

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2018-0028

REVISED WASTE DISCHARGE REQUIREMENTS

FOR
RIVERDALE PUBLIC UTILITY DISTRICT
WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

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

1. On 24 January 2017, the Riverdale Public Utility District (hereafter "District" or "Discharger") submitted a Report of Waste Discharge (RWD), an Antidegradation Analysis, and a Preliminary Engineering Report (three documents) describing the District's existing wastewater treatment facility (WWTF) and the proposed upgrades to the treatment and disposal capacities of the WWTF.
2. The current discharge from the WWTF is regulated by Waste Discharge Requirements (WDRs) Order 85-252, adopted by the Central Valley Water Board on 27 September 1985. Order 85-252 allows an average dry weather flow of up to 0.25 million gallons per day (mgd). The District owns and operates the WWTF and is responsible for compliance with these WDRs.
3. The WWTF is about a mile north of the community of Riverdale, northeast of the intersection of South Brawley and West Harlan Avenues as shown on Attachment A, which is attached hereto and made part of this Order by reference. The existing WWTF, percolation/evaporation ponds, and land application areas are in Assessor's Parcel Number (APN) 053-090-11. The WWTF is in the northwest quarter of Section 13, T17S, R19E, MDB&M, of the United States Geological Service (USGS) Riverdale 7.5 minute topographic map.
4. The Discharger proposes to expand and upgrade the WWTF in two phases to increase capacity to accommodate the anticipated growth of the community of Riverdale in the future. Therefore, Order 85-252 will be rescinded and replaced with this Order.

Existing Facility and Discharge

5. Census population data for 2010 indicates the community of Riverdale had a population of 3,153. The RWD indicates the District currently serves 923 sewer services, of which 864 are residential, 47 are commercial businesses, nine are churches or libraries, and three are schools. There are no significant industrial users.
6. The existing WWTF is an aerated lagoon system designed to remove biochemical oxygen demand (BOD) and total suspended solids (TSS). Raw wastewater or influent enters at the headworks where it passes through a comminutor, prior to

being discharged to an unlined complete-mix aerated lagoon. From the complete-mix aerated lagoon, the effluent is discharged to one of six unlined oxidation lagoons where the effluent percolates into the underlying soil/substrate and/or evaporates.

- Influent flows are primarily from residential users, but there are some commercial and institutional connections. The existing Monitoring and Reporting Program (MRP) doesn't require influent monitoring, but the Discharger analyzed the influent for a select list of constituents on two consecutive days in May 2016 as summarized in the following table. The results are from six samples, three collected on 25 May 2016 and three collected on 26 May 2016. The first number listed is the average and the range of detections is shown below in parentheses.

Table 1 – Influent Results

<u>Constituents</u> ¹	<u>Units</u> ²	<u>Result</u>
Alkalinity as CaCO ₃ and Bicarbonate as CaCO ₃	mg/L	427 (410 - 440)
Biochemical Oxygen Demand	mg/L	105 (71 - 170)
Total Kjeldahl Nitrogen	mg/L	45 (42 - 51)
Total Settleable Solids	mg/L	130 (110 – 160)

1. CaCO₃ = Calcium carbonate.

2. mg/L = milligrams per liter.

- The average discharge in 2016 was 0.21 mgd, or 88 percent of the permitted capacity. The WDRs requires a limited effluent monitoring program for flow, BOD, dissolved oxygen (DO), settleable solids, and electrical conductivity (EC). The EC results are from weekly samples collected and analyzed from January 2016 through November 2017, while the BOD results are from monthly samples collected and analyzed over the same time period. The 12-month rolling average for EC is calculated from June 2016 through November 2017. The results are summarized in the following table.

Table 2 – Effluent Results

<u>Constituent</u>	<u>Units</u> ¹	<u>Result</u>
Biochemical Oxygen Demand	mg/L	94 (28 - 180)
Electrical Conductivity (EC)	umhos/cm	1,461 (1,016 - 2,035)
12-Month Rolling EC average	umhos/cm	1,469

1. mg/L = milligrams per liter, umhos/cm = micromhos per centimeter.

9. The elevated EC results in effluent are due to the elevated EC levels of the source water. The EC of the effluent exceeds even the upper recommended maximum contaminant level (MCL) of 1,600 micromhos per centimeter (umhos/cm) during the summer months. The EC of the source water is reported to be about 1,200 umhos/cm, and if the Tulare Lake Basin Plan EC limit of 500 umhos/cm plus the EC of the source water is used, the resulting limit would be 1,700 umhos/cm. The 12-month rolling EC average of 1,440 umhos/cm would meet the limit.
10. WDRs 85-252 contain BOD effluent limits of 40 mg/L for the 30-day average and an 80 mg/L daily maximum. Since January 2016 the BOD effluent results have met the daily average of 40 mg/L only twice in 23 samples. The results since January 2016 were in excess of the daily average of 40 mg/L in 21 of 23 samples and were in excess of the daily maximum of 80 mg/L in 15 of the 23 monthly samples.
11. Due to the data set being limited to only a few constituents, Central Valley Water Board staff collected a sample from the effluent discharge location on 25 May 2017. The results of the sampling is summarized in the following table.

Table 3 – May 2017 Effluent Results

<u>Constituent</u>	<u>Units¹</u>	<u>Result</u>
Nitrite as Nitrogen	mg/L	2.4
Nitrate as Nitrogen	mg/L	0.17
Total Kjeldahl Nitrogen	mg/L	25
Electrical Conductivity	umhos/cm	1700
Total Dissolved Solids	mg/L	970
Alkalinity	mg/L	410
Bicarbonate	mg/L	470
Boron	ug/L	6.8
Calcium	mg/L	9.6
Carbonate	mg/L	15
Chloride	mg/L	280
Magnesium	mg/L	2.2
Potassium	mg/L	16
Sodium	mg/L	360
Sulfate	mg/L	20

1. mg/L = milligrams per liter; umhos/cm = micromhos per centimeter; ug/L = micrograms per centimeter.

The results are from only one sample, but the total nitrogen concentration of 25 mg/L is about half of what was estimated in the RWD. The EC and TDS are elevated, but are in line with the effluent concentrations presented in the RWD and are due to the elevated EC and TDS in the District's source water. The RWD indicated chloride would be about 250 mg/L, so a one-time sample with a result of

280 mg/L is in line with the estimate, but the result exceeds the Secondary MCL of 250 mg/L.

12. WDRs Order 85-252 also allowed for the recycling of effluent to about 32 acres of adjacent pasture land for cattle grazing. It is listed as 36 acres in WDRs Order 85-252, but currently measures about 32 acres. Effluent is and has been routinely discharged to this area via flood irrigation, but it's not clear when or how often cattle were actually on the pasture area for grazing. Provost and Pritchard, the Dischargers consultant provided the following information. *"The District previously had a grazing agreement, which allowed cattle to enter the District's property for grazing. The pasture was very sparse and heavily compacted due to the cattle grazing activity. The District has since discontinued the grazing agreement and deep-ripped the reclamation area to restore percolation and vegetation."*
13. The discharge still typically pools in the central portion of the land application area and standing water is routine. Notices of violation were issued in 2001, 2002, and 2003 due to complaints from the Consolidated Mosquito Abatement District staff that the District's discharge to the land application area was resulting in standing water/effluent in the land application area and creating nuisance issues (i.e., mosquitoes). Standing water was observed in the land application area during the May 2017 inspection, but it had just rained prior to the inspection and 2017 was a very wet winter. No violation was issued due to the likelihood the standing water was rain water.

