

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2014-0163

WASTE DISCHARGE REQUIREMENTS  
FOR  
CITY OF HURON  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

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

**Background**

1. The City of Huron (hereafter City or Discharger) owns and operates a wastewater collection, treatment, and disposal system that provides sewage service for about 6,800 residents. The Wastewater Treatment Facility (WWTF) and effluent disposal ponds are in Fresno County (Assessor's Parcel Numbers 075-03-271 and 075-03-222, respectively), in sections 1 and 12, T16S, R19E, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference.
2. In 1987, Huron completed WWTF improvements designed for 1.0 mgd flow, but the WWTF reportedly reached actual treatment capacity at about 0.5 mgd. The Discharger submitted a Report of Waste Discharge (RWD) on 18 February 2005 in support of a project to increase the treatment and disposal capacity of the WWTF to 1.0 million gallons per day (mgd) and generally improve its function with new headworks, treatment ponds, disposal ponds, and biosolids management system. At the request of Central Valley Water Board staff, the Discharger submitted additional information. Staff notified the Discharger that the information it had submitted as of 27 April 2005 is sufficient for preparation of updated waste discharge requirements. The Discharger completed the proposed WWTF improvement project in 2006, with new headworks, concrete-lined extended aeration treatment ponds, clay-lined sludge-drying beds, and new disposal ponds.
3. Central Valley Water Board staff Issued Revised Monitoring and Reporting Program 87-012 on 23 June 2008, effective 1 July 2008.
4. Waste Discharge Requirements (WDRs) Order 87-012, adopted by the Central Valley Water Board on 23 January 1987, prescribes requirements for the WWTF. Order 87-012 limits wastewater flow to no more than 1.0 mgd, but generally does not reflect the current WWTF and discharge. The purpose of this Order is to rescind the previous Order and update waste discharge requirements, in part, to ensure the discharge is consistent with water quality plans and policies, to prescribe requirements that are effective in preserving existing and potential beneficial uses of receiving waters, and to reflect changes made to the WWTF.
5. The Discharger owns and operates the WWTF and collection system and is responsible for compliance with these WDRs.

### Wastewater Treatment Facility and Discharge

6. WDRs Order 87-012 describes the WWTF as it existed prior to implementation in 2005 and 2006 of WWTF improvements. The facilities consisted of a lift station, Parshall flume, barminutor, four unlined facultative (non-aerated) treatment ponds (about 16 acres), and three evaporation/percolation effluent disposal ponds (about 17 acres).
7. The existing facilities, documented by Record Drawings dated 2 October 2006, consist of a lift station, magnetic flow meter, an auger screen, four concrete-lined and actively aerated treatment ponds (about 3.5 acres), eleven evaporation/percolation disposal ponds (about 59 acres), and a clay-lined sludge drying bed and dry sludge storage area. The first treatment pond is designed for complete mixing and includes multiple aerators. The last three treatment ponds, partial suspension ponds, are minimally mixed and aerated by design.
8. The Discharger's self-monitoring reports (SMRs) from June 2012 through May 2014 indicate the monthly average influent flow is about 0.47 mgd, ranging from 0.43 mgd to 0.49 mgd. The highest reported flow the Discharger reported for one day during this period is 0.98 mgd (March 2013).
9. Table 1 summarizes the results of WWTF effluent monitoring for the period of June 2012 through May 2014. The Discharger has not submitted results of required annual effluent general minerals or metals analyses. WWTF Influent monitoring requirements in Revised Monitoring and Reporting Program 87-012 are limited to flow, BOD, and total suspended solids (TSS).

Table 1. Summary of Effluent Analytical Results (2012-2014)

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Range</u>
EC	umhos/cm	1,065	459 - 1593
TDS	mg/L	572	360 - 940
Sodium <sup>1</sup>	mg/L	130	130
Chloride <sup>1</sup>	mg/L	160	160
Sulfate <sup>1</sup>	mg/L	96	96
Nitrate (as N)	mg/L	< 0.2	< 0.2 – 0.9
Total Nitrogen	mg/L	50	20 - 77
BOD	mg/L	22	5 - 62
Bicarbonate <sup>1</sup>	mg/L	330	330

<sup>1</sup> Based on analysis of a single effluent sample collected by Central Valley Water Board staff during an inspection on 12 June 2014.

10. Influent BOD ranged from 42 mg/L to 340 mg/L, with an average of 207 mg/L from June 2012 through May 2014. Table 1 shows that the WWTF is capable of achieving BOD removal to below 40 mg/L, a standard included in the Tulare Lake Basin Plan.
11. Influent nitrogen concentrations are expected to be consistent with typical domestic wastewater. The current treatment process does not appear to provide significant nitrogen removal. Relative to other WWTFs in the Region, effluent is high in total Kjeldahl nitrogen (TKN), which is indicative of insufficient dissolved oxygen concentrations in the treatment ponds for biological

nitrification to occur. The concentration of dissolved oxygen in the treatment ponds depends primarily on aerator duty cycle.

