the current Order. The WWTF previously (early 1990s to 2007) had issues with insufficient disposal capacity, but it appears adequate capacity is no longer an issue with consistent, regular, disking/ripping of pond bottoms. Up to 2005, a portion of the WWTF's treated effluent was used to irrigate crops. Furthermore, the number and size of the WWTF ponds have increased since 1995 (e.g., in 1995 there were 10 ponds over 48.8 acres and currently there are 12 ponds over 91.4 acres).

The pond uses have also changed over the years. The three ponds south of the WWTF/Sludge Drying Beds, known as Lakeshore Ponds 1, 2, and 3 ("Former Disposal Ponds" in Attachment C), are reportedly too shallow for wastewater disposal, and the Discharger no longer proposes to use these ponds. Currently, Ponds 7 through 12 (located on the east side of the WWTF property) are actively used for disposal while Ponds 1 through 5 are typically not used but are regularly ripped. Pond 6 is used for emergency wastewater storage. Google Earth aerial images over the past nine years typically show only one to three evaporation/percolation ponds in use at any one time, and the Discharger confirms this practice.

SLUDGE MANAGEMENT

Sludge management has evolved over the past thirty years. A 1991 inspection report and WDRs Order 95-200 describe the WWTF's sludge management consisting of an anaerobic digester and sludge drying beds. The case file notes the Discharger previously applied sludge on the bottom of some of the Facility's ponds, resulting in a Notice of Violation (28 June 1999). In the early 2000s, a sludge/biosolids management plan was developed. A 2003 inspection report mentions fourteen unlined sludge drying beds and disposal of sludge offsite at a permitted facility. Around 2010, the Facility's sludge treatment and disposal practices were modified, including the addition of lined aerobic sludge digestion pond and a screw press and the use of a paved area for sludge drying. Today the 2010 facilities continue to be used. Some unlined sludge drying beds are used as emergency back-up. The current plan is that biosolids will be hauled offsite and land applied by Jim Brisco Enterprises, Inc. at a land application area regulated by State Water Resources Control Board's Water Quality Order 2004-0012-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.*

Google Earth images (April 2023, August 2021, February 2021, April 2017, April 2013, August 2012, June 2011, September 2009, June 2009, August 2006, December 2005, August 2005, August 2004, and August 1998) show some of the unlined sludge drying

beds holding what appears to be sludge or water. The Discharger confirmed that sludge drying beds #3 through #6 are used for emergency purposes and contained sludge for part of 2022. The Discharger estimated that the sludge was put on the beds in June or July 2022 and was all removed in August and September 2022. The Discharger also stated some supernatant from the aerobic sludge digester had been sent to one of the drying beds around January 2023 due to the screw press being out of service. This Order requires the Discharger to prepare a plan to cease use of the unlined sludge drying beds and submit a work plan for closing the unlined sludge drying beds.

GROUNDWATER

The WWTF is located in the eastern portion of Kings Subbasin, which generally consists of a single unconfined to semi-confined aquifer system. WDRs 95-200 (from 1995) states groundwater was first encountered at depths of 53 to 62 feet below ground surface (bgs). However, chronic groundwater level declines have been documented across wide areas of the Kings Subbasin. The groundwater level in the active monitoring wells at the Facility ranges between 81.9 and 89.5 feet bgs per third quarter 2022 sampling results.

Dinuba's WWTF has ten groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6 MW-6A, MW-7R, MW-8, and MW-9. Out of the ten monitoring wells, four are currently operational, MW-3, MW-6A, MW-8, and MW-9 (shown in yellow in Attachment B). Water level elevation maps prepared by the Discharger generally indicate groundwater flow to the northeast in the northeast part of the WWTF and to the southwest at the southwest portion of the Facility. A recharge ridge/mound has historically been present at the site (Figure 1 below). Current groundwater data indicates mounding conditions are still present. MW-6A was installed to monitor the mound and quality of groundwater percolated from the WWTF ponds. Monitoring Wells MW-3, MW-8, and MW-9 are all downgradient wells due to the mounding condition.