Planned Changes to the WWTF and Discharge

14. The treatment capacity of the upgraded WWTF will be 0.325 mgd. The RWD estimates growth over the next 20 years and proposes increasing the disposal capacity in two phases. The first phase would increase disposal capacity to 0.275 mgd and the second phase would increase the disposal capacity to 0.325 mgd in about ten years. The actual percolation capacity of the proposed effluent storage ponds will be evaluated and may require the need for additional effluent storage ponds to achieve the 0.325 mgd disposal capacity of Phase 2. This Order includes Provisions G.12 and G.13 that requires the District submit technical reports that demonstrate the upgrades to the WWTF have been completed as designed. To accommodate the proposed upgrade/expansion of the WWTF, the District has purchased a 40-acre parcel (APN 053-090-36), which is west and directly adjacent the existing WWTF as shown on Attachment B, which is attached hereto and made part of this Order by reference. Due to the presence of a remnant of the Van Ness Slough, of the 40 acres that comprise the new land, about 33 acres is available for use.
15. All of the wastewater generated by the community of Riverdale passes through a recently constructed lift station that is just north of the intersection of Valentine Avenue and Stathem Street. The new lift station includes two new lift pumps capable of providing flows up to 420 gallons per minute each, with room for the

installation of a third pump. The existing force main is a 10-inch main installed in 1958 and constructed of asbestos pipe. Its condition is unknown and it will be replaced with an 8-inch or 10-inch force main constructed of either polyvinyl chloride or high density polyethylene pipe.

16. A new headworks will be constructed and designed based on the estimated flows of 0.325 mgd. It will have a self-cleaning screen and a bypass channel with a manual bar screen. A new influent flow meter will be installed to measure the volume discharged to the WWTF.
17. The new treatment system will consist of three, high-density polyethylene single-wall lined aeration ponds (one complete mix pond and two partial mix ponds). All three ponds will be active and operated in series. All of the ponds will be equipped with aerators, the complete mix pond will have a surface area of about 0.3 of an acre and will have a capacity of about 0.8 million gallons. The partial mix ponds will have a surface area of about 1-acre and a capacity of about 2.4 million gallons.
18. Effluent will be discharged to a series of new disposal (evaporation/percolation) ponds installed in two phases. Some of the existing treatment ponds will be converted to disposal ponds. The first phase will allow for the disposal of up to 0.275 mgd (current flow is 76 percent of the first phase) and will include the construction of approximately 23.4 acres of new disposal (evaporation/percolation) ponds. This will increase the total volume of the disposal ponds to about 96 acre-feet (31.3 million gallons). Phase 2 will allow for the disposal of up to 0.325 mgd (current flow is 64 percent of the second phase) and will provide another 3.4 acres of disposal ponds and increase the total volume of the disposal ponds to about 104 acre-feet (34.1 million gallons). The recycling of effluent to the former land application areas will be discontinued due to the standing water issues and that the Discharger could not find any nearby farmers that wanted to use the effluent for irrigation on their land as discussed in Finding 54.
19. The RWD estimates the quality of the effluent that will be produced by the new WWTF and those values are summarized in the table below.

Table 4 – Estimated Effluent Quality

<u>Constituent</u>	<u>Units¹</u>	<u>Result</u>
Biochemical Oxygen Demand	mg/L	30
Total Suspended Solids	mg/L	30
Total Dissolved Solids	mg/L	900
Electrical Conductivity	umhos/cm	1540
Total Kjeldahl Nitrogen	mg/L	45
pH	pH Units	6.5 – 8.5
Chloride	mg/L	250
Sodium	mg/L	250
Arsenic	ug/L	6

1. mg/L = milligrams per liter; umhos/cm = micromhos per centimeter; ug/L = micrograms per liter.

Site-Specific Conditions

20. The topography in the vicinity of the WWTF is generally flat with a very slight slope (< 0.2 percent) to the west/southwest. The elevation at the WWTF is about 215 feet above mean sea level.
21. The nearest surface water is the Little Millrace Ditch, owned and operated by the Liberty Millrace Irrigation District, which flows from east to west along the southern property boundary of the WWTF. The proposed improvement area will be graded to keep any surface water runoff onsite and out of the ditch. The North Fork of the Kings River is about 4.5 miles south of the WWTF.
22. Historically, the Van Ness Slough was present on the existing WWTF property. It extended southwest from about 450 feet south of the northeast corner of the WWTF to about 350 feet north of the southwest corner of the current WWTF property.
23. The current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number 06019C2900J, revised 20 January 2016 indicates the WWTF, the treatment ponds, and the evaporation/percolation ponds are not shown as being within a 100-year return flood area.
24. Soils in the area of the WWTF and the existing evaporation/percolation ponds/pasture lands consist almost entirely of the Chino loam (saline-alkali) according to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service. The Chino loam is described as somewhat poorly drained and has a land capability classification of 2s. Soils with a Class 2 rating have moderate limitations that reduce the choice of plants or that require moderate conservation practices, or both. The subclass "s" shows that the soil may be limited mainly because it is shallow, droughty, or stony.
25. The WWTF is in an arid climate characterized by dry summers and mild winters. The rainy season generally extends from November through April. Average annual pan evaporation in the area is about 66 inches, according to DWR Bulletin No. 113-3. The average annual precipitation in the discharge area is about 11 inches. The 100-year return period wet year precipitation is about 21 inches, according to DWR Bulletin No. 95.
26. Land uses in the vicinity of the WWTF are primarily agricultural, with some rural residential properties present. The northern edge the community of Riverdale is about a mile south of the WWTF. Several confined animal facilities were observed by Central Valley Water Board staff in the vicinity of the WWTF, with the nearest being a poultry operation that is directly north of the WWTF. Review of recent aerial photographs (April 2015) shows what appear to be nine confined animal facilities within a five mile radius of the WWTF. The RWD identifies crops grown in the area to include alfalfa, almonds, walnuts, pistachios, grapes, and corn, and grain/hay/fodder crops.

Groundwater Conditions

27. Groundwater in the area of the Riverdale WWTF is contained in two primary aquifers. An unconfined aquifer is present above the E-Clay or Corcoran Clay. The E-Clay is reported to be at about 450 feet below the ground surface (bgs) beneath the WWTF and is about 80 to 100 feet thick. Below the E-Clay, the aquifer is generally confined. According to information presented in the RWD and the Department of Water Resources (Tulare Lake Groundwater Basin, Spring 2010, Lines of Equal Depth to Water in Wells, Unconfined Aquifer), the general direction of groundwater flow in the unconfined aquifer is to the west/southwest.
28. The exact depth to first encountered groundwater beneath the WWTF is unknown, but some information was included in Antidegradation Report submitted along with the RWD and regional information from the Department of Water and Resources (DWR) is also available. Depth to groundwater is addressed in the Antidegradation Report that indicates the depth to water has dropped 100 feet since 2010 and is at about 240 feet bgs. The District indicates they just installed a new supply well and groundwater was encountered at a depth of 240 feet bgs. The DWR has groundwater information (*Tulare Lake Groundwater Basin, Spring 2010, Lines of Equal Depth to Water in Wells, Unconfined Aquifer*) and the depth to water in the spring of 2010 is shown as being about 170 feet bgs.
29. The existing WDRs do not require groundwater monitoring, but groundwater data from the District's supply wells, installed both above and below the E-Clay, was presented in the RWD. Source water was provided by Well 6 that is screened below the E-Clay. A new well (Well No. 7) was just installed below the E-Clay in May 2017. Previous supply wells (Wells No. 4 and 5) were installed above the E Clay. The data for Well No. 6 is from one sample collected on 2 March 2015. The Well 7 results are from one sample collected when Well 7 was developed. The data from Well Nos. 4 and 5 are from an unknown number of samples collected from 2000 to 2014. The results for the current and former supply wells are summarized in the following table.