12. The RWD includes a water balance that indicates the WWTF is capable of accommodating the design flow of 1.0 mgd, plus seasonal precipitation with a 100-year return period. The headworks were reportedly designed to accommodate influent flows up to 2.0 mgd.
13. As part of the RWD, the Discharger submitted a geotechnical report characterizing soils underlying the WWTF. The report presents the results of sieve and hydrometer tests for samples collected at the depth of pond bottoms, and field percolation rates at the same depths. Soils in the upper 15 feet were characterized as either sandy or silty clay. Percolation test results ranged from 28 minutes per inch beneath Pond 1 (PND-001) to 363 minutes per inch beneath Pond 12 (PND-012) with an average of 87 minutes per inch.
14. The RWD includes a brief description of how future expansion of the RWD to 2.0 mgd could be accomplished through construction of an additional sludge drying bed and four additional treatment ponds, adjacent and similar in design to the existing ponds. The Discharger has not submitted detailed plans for the next phase of proposed expansion, which is not expected to be necessary within the next ten years.

### **Biosolids Management**

15. WDRs Order 87-012 requires that collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer. The RWD describes a plan to remove approximately 8,900 tons of sludge from the previous treatment ponds, the result of many years of accumulation. The plan was to haul the sludge to the Synagro West, Inc., facility in Merced County. The record does not include documentation of final sludge disposal.
16. The existing WWTF incorporates settled sludge collection ports at the bottom of the second and third treatment ponds, which directs sludge to a clay-lined sludge drying bed. Liquids drained off the sludge flow to a sump where they are pumped to the WWTF headworks. Dried sludge is stockpiled in the sludge storage area just west of the drying bed until there is sufficient quantity to economically remove it (no more than two years, according to the RWD).
17. Based on an addendum to the geotechnical report submitted with the RWD, prepared by John Minney (GE No. 602), soils underlying the sludge drying bed are approximately 50 percent clay and are expected to have a permeability less than  $10^{-7}$  cm/s when compacted. The record drawings show the subgrade was compacted to 95 percent relative density. The six-inch clay liner is native soil treated with 5 percent bentonite and compacted to 95 percent relative density.
18. The RWD includes a projected sludge production rate for a WWTF of this particular design of about 6,300 cubic yards of sludge annually (about 224 tons of dry sludge per year). However, the RWD states that sludge production rates have been less than the design projections at similar WWTFs in the Central Valley, and actual sludge generation is expected to be less than 175 tons of dry sludge per year. The RWD describes offsite land application of dry sludge at the Synagro West, Inc., facility in Merced County or at another permitted facility approved to receive the waste.

19. Screenings removed at the headworks are conveyed by an auger to a waste bin and are hauled to a landfill.

### **Site-Specific Conditions**

20. The WWTF lies about 25 miles east of the Southern Coast Ranges, on the west side of the San Joaquin Valley, at an elevation of about 335 feet above mean sea level.
21. 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 65 inches, according to Department of Water Resources (DWR) Bulletin No. 113-3. Western Regional Climate Center monitoring data for Five Points show the average annual precipitation in the discharge area is about 6.8 inches. The 100-year return period wet year precipitation is about 18 inches.
22. Soils in the vicinity of the WWTF are alluvium deposited by Los Gatos Creek, predominately sandy loams and clay loams. According to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service, the most prevalent soil series' in the area are Westhaven loam, Westhaven clay loam, and Excelsior sandy loam, all of which are sandy with relatively high permeability.
23. The area immediately north of the WWTF is characterized by occasional flooding and ponding due to high storm flows in Los Gatos Creek, which terminates about 1 mile north of the WWTF.
24. The current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number FM06019C3255H, revised 18 February 2009, identifies some areas of the WWTF (including the four new treatment ponds) as being in an area inundated by a 100-year return frequency flood. The FEMA map does not appear to have been modified to reflect the change in surface topography from the WWTF improvement project. The top elevations of WWTF berms containing wastewater are six to eight feet above the ground surface, which is expected to be above the level of 100-year return period flood waters.
25. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System General Industrial Storm Water Permit for the discharge because all storm water runoff is retained onsite and does not discharge to a water of the United States.
26. State Water Project water from the California Aqueduct less than half a mile east of the City provides the City's water supply.
27. The Discharger has performed weekly monitoring of source water EC, required to be done at least quarterly by Order 87-012, but has not submitted results of minerals analyses required annually. Supply water EC varies significantly over time (e.g., increasing from 300 umhos/cm in January 2012 to about 600 umhos/cm in April 2012), but is generally between 200 umhos/cm

and 900 umhos/cm. The Discharger submitted its 2013 Consumer Confidence Report to characterize source water for preparation of WDRs. The table below summarizes the results. Table 2. Water supply monitoring results (2013)