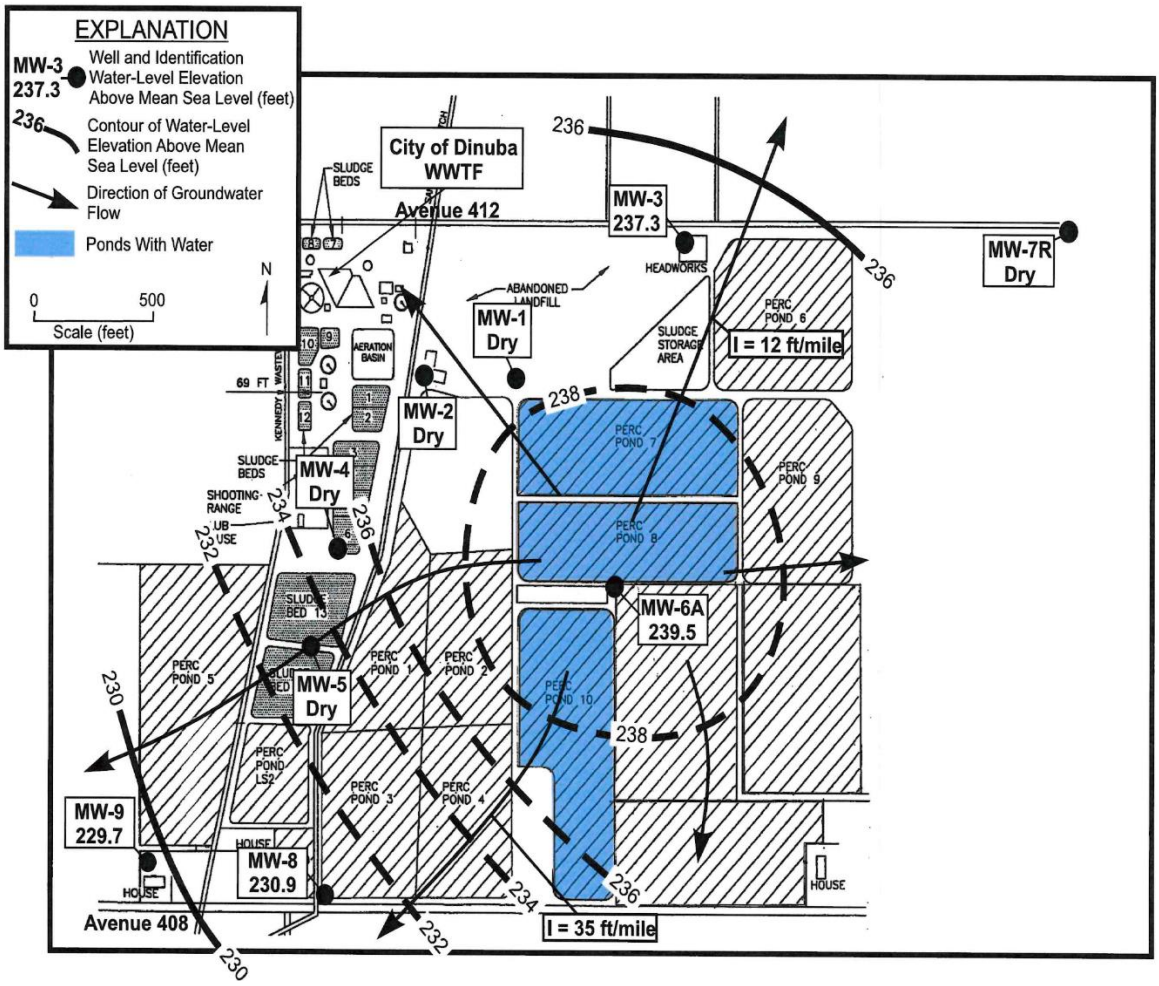


Figure 1 - Groundwater Elevation Contours – 3 November 2022 -Taken from *Annual Groundwater Monitoring Report For the City of Dinuba WWTF.* By Kenneth D. Schmidt and Associates. March 2023

Figure 2 below shows the groundwater trends over the past few years for EC. Figure 2 shows relatively stable values for MW-3, MW-6A, and MW-8. According to the Discharger's 2022 Annual Report, MW-9 is primarily influenced by seepage water from the Kennedy Wasteway and there is no indication of influence of effluent.