Table 5 – Supply Well Results

<u>Constituent</u>	<u>Units</u> ¹	<u>MCL</u> ²	<u>Well 4</u>	<u>Well 5</u>	<u>Well 6</u>	<u>Well 7</u>
Electrical Conductivity	umhos/cm	900/1,600/2,200	644	621	1,100	1,200
Total Dissolved Solids	mg/L	500/1,000/1,500	397	378	610	660
Nitrate as Nitrogen	mg/L	10	0.13	0.15	nd	0.23
Chloride	mg/L	250/500/600	---	---	180	200
Sodium	mg/L	None	---	---	250	260
Alkalinity	mg/L	None	---	---	290	300
Bicarbonate	mg/L	None	---	---	310	270
Arsenic	ug/L	10	36	37	6	4.9

1. umhos/cm = micromhos per centimeter; mg/L = milligrams per liter; ug/L = micrograms per liter.

2. MCL = Maximum contaminant level. The MCLs for chloride, electrical conductivity, and total dissolved solids are Secondary MCLs and the values shown represent the lower, upper, and short term recommended MCLs. The MCLs for nitrate and arsenic are Primary MCLs and have only one limit listed.

30. Wells Nos. 4 and 5 above the E-Clay have lower EC results, but they have elevated arsenic concentrations that are more than three times the Primary MCL of 10 micrograms per liter (ug/L). Wells 6 and 7 are set below the E-Clay and have arsenic results that meet the MCL of 10 ug/L, but EC and TDS results are in excess of the Secondary Recommended MCL of 900 umhos/cm for EC and 500 mg/L for TDS. The results for chloride are typically less than the Secondary Recommended MCL of 250 mg/L. While the EC and TDS are typically in excess of their Secondary MCL of 900 umhos/cm and 500 mg/L, respectively (as discussed in Finding 33 below and in the Antidegradation section of these WDRs), the available groundwater data in the area indicates a wide range of detections both above and below applicable MCLs for EC and TDS. Values in excess of corresponding MCLs since 1955 indicate the underlying groundwater is not of good quality with respect to these constituents.
31. The salinity being higher in the deeper well set below the E-Clay is not typical for most of the southern San Joaquin Valley, but the USGS does provide information for increasing salinity in various areas of the region. Staff from Provost and Pritchard consulting were asked to address the differing water quality with depth in the existing supply wells and provided a review in a 2 January 2018 letter to Central Valley Water Board staff. The 2 January 2018 letter notes that the area is the result of a series of complex geologic events that included inundation by salt water on several occasions. The result is fluvial continental sediments are interbedded with marine sediments, which contributes to the increased salinity in various areas of the valley. EC values recorded during the development of Well No. 7 ranged from 1,100 umhos/cm at about 1,500 feet bgs to 1,300 at a depth of about 2,000 feet bgs.
32. Groundwater quality is addressed in the Antidegradation Analysis, which included a review of the background or “natural” groundwater quality within 5-miles of the WWTF. To assess historical groundwater quality, Provost and Pritchard reviewed a 1969 document distributed by the USGS entitled “*Geology, Hydrogeology, and Water Quality in the Fresno Area.*” The conclusion is, that due to the spatial variability of the results, it is difficult to assess what the past historical groundwater quality was outside of posting the average and the range of the results they found. The Antidegradation Report indicates that the water quality decreases from the east to the west towards the ancestral Tulare Lake Bed. The RWD included regional groundwater quality results within a five mile radius of the WWTF that are summarized in the following table.

Table 6 – Regional Groundwater Quality - RWD

<u>Constituent</u>	<u>Units¹</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
Electrical Conductivity	umhos/cm	130	1,660	761
Total Dissolved Solids	mg/L	91	1,040	405
Nitrate as Nitrogen	mg/L	0.0	1.5	0.6

1. umhos/cm = micromhos per centimeter, mg/L = milligrams per liter.

33. Regional Water Quality data is also found at the USGS Water Quality Data Portal website online. Using a 5-mile radius from the existing WWTF located 14 wells ranging in depth from 48 to 510 feet bgs, all above the E-Clay. The data spans from June 1955 to July 2002. The results from the USGS Water Quality Data Portal are nearly identical to those included in the RWD and show that groundwater in the area has had EC and TDS values in excess of the upper recommended MCLs for both constituents dating as far back as 1955. Nitrate as nitrogen was not detected above the MCL of 10 mg/L and total nitrogen ranged from non-detect to 13 mg/L. The USGS data contained arsenic results from six wells and two had arsenic greater than the MCL of 10 micrograms per liter (ug/L). The data does illustrate the spatial differences in concentrations with a wide range between the minimum and maximum detections as indicated in the RWD, and it also substantiates that the water quality decreases as one moves from east to west towards the Valley Floor and the ancestral Tulare Lake Bed.

Basin Plan, Beneficial Uses, and Regulatory Considerations

34. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised July 2016* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Water Board). Pursuant to California Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.
35. The WWTF and land application areas are in the Lower Kings River Hydrologic Area (No. 551.80) of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by State Water Board in August 1986. The discharge will be to evaporation/percolation ponds, where drainage is expected to be contained onsite. Natural surface drainage is by sheet flow to Little Millrace Ditch, which is fed by the North Fork of the Kings River. The designated beneficial uses of the Kings River (Peoples Weir to Stinson Weir on North Fork and to Empire Weir II on South Fork) are agricultural supply; water contact and non-contact water recreation; wildlife and warm freshwater habitat; and groundwater recharge.
36. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
37. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
38. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.

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

Special Considerations for Salt and Nitrate Discharges

43. Many surface waters and local groundwater supplies have been degraded with salt. In some areas, the high salinity is naturally occurring, but in many areas it is due to the acts of man. In 2006, the Central Valley Water Board, the State Water Board, and stakeholders began a joint effort to address salinity and nitrate problems in the region and adopt long-term solutions that will lead to enhanced water quality and economic sustainability.
44. The Central Valley Water Board is developing amendments to the Basin Plan to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley. Strategies currently under consideration may:
 - Alter the way the Board calculates available assimilative capacity for nitrate, which could result in new or modified requirements for nitrate management;

- Require dischargers to implement actions identified under an interim salinity permitting approach; and/or
- Establish alternate compliance approaches that would allow dischargers to participate in efforts to provide drinking water to local communities in consideration for longer compliance time schedules.

Should the Board adopt amendments to the Basin Plan to effectuate such strategies, these waste discharge requirements may be amended or modified to incorporate any newly-applicable requirements.

45. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.
46. The list of crops in Finding 26 is not intended as a definitive inventory of crops that are or could be grown in the area where groundwater quality is potentially affected by the discharge, but it is representative of current and historical agricultural practices in the area.

Antidegradation Analysis

47. The *Statement of Policy with Respect to Maintaining High Quality of Waters in California*, State Water Board Order WQ 68-16 (hereinafter "Antidegradation Policy") was adopted by the State Water Board in October 1968. Antidegradation Policy limits the Board's discretion to authorize the degradation of "high-quality waters." This policy has been incorporated into the Board's Basin Plans. "High-quality waters" are defined as those waters where water quality is more than sufficient to support beneficial uses designated in the Board's Basin Plan. Whether or not a water is a high-quality water is established on a constituent- by-constituent basis, which means that an aquifer can be considered a high-quality water with respect to one constituent, but not for others (SWRCB Order No. WQ 91-10.).
48. Antidegradation Policy applies when an activity discharges to high quality waters and will result in some degradation of such high quality waters. When it applies, the Policy requires that WDRs reflect best practicable treatment or control (BPTC) of wastes and that any degradation of high quality waters (a) will be consistent with the maximum benefit to the people of the State, and (b) will not result in an exceedance of water quality objectives. If the activity will not result in the degradation of high quality waters, the Antidegradation Policy does not apply, and the Discharger need only demonstrate that it will use "best efforts" to control the discharge of waste.
49. Constituents of concern that have the potential to degrade groundwater include salts (primarily EC and TDS), nutrients, and chloride as discussed below.

- a. Salinity (TDS and EC).** The average EC and TDS concentration in the effluent exceed the respective Secondary MCLs due to the concentrations of EC and TDS in the source water (~ 1,200 umhos/cm for EC and 660 mg/L for TDS). With a 12-month rolling average of the effluent of about 1,450 umhos/cm the discharge could degrade the underlying groundwater with respect to EC, but the values will remain within the water quality objectives for EC. TDS is similar in that the anticipated TDS concentration of the effluent at 900 mg/L is higher than the TDS of the source water at 610 mg/L. If an EC limit is established using the EC of the source water plus 500 umhos/cm (~1,700 umhos/cm), then the discharge calculated on a 12-month rolling average (~1,450 umhos/cm) would meet the limit. Regional groundwater results from the USGS Water Quality Data Portal indicate both EC and TDS have been reported at higher concentrations in the first encountered groundwater dating back to 1955. The data suggest that elevated salinity constituents have been present in the first encountered groundwater for over 60 years. While the elevated salinity constituents do not seem related to the operation of the WWTF, this Order still includes Provision G.14 that requires the District to develop and submit a Salinity Management Plan to evaluate sources of salt in its discharge.
- b. Nitrate.** For nutrients such as nitrate, the potential for degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the effluent disposal ponds to provide an environment conducive to nitrification and denitrification to convert the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table. The effluent total nitrogen concentration was 25 mg/L in a May 2017 sample, but was estimated in the RWD to average about 45 mg/L. Total nitrogen in regional groundwater wells averages about 5.0 mg/L. Based on the effluent results and the regional groundwater results, the discharge may degrade groundwater quality due to increased total nitrogen, but regional wells do not indicate an issue with total nitrogen or nitrate as nitrogen.
- c. Chloride.** For chloride, the May 2017 effluent sample was reported to be 280 mg/L. The source water is the issue with the results from supply wells numbers 6 and 7 being 180 and 200 mg/L, respectively. The Tulare Lake Basin Plan (Second Edition, July 2016) states that “*Discharges to areas that may recharge to good quality ground waters shall not exceed and EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.*” The source water is not of good quality and as such, the Basin Plan limit of 175 mg/L does not apply. Still, to ensure the Discharger is addressing the salinity of its discharge, this Order includes Provision G.14 that requires the Discharger to prepare and submit a salinity management plan.
50. This Order establishes effluent and groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order also contains Provision G.15 that requires the Discharger to

submit a Work Plan to evaluate the quality of the groundwater in the vicinity of the WWTF.

51. The proposed WWTF will provide treatment and control of the discharge that incorporates:
 - a. Secondary treatment of wastewater;
 - b. Lined treatment ponds to limit the amount of untreated wastewater that percolates to groundwater;
 - c. Aeration of wastewater to reduce the BOD of the effluent;
 - d. Certified operators to ensure proper operation and maintenance;
 - e. An operation and maintenance manual;
 - f. Source water, influent, pond, and effluent monitoring;
 - g. A Salinity Management Plan to identify and reduce the salt load of the discharge, particularly chloride; and
 - h. A work plan to evaluate the quality of the groundwater in the vicinity of the WWTF.

52. Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., EC and nitrate) released with 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, 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. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and some groundwater degradation provided terms of the Basin Plan are met. The degradation will not unreasonably affect present and anticipated beneficial uses of groundwater, or result in water quality less than water quality objectives.

Water Recycling Regulatory Considerations

53. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. The State Water Board Division of Drinking Water (formerly the California Department of Public Health Drinking Water Program), which has primary statewide responsibility for protecting water quality and the public health, has established statewide criteria in Title 22, section 60301 et seq. for the use of recycled water.

54. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases.

55. The Discharger circulated a 29 November 2016 letter to adjacent property owners that grow alfalfa, hay, or fodder crops within a mile of the WWTF to evaluate possible interest in using undisinfected secondary treated wastewater for recycling. One property owner responded that they were interested, but wanted to use District land as well as the wastewater. Considering the issue with standing water in the land application areas in the past, recycling water to the same lands would likely result in standing water that may again create nuisance conditions.

Other Regulatory Considerations

56. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
57. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:
- a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."
 - b. Category B complexity, defined as: "Any discharger not included [as 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."
58. California Code of Regulations, Title 27 ("Title 27") contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste, which includes designated waste, as defined by Water Code section 13173. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. The exemption, found at Title 27, section 20090, states in part:

The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed:

- (a) Sewage - Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.

(b) Wastewater - Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

- (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
- (2) the discharge is in compliance with the applicable water quality control plan; and
- (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

59. The discharge authorized herein (except for the discharge of residual sludge and solid waste), and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:

- a. The three proposed lined treatment ponds are exempt pursuant to Title 27, section 20090(a) because they are treatment and storage facilities associated with a municipal domestic wastewater treatment facility.
- b. The proposed evaporation/percolation ponds (21.7 acres in Phase 1, 4.6 additional acres in phase 2) will be exempt pursuant to Title 27, section 20090(b) because they are wastewater evaporation/percolation ponds and:
 - i. The Central Valley Water Board is issuing WDRs.
 - ii. The discharge is in compliance with the Basin Plan, and;
 - iii. The treated effluent discharged to the ponds does not need to be managed as hazardous waste.

60. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System General Industrial Storm Water Permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.

61. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order 2006-0003-DWQ (the General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the Order. The Discharger's collection system exceeds one mile in length and the Discharger is enrolled under the General Order.

62. Water Code section 13267(b)(1) states:

In conducting an investigation specified in subdivision (a), the 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 within its region ... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports 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.