<u>Parameter</u>	<u>Units</u>	<u>Result</u>
Bicarbonate	mg/L	13
EC	umhos/cm	720
TDS	mg/L	380
Nitrate (as N)	mg/L	1.3
Chloride	mg/L	126
Sodium	mg/L	74
Sulfate	mg/L	47
Hardness	mg/L	131

28. The WWTF is within the Westlands Water District. Apart from urban uses within the City limits, land uses in the vicinity of the WWTF are primarily agricultural. Fresno County records for 2013 show pesticide permits for farmland within two miles of the WWTF were issued for almonds, garbanzo beans, broccoli, cotton, garlic, lettuce, melon, oats, onion, pistachio, pumpkin, tomato, and wheat.
29. Westlands Water District publishes a water supply report on its website that indicates the majority of irrigation water (up to 90 percent) is from the Central Valley Project (Aqueduct), but the amount depends on water availability. The District projects that nearly 70 percent of its water will be supplied by groundwater wells in the 2014 to 2015 water year (March through February).

### **Groundwater Considerations**

30. The WWTF is in the Westlands Hydrologic Area (No. 551.10) of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by the State Water Resources Control Board in August 1986.
31. The WWTF is outside the area described in *Lines of Equal Elevation of Water in Wells, Unconfined Aquifer*, published by DWR. The Discharger has no groundwater monitoring wells onsite and the State Water Resources Control Board Geotracker database shows no groundwater monitoring wells installed in the City.
32. The Corcoran Clay occurs at a depth of about 700 feet below the WWTF. The western edge of the Corcoran Clay is within about 1,500 feet of the WWTF to the southwest, near the center of the City.
33. The WWTF is about five miles west of a large area, spanning from Kettleman City north almost to Patterson, characterized by shallow groundwater and poor drainage. Maps published by DWR indicate the depth to groundwater in that area ranges from less than five to less than 20 feet below ground surface (bgs). Groundwater was encountered in two wells in the unconfined aquifer between the shallow groundwater area and the WWTF at depths of about 80 feet and 150 feet in the 1960s. The depth to groundwater in the immediate vicinity of the WWTF appears to be in the range of about 300 to 400 feet bgs.

34. A 1957 groundwater report by the United States Geologic Survey (USGS) called *Ground-Water Conditions in the Mendota-Huron Area Fresno and Kings Counties, California*, characterizes groundwater quality in the area. It describes groundwater in the unconfined aquifer, above the Corcoran Clay, as generally containing high concentrations of calcium and magnesium sulfate, with a TDS of about 3,000 mg/L. All of the wells within 5 miles of the WWTF in the USGS database of published groundwater quality data are screened either below or across the Corcoran Clay, with an average depth of about 2,000 feet bgs.
35. Staff from Westlands Water District provided water quality data, and some groundwater surface elevation data, for 29 wells within three miles of the WWTF. Most of the data is from monitoring performed in the 1950s and 1960s, the same as that provided in the published USGS database. The dataset from Westlands only includes wells with screened interval either through or above the Corcoran Clay, though only three are fully above the Clay, installed to depths of 301 feet, 200 feet, and 151 feet bgs. Table 3 summarizes the dataset provided by Westlands Water District.

Table 3. Summary of Groundwater Quality

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Range</u>
EC	umhos/cm	2,210	1,240 - 4,700
Sodium	mg/L	220	53 - 477
Chloride	mg/L	101	36 - 322
Sulfate	mg/L	903	459 - 1,770
Nitrate (as N)	mg/L	3.6	0.54 - 9.7
Bicarbonate	mg/L	151	82 - 231

36. Table 3 shows high variability in groundwater quality. The shallow wells exhibit the poorest quality. None of the samples contained nitrate above the Maximum Contaminant Level (MCL) of 10 mg/L. For wells screened through the Corcoran Clay, the deeper water likely dilutes the poorer quality shallower water.

**Basin Plan, Beneficial Uses, and Water Quality Objectives**

37. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (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 Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.
38. The WWTF is in Detailed Analysis Unit (DAU) No. 244, within the Westside Basin hydrologic unit. The beneficial uses of underlying groundwater as set forth in the Basin Plan for this DAU are municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service supply (IND).
39. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in 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 Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. 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.
41. 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.
42. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until a mechanism to carry salts out of the basin is established. To limit the degradation, the Basin