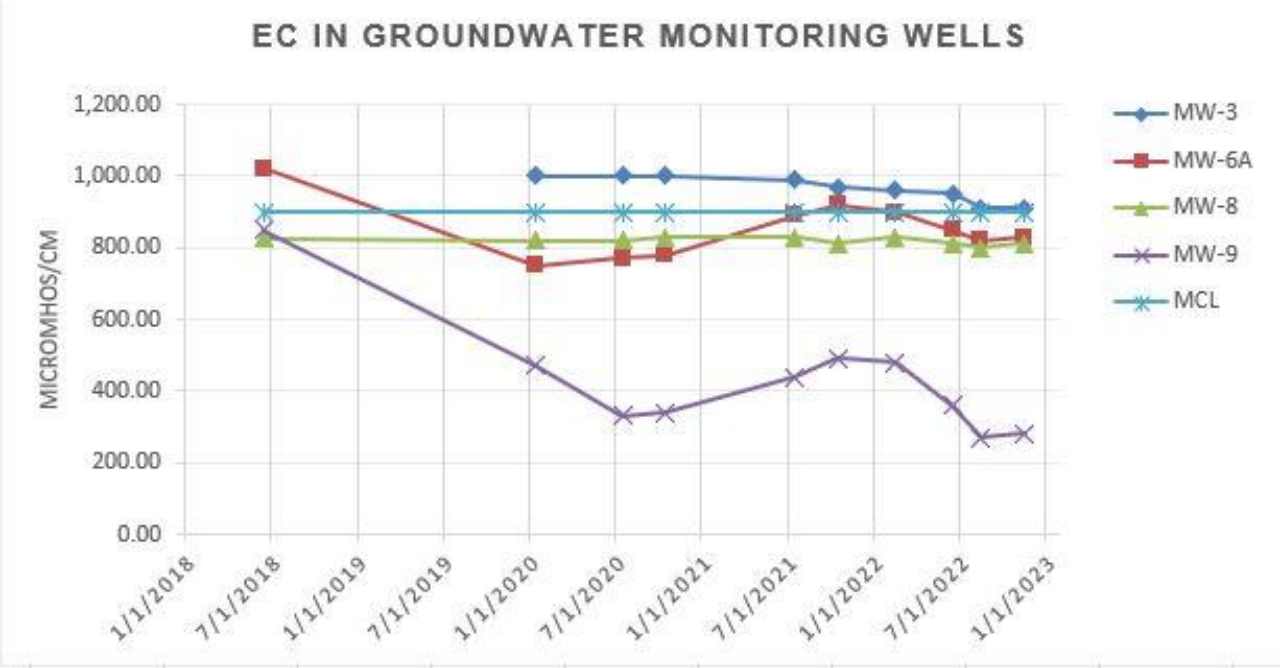


Figure 2 - Groundwater EC Trends

Figure 3 below shows groundwater trends for nitrate (as N). All values are below the maximum contaminant level (MCL) of drinking water of 10 mg/L. Monitoring Wells MW-3 and MW-6A nitrate concentrations have recently been trending down. Monitoring Wells MW-8 and MW-9 appear to be fairly stable.

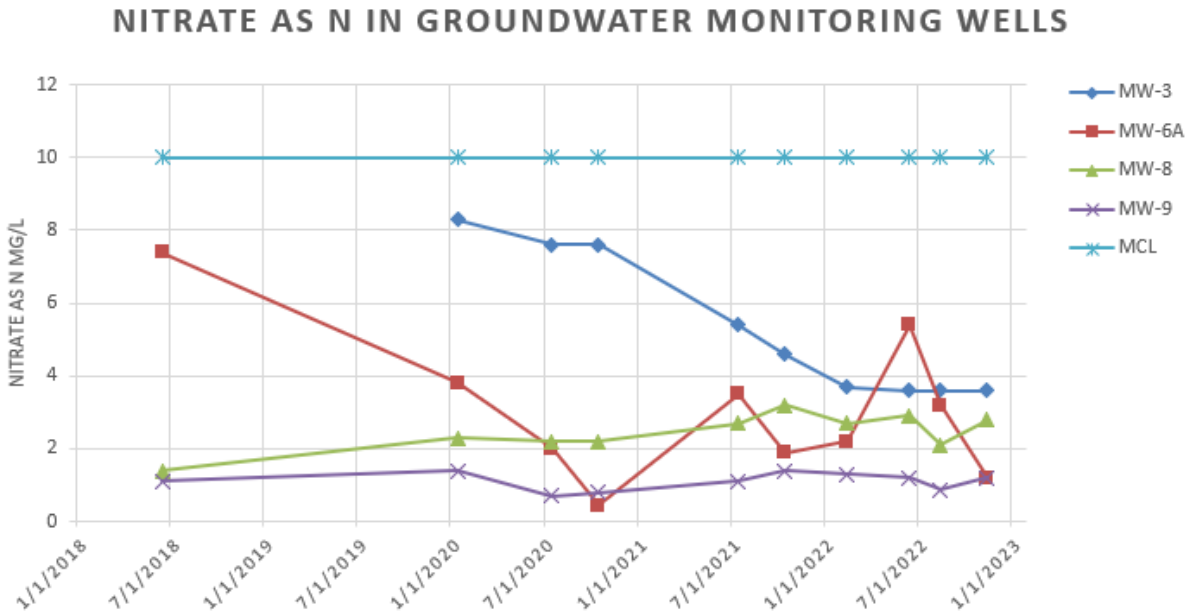


Figure 3 - Groundwater Nitrate as Nitrogen Trends

WASTEWATER RECLAMATION AND GROUNDWATER EXTRACTION

The case file from 2003 to 2007 includes several correspondences discussing the creation of a water reclamation facility with reclamation wells, a disinfection facility, and a lined pond to be used for irrigating a nearby public golf course, referred to as the Reclamation, Conservation, Recreation (RCR) Project. The initial proposal was to install extraction wells within the WWTF site, directly adjacent to evaporation/percolation ponds. The proposed extraction wells would have been screened at the first coarse-grained layer below the surface. Central Valley Water Board staff responses to the proposal were that the extracted groundwater needed to meet Title 22 standards for public health.