63. The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2018-0028 are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.
64. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 74-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
65. A Mitigated Negative Declaration was certified by the District on 3 October 2017 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Mitigated Negative Declaration describes the WWTF as currently operating at 88% of the design treatment capacity and is in need of expansion. The improvement and expansion of the District's WWTF will allow for 0.325 MGD design capacity, to serve the growing service needs of the unincorporated community of Riverdale.
66. The Mitigated Negative Declaration evaluated the potential impacts to groundwater quality and found that compliance with WDRs will ensure that impacts to water quality would be less than significant. Compliance with this Order will mitigate or avoid significant impacts to water quality.
67. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 CFR 503, *Standards for the Use or Disposal of Sewage Sludge*, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria.
68. The Central Valley Water Board is using the standards in 40 CFR 503 as guidelines in establishing this Order, but the Central Valley Water Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.
69. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public Notice

70. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
71. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.
72. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order 85-252 is rescinded and, that the Riverdale Public Utility District, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.
3. Bypass or overflow of untreated or partially treated wastes is prohibited, except as allowed by Standard Provisions E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991.
4. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
5. The Discharger shall not allow toxic substances to be discharged into the wastewater treatment system such that biological treatment mechanisms are disrupted.

B. Flow Limitations

1. The monthly average discharge flow shall not exceed:
 - a. **0.250 mgd** until Phase 1 of the WWTF expansion is complete;
 - b. **0.275 mgd** once Phase 1 is complete and Provision G.12 is satisfied; and
 - c. **0.325 mgd** once Phase 2 is complete and Provision G.13 is satisfied.

C. Effluent Limitations

1. The effluent discharge to the evaporation/percolation ponds shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD	mg/L	40	80
TSS	mg/L	40	80

2. The arithmetic mean of BOD and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (80 percent removal).
3. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 umhos/cm or a maximum of 1,600 umhos/cm, whichever is more stringent. The flow-weighted average of the effluent shall be a moving average for the most recent 12 months. When the source water is from more than one source, the EC shall be a flow weighted average of all sources.

D. 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. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and percolation/evaporation ponds at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
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 WWTF shall be prevented through such means as fences, signs, or acceptable alternatives.
7. Objectionable odors as a result of the operation of the WWTF shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.

8. As a means of discerning compliance with Discharge Specification D.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
9. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
11. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.9 and D.10.
12. 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.

13. 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.
14. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every five years beginning in 2019, and shall periodically remove sludge as necessary to maintain adequate storage capacity.

E. Groundwater Limitations

Release of waste constituents from any portion of the WWTF shall not cause or contribute to groundwater:

- a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality, whichever is greater:
 - (i) Nitrate as Nitrogen of 10 mg/L.
 - (ii) Total Coliform Organisms of 2.2 MPN/100 mL.
 - (iii) For constituents identified in Title 22, the primary and secondary MCLs quantified therein.
- b. Containing taste or odor-producing constituents, toxic substances, or any other constituent in concentrations that cause nuisance or adversely affect beneficial uses.

F. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. 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.

1. Sludge and solid waste shall be removed from screens, sumps, and ponds as needed to ensure optimal plant operation.
2. Any handling and storage of residual sludge, solid waste, and biosolids at the WWTF shall be temporary (i.e., no longer than six months) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

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

G. Provisions

1. The Discharger shall comply with MRP R5-2018-0028, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer.
2. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions), which are attached hereto and made part of this Order.
3. A copy of this Order, including its MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are

installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

5. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of a person registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work. All reports required herein are required pursuant to Water Code section 13267.
6. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
7. 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.
8. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

9. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
10. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
11. The Discharger shall provide certified wastewater treatment plant operators in accordance with CCR, Title 23, division 3, chapter 26.
12. **Upon completion of Phase 1 of the upgraded WWTF and prior to operation of the upgraded WWTF**, the Discharger shall submit, for Executive Officer approval, a technical report in the form of an engineering report and certification that demonstrate that the Phase 1 upgrades to the WWTF have been completed as designed. Upon approval of the Phase 1 engineering report, the Discharger shall comply with WDRs Order R5-2018-0028, Flow Limitations B.1.b, and may increase the discharge from the WWTF to **0.275 mgd**.
13. **Upon completion of the Phase 2 of construction of the upgraded WWTF and prior to increasing the flow to 0.325 mgd**, the Discharger shall submit, for Executive Officer approval, a technical report in the form of an engineering report and certification that demonstrate that the Phase 2 upgrades to the WWTF have been completed as designed. Upon approval of the engineering report for the Phase 2 improvements to the WWTF, the Discharger shall comply with WDRs Order R5-2018-0028, Flow Limitations B.1.c, and may increase the discharge from the WWTF to **0.325 mgd**.
14. **By 8 October 2018**, the Discharger shall submit a Salinity Management Plan, with salinity source reduction goals and an implementation time schedule for Executive Officer approval. Specifically, the Salinity Management Plan should address the chloride content of the discharge and identify any additional methods that could be used to further reduce the salinity and chloride content of the discharge. The Salinity Management Plan should, to the maximum extent feasible, include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement various elements in the salinity control plan.
15. **By 8 October 2018**, the Discharger shall submit a Work Plan to evaluate groundwater quality beneath and directly downgradient of the WWTF and recommend an appropriate groundwater monitoring network. **By 8 April 2019**, the Discharger shall implement the approved groundwater monitoring work plan and initiate monitoring of its groundwater monitoring well network. Existing off-site monitoring wells, irrigation, and domestic water wells may be considered if criteria are met (i.e., reasonable horizontal and vertical placement of well intake intervals reflect uppermost first encountered groundwater in the area).

16. **Upon compliance with the requirements of Provision G.12**, the Discharger shall submit a Work Plan to evaluate any potential sludge removal and disposal resulting from the decommissioning of the existing treatment and storage ponds at the WWTF. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried biosolids will be removed from the site prior to the onset of the rainy season (**1 October**).
17. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
18. The Discharger shall continue to maintain coverage under, and comply with *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, Water Quality Order 2006-0003-DWQ and the Revised General WDRs Monitoring and Reporting Program Order 2013-0058-EXEC, and any subsequent revisions thereto as adopted by the State Water Board. Water Quality Order 2006-0003 and Order 2013-0058-EXEC requires the Discharger to notify the Central Valley Water Board and take remedial action upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow.
19. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

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.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order 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 may be found on the Internet at:

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

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 6 April 2018.

Original signed by

PAMELA C. CREEDON, Executive Officer

Order Attachments:

- A Site Vicinity Map
- B Site Map

Monitoring and Reporting Program No. R5-2018-0028
Information Sheet

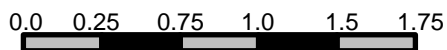
Standard Provisions (1 March 1991) (separate attachment to the Discharger only)



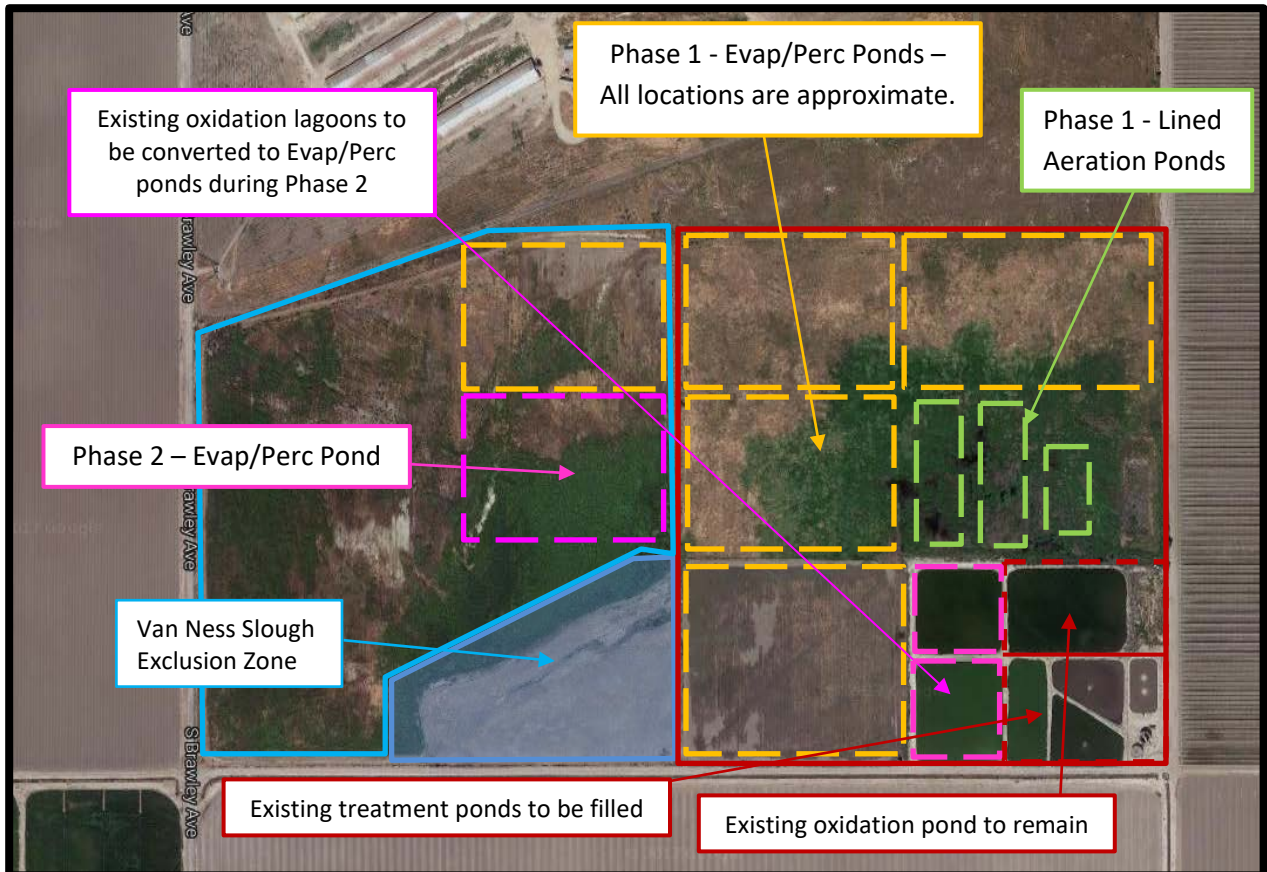
SITE VICINITY MAP

ORDER R5-2018-0028
 WASTE DISCHARGE REQUIREMENTS
 FOR
 RIVERDALE PUBLIC UTILITY DISTRICT
 WASTEWATER TREATMENT FACILITY
 FRESNO COUNTY

Approximate Scale in Miles



ATTACHMENT A



SITE PLAN

ORDER R5-2018-0028
 WASTE DISCHARGE REQUIREMENTS
 FOR
 RIVERDALE PUBLIC UTILITY DISTRICT
 WASTEWATER TREATMENT FACILITY
 FRESNO COUNTY

Approximate Scale in Feet



ATTACHMENT B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2018-0028
FOR
RIVERDALE PUBLIC UTILITY DISTRICT
WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH, electrical conductivity, and dissolved oxygen) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the State Water Resources Control Board (State Water Board), Division of Drinking Water, Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 8.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Point Name	Monitoring Location Description
INF-01	Location where a representative sample of the wastewater treatment facility (WWTF) influent can be obtained prior to any additives, treatment processes, and WWTF return flow.
EFF-01	Location where a representative sample of the WWTF effluent can be obtained prior to discharge into the percolation/evaporation ponds (EFF-01).
PND-01 through PND-07	Storage Ponds (all effluent storage ponds that store effluent at the WWTF).
SWS-001	Source water supply for the WWTF.
SLD-01	Location where a representative sample of the WWTF sludge/biosolids can be obtained.

INFLUENT MONITORING

The Discharger shall monitor the influent to the WWTF at INF-001 as follows:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units¹</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH units	Grab
Weekly	Electrical Conductivity	umhos/cm	Grab
Twice Monthly	Total Suspended Solids	mg/L	Grab
Twice Monthly	Biochemical Oxygen Demand	mg/L	Grab
Monthly	Chloride	mg/L	Grab

1. mgd = million gallons per day; umhos/cm = micromhos per centimeter; mg/L = milligrams per liter.

EFFLUENT MONITORING

The Discharger shall monitor the treated effluent at EFF-01. Effluent Monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units¹</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	Electrical Conductivity	umhos/cm	Grab
Twice Monthly	Total Dissolved Solids	mg/L	Grab
Twice Monthly	Biochemical Oxygen Demand	mg/L	Grab
Twice Monthly	Total Suspended Solids	mg/L	Grab

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units¹</u>	<u>Sample Type</u>
Monthly	Nitrate as Nitrogen	mg/L	Grab
Monthly	Ammonia as Nitrogen	mg/L	Grab
Monthly	Total Kjeldahl Nitrogen	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Grab
Monthly	Chloride	mg/L	Grab
Annually	General Minerals	varies	Grab

¹ mgd = millions of gallons per day; umhos/cm = micromhos per centimeter; mg/L = milligrams per liter; Varies = mg/L or micrograms per liter (ug/L), whichever is appropriate.

POND MONITORING

A permanent marker (e.g., staff gages) shall be placed in all WWTF ponds. The marker shall have calibrations indicating water level at the design capacity and available operational freeboard. Effluent storage pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	Dissolved Oxygen (DO) ¹	Milligrams per liter	Grab ²
Weekly	Freeboard	Feet ³	Observation

- Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem has been resolved.
- DO shall be measured between 8:00 am and 10:00 am and shall be taken opposite the pond inlet at a depth of approximately one foot.
- To the nearest tenth of a foot.

The Discharger shall inspect the condition of the storage pond weekly and record visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the storage pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

SOURCE WATER MONITORING

The Discharger shall collect source water samples from its source water well or wells at SW-1 and analyze them for the constituents specified in the following table. If the source water is from more than one source (surface and/or groundwater), the results shall also be presented as a flow weighted average of all the sources used.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units¹</u>	<u>Sample Type</u>
Quarterly	Electrical Conductivity	umhos/cm	Grab
Annually	General Minerals	varies	Grab

¹ umhos/cm = micromhos per centimeter; mg/L = milligrams per liter; Varies = mg/L or micrograms per liter (ug/L), whichever is appropriate.

SLUDGE/BIOSOLIDS MONITORING

If used for land application, the Discharger shall sample sludge/biosolids at SLD-001 for the following prior to the disposal of the sludge/biosolids:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

Monitoring shall be conducted using the methods in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) and updates thereto, as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4).

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogens reduction levels by one of the methods listed in 40 CFR, Part 503.32. The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b). The Discharger also needs to demonstrate that the facility where sludge is hauled to complies with 40 CFR, Part 503.

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports** which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

First Quarter Monitoring Report:	1 May
Second Quarter Monitoring Report:	1 August
Third Quarter Monitoring Report:	1 November
Fourth Quarter Monitoring Report:	1 February

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence shall be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be mailed to: centralvalleyfresno@waterboards.ca.gov. Documents that are 50MB or larger should be transferred to a disc and mailed to the appropriate regional water board office, in this case 1685 E Street, Fresno, CA, 93706.

To ensure that your submittals are routed to the appropriate staff, the following information should be included.

Program: Non-15, WDID: 5D100114001, Facility Name: Riverdale PUD WWTF,

Order: R5-2018-0028.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

In the future, the State or Central Valley Water Board may notify the Discharger to electronically submit and upload monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site <http://www.waterboards.ca.gov/ciwqs/index.html> or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater Reporting:

1. The results of Influent, Effluent, and Pond Monitoring specified on pages 2 and 3.
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flows from the wastewater stream.
3. For each month of the quarters, calculation of a 12-month rolling average EC of the discharge using the EC value for that month averaged with EC values for the previous 11 months.

4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.
5. A summary of the notations made in the pond monitoring log during each quarter. Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Pond Monitoring Reporting

1. The results of monitoring specified on page 3.

Source Water Reporting

1. The results of Source Water Monitoring (EC results) specified on page 3.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Wastewater Treatment Facility Information:

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment, handling, and disposal.
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.
3. A statement certifying when the flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).
4. A statement whether the current operation and maintenance manual, sampling plan, salinity management plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
5. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.
6. The results of an annual evaluation conducted pursuant to Standard Provision E.4 and a figure depicting monthly average discharge flow for the previous five calendar years.
7. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall discuss the corrective actions taken and the plan to bring the discharge back into compliance with Order R5-2018-0028.

Source Water Reporting

1. For each annual period, the results of the source water monitoring specified on page 3. Results must include supporting calculations.

Solids Reporting

1. Annual production of totals solids (excluding trash and recyclables) in dry tons or cubic yards.
2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.
 - a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
 - b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
 - c. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.
 - d. For incineration, include: the name and location of the site where incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by:

Original signed by

PAMELA C. CREEDON, Executive Officer

4/5/2018

(Date)

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand		
CBOD	Carbonaceous BOD		
DO	Dissolved oxygen		
EC	Electrical conductivity at 25° C		
FDS	Fixed dissolved solids		
NTU	Nephelometric turbidity unit		
TKN	Total Kjeldahl nitrogen		
TDS	Total dissolved solids		
TSS	Total suspended solids		
Continuous	The specified parameter shall be measured by a meter continuously.		
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.		
Daily	Samples shall be collected every day.		
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.		
Weekly	Samples shall be collected at least once per week.		
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.		
Monthly	Samples shall be collected at least once per month.		
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months		
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.		
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.		
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.		
mg/L	Milligrams per liter		
mL/L	Milliliters [of solids] per liter		
µg/L	Micrograms per liter		
µmhos/cm	Micromhos per centimeter		
mgd	Million gallons per day		
MPN/100 mL	Most probable number [of organisms] per 100 milliliters		
General Minerals	Analysis for General Minerals shall include at least the following:		
	Alkalinity	Chloride	Sodium
	Bicarbonate	Hardness	Sulfate
	Calcium	Magnesium	TDS
	Carbonate	Potassium	
	General Minerals analyses shall be accompanied by documentation of cation/anion balance.		

INFORMATION SHEET

INFORMATION SHEET - ORDER NO. R5-2018-0028
RIVERDALE PUD
WASTEWATER TREATMENT FACILITY
FRESNO COUNTY

Background

The Riverdale Public Utility District (District or Discharger) submitted a Report of Waste Discharge (RWD), proposing the expansion of the existing Riverdale wastewater treatment facility (WWTF). The WWTF is about a mile north of the community of Riverdale.

The current discharge from the WWTF is regulated by Waste Discharge Requirements (WDRs) Order 85-252 that allows a discharge of up to 0.25 million gallons per day (mgd) of domestic wastewater. The WWTF is currently discharging an average of about 0.21 mgd or about 88 percent of the design treatment capacity. The RWD estimates growth over the next 20 years and proposes increasing the treatment capacity in two phases. The first phase would increase the treatment and disposal capacity to 0.275 mgd and the second phase would increase the treatment and disposal capacity to 0.325 mgd and would be completed in about ten years.

Wastewater Generation and Disposal

The existing WWTF is an aerated lagoon system designed to remove biochemical oxygen (BOD) and total suspended solids (TSS). Raw wastewater or influent enters at the headworks where it passes through a comminutor, prior to being discharged to an unlined complete-mix aerated lagoon. The effluent is then discharged to one of six unlined oxidation lagoons, where the effluent percolates into the underlying soil/substrate, evaporates, or is discharged to open land north of the WWTF.

The new treatment system will consist of three, lined aeration ponds. From the treatment ponds, effluent will be discharged to a series of new disposal (evaporation/percolation) ponds installed in two phases. Some of the existing treatment ponds will be converted to disposal (evaporation/percolation) ponds. The new evaporation/percolation ponds proposed for the site will occupy the area of the current land application area.

Groundwater Considerations

Groundwater in the area of the Riverdale WWTF is contained in two primary aquifers. An unconfined aquifer is present above the E-Clay or Corcoran Clay, which is reported to be at about 450 feet below the ground surface (bgs) beneath the WWTF and is about 80 to 100 feet thick. Below the E-Clay, the aquifer is confined. Historically, the Van Ness Slough flowed across the WWTF property from east to west. The presence of a slough in the area indicates perched waters may be present as well.

The exact depth to first encountered groundwater beneath the WWTF is unknown, but some regional information is available. Depth to groundwater is addressed in the Antidegradation Report that indicates the depth to water has dropped 100 feet since 2010 and is at about 240 feet bgs. The District indicates they just installed a new supply well and groundwater was

encountered at a depth of 240 feet bgs. The Department of Water Resources has groundwater information (*Tulare Lake Groundwater Basin, Spring 2010, Lines of Equal Depth to Water in Wells, Unconfined Aquifer*) and the general direction of groundwater flow was to the west/southwest and the depth to water in the spring of 2010 is shown as being about 170 feet bgs.

Additional Regulatory Considerations

The Tulare Lake Basin Plan states that the evaporation of reclaimable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use of proposed use of fresh water with reclaimed water. To that end, the District circulated a 29 November 2016 letter to adjacent property owners that grow alfalfa, hay, or fodder crops within a mile of the WWTF to evaluate possible interest in using undisinfected secondary treated wastewater for recycling. One property owner responded that they were interested in using the wastewater, but wanted to use District land as well as the wastewater due to the elevated EC of the wastewater. The WWTF has a long history of standing water in the existing land application area, which created nuisance conditions (mosquitoes). To eliminate the standing water issues associated with the recycling of wastewater to the land application area, the upgraded WWTF will utilize evaporation/percolation ponds for disposal.

Legal Effect of Rescission of Prior WDRs or Orders on Existing Violations

The 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.

Reopener

The conditions of discharge in the proposed 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 proposed Order would set 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.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
2. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
 - d. A material change in the character, location, or volume of discharge.
4. Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board. A material change includes, but is not limited to, the following:
 - a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements.
 - b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.
 - c. The addition of a major industrial, municipal or domestic waste discharge facility.
 - d. The addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

Waste Discharge to Land

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.
6. The discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.
7. The discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
8. The discharger shall permit representatives of the Regional Board (hereafter Board) and the State Water Resources Control Board, upon presentations of credentials, to:
 - a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,
 - b. Copy any records required to be kept under terms and conditions of this Order,
 - c. Inspect at reasonable hours, monitoring equipment required by this Order, and
 - d. Sample, photograph and video tape any discharge, waste, waste management unit, or monitoring device.
9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
10. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be a defense for the discharger's violations of the Order.
11. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the California Water Code, Section 13050.
12. The discharge shall remain within the designated disposal area at all times.

B. General Reporting Requirements:

1. In the event the discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the discharger shall notify the Board by telephone at **(916) 464-3291** [*Note: Current phone numbers for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.*] as soon as it or its agents

Waste Discharge to Land

have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within **two weeks**. The written notification shall state the nature, time and cause of noncompliance, and shall include a timetable for corrective actions.

2. The discharger shall have a plan for preventing and controlling accidental discharges, and for minimizing the effect of such events.

This plan shall:

- a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.
- b. Evaluate the effectiveness of present waste management/treatment units and operational procedures, and identify needed changes of contingency plans.
- c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

The Board, after review of the plan, may establish conditions that it deems necessary to control leakages and minimize their effects.

3. All reports shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;
 - (1) the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;
 - (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) the written authorization is submitted to the Board

Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

4. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the discharger.
5. The discharger shall mail a copy of each monitoring report and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Note: Current addresses for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us or the current address if the office relocates.

C. Provisions for Monitoring:

1. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).
2. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

Unless otherwise specified, all metals shall be reported as Total Metals.

3. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to

Waste Discharge to Land

complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Record of monitoring information shall include:

- a. the date, exact place, and time of sampling or measurements,
 - b. the individual(s) who performed the sampling of the measurements,
 - c. the date(s) analyses were performed,
 - d. the individual(s) who performed the analyses,
 - e. the laboratory which performed the analysis,
 - f. the analytical techniques or methods used, and
 - g. the results of such analyses.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated at least yearly to ensure their continued accuracy.
 5. The discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling plan.
 6. The discharger shall construct all monitoring wells to meet or exceed the standards stated in the State Department of Water Resources *Bulletin 74-81* and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.22

D. Standard Conditions for Facilities Subject to California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15)

1. All classified waste management units shall be designed under the direct supervision of a California registered civil engineer or a California certified engineering geologist. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:
 - a. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board.
 - b. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
2. Prior to the discharge of waste to any classified waste management unit, a California registered civil engineer or a California certified engineering geologist must certify that the waste management unit meets the construction or prescriptive standards and performance goals in Chapter 15, unless an engineered alternative has been approved by the Board. In the case of an engineered alternative, the registered civil engineer or a certified engineering geologist must

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certify that the waste management unit has been constructed in accordance with Board-approved plans and specifications.

3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.
4. Closure of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or a California certified engineering geologist.

E. Conditions Applicable to Discharge Facilities Exempted from Chapter 15 Under Section 2511

1. If the discharger's wastewater treatment plant is publicly owned or regulated by the Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to California Code of Regulations, Title 23, Division 4, Chapter 14.
2. By-pass (the intentional diversion of waste streams from any portion of a treatment facility, except diversions designed to meet variable effluent limits) is prohibited. The Board may take enforcement action against the discharger for by-pass unless:
 - a. (1) By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production); and
 - (2) There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a by-pass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or
 - b. (1) by-pass is required for essential maintenance to assure efficient operation; and
 - (2) neither effluent nor receiving water limitations are exceeded; and
 - (3) the discharger notifies the Board ten days in advance.

The permittee shall submit notice of an unanticipated by-pass as required in paragraph B.1. above.

3. A discharger that wishes to establish the affirmative defense of an upset (see definition in E.6 below) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that:

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- a. an upset occurred and the cause(s) can be identified;
- b. the permitted facility was being properly operated at the time of the upset;
- c. the discharger submitted notice of the upset as required in paragraph B.1. above; and
- d. the discharger complied with any remedial measures required by waste discharge requirements.

In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof.

4. 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 Board by **31 January**.
5. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to disposal. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
6. Definitions
 - a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.
 - b. The monthly average discharge is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number is to be reported in gallons per day or million gallons per day.

Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges by the number of days during the month when the measurements were made.
 - c. The monthly average concentration is the arithmetic mean of measurements made during the month.
 - d. The "daily maximum" **discharge** is the total discharge by volume during any day.

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- e. The “daily maximum” **concentration** is the highest measurement made on any single discrete sample or composite sample.
- f. A “grab” sample is any sample collected in less than 15 minutes.
- g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period;
 - (1) at equal time intervals, with a maximum interval of one hour
 - (2) at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results.

7. Annual Pretreatment Report Requirements:

Applies to dischargers required to have a Pretreatment Program as stated in waste discharge requirements.)

The annual report shall be submitted **by 28 February** and include, but not be limited to, the following items:

- a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the influent and effluent for those pollutants EPA has identified under Section 307(a) of the Clean Water Act which are known or suspected to be discharged by industrial users.

The discharger is not required to sample and analyze for asbestos until EPA promulgates an applicable analytical technique under 40 CFR (Code of Federal Regulations) Part 136. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass Through incidents, if any, at the treatment plant which the discharger knows or suspects were caused by industrial users of the system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any

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additional limitations, or changes to existing requirements, may be necessary to prevent Pass Through, Interference, or noncompliance with sludge disposal requirements.

- c. The cumulative number of industrial users that the discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
 - (1) Complied with baseline monitoring report requirements (where applicable);
 - (2) Consistently achieved compliance;
 - (3) Inconsistently achieved compliance;
 - (4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
 - (5) Complied with schedule to achieve compliance (include the date final compliance is required);
 - (6) Did not achieve compliance and not on a compliance schedule;
 - (7) Compliance status unknown.

A report describing the compliance status of any industrial user characterized by the descriptions in items (d)(3) through (d)(7) above shall be **submitted quarterly from the annual report date** to EPA and the Board. The report shall identify the specific compliance status of each such industrial user. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the discharger during the past year to gather information and data regarding the industrial users. The summary shall include but not be limited to, a tabulation of categories of dischargers that were inspected and sampled; how many and how often; and incidents of noncompliance detected.

Waste Discharge to Land

- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
- (1) Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;
 - (2) Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (3) Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (4) Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - (5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
 - (6) Restriction of flow to the treatment plant; or
 - (7) Disconnection from discharge to the treatment plant.
- g. A description of any significant changes in operating the pretreatment program which differ from the discharger's approved Pretreatment Program, including, but not limited to, changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
- i. A summary of public participation activities to involve and inform the public.
- j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

Duplicate signed copies of these reports shall be submitted to the Board and:

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

and

State Water Resource Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812

Revised January 2004 to update addresses and phone numbers