Ultimately, rather than installing multiple extraction wells within the wastewater treatment facility site, one agricultural/irrigation well was installed in 2007 (labeled GOLF-01 in the MRP). The well is not placed within/adjacent to the WWTF ponds or screened at first encountered groundwater, as originally proposed. The well is approximately 390 feet north of the wastewater facilities (around 1,200 feet from both the closest ponds). The well is 250 feet deep, has a steel casing from 0 to 100 feet, and a screen from 100 feet to 250 feet below ground surface (bgs). The well pumps water into a single, 40 mil High Density Polyethylene (HDPE)-lined pond. The water in the pond is used to irrigate the Ridge Creek Golf Course, which is a Dinuba-owned public golf course on land immediately adjacent to the wastewater treatment facility.

A soil-aquifer treatment (SAT) study titled, *Demonstration of Filtration and Disinfection Compliance through Soil-Aquifer Treatment* (SAT Study), was conducted in 2013 and

was sponsored by WaterReuse Research Foundation and U.S. Bureau of Reclamation. The SAT Study included the City of Fresno Wastewater Reclamation Facility and the Dinuba WWTF as study sites for the effectiveness of SAT in removing pathogens from unfiltered secondary effluent instead of the traditional advanced wastewater processes of filtration and disinfection. While the study found SAT very effective, the SAT study concluded that for extracted groundwater Dinuba needed further testing to demonstrate that the SAT process could provide disinfected-tertiary treatment. The associated MRP requires water quality monitoring of GOLF-01 to evaluate the quality of the extracted groundwater.

POTENTIAL IMPROVEMENTS

The Discharger has indicated various potential improvements are in the works, including replacing the activated sludge aeration basin surface aerators with fine bubble diffusers and adding a third secondary clarifier (currently under construction).

ANTIDEGRADATION

Antidegradation Analysis and conclusions are discussed in Findings 47 through 53 of the Order.

DISCHARGE PROHIBITIONS, LIMITATIONS, DISCHARGE SPECIFICATIONS, AND PROVISIONS

The Order prohibits the discharge of waste to surface water drainage courses, and to the land on the former landfill at the site. The Order includes the following limitations: monthly average flow limit of 3.0 MGD, monthly average BOD and TSS effluent limits of 40 mg/L, and daily maximum BOD and TSS limits of 80 mg/L. In addition to these limits, the Order specifies a Salinity Action level of 500 µmhos/cm plus source water (as an annual average) since the Discharger selected to participate in the Prioritization and Optimization Study.

The Order includes provisions requiring various technical reports/work plans. These reports/plans include the following: Sludge Management Plan, Unlined Sludge Surfaces Closure Work Plan, Groundwater Monitoring Work Plan, Groundwater Monitoring Well Installation Report, and Industrial Pretreatment Program Evaluation

MONITORING REQUIREMENTS

Section 13267 of the 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, ponds, 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.

INFORMATION SHEET

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

For the Salt Control Program, dischargers that are unable to comply with the stringent salinity requirements will instead need to meet performance-based requirements and participate in a basin-wide effort known as the Prioritization and Optimization Study (P&O Study) to develop a long-term salinity strategy for the Central Valley. On 5 January 2021, the Central Valley Water Board issued the Discharger (CV-SALTS ID: 2660) a Notice to Comply letter under the Salt Control Program. In response to the Salt Control Program, the Discharger selected to join the Prioritization and Optimization (P&O) Study.

The Discharger was sent a Notice to Comply letter for the Nitrate Control Program on 29 May 2020. For the Nitrate Control Program, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the new nitrate program either individually (Pathway A) or collectively with other dischargers (Pathway B). The Facility is in the Groundwater Sub-basin 5-22.08 (San Joaquin Valley Groundwater Basin – Kings Sub-basin), a Priority 1 basin/sub-basin. In response to the Nitrate Notice to Comply, the Discharger selected Pathway B on 8 March 2022. The Discharger is an active participate in the Kings Management Zone

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 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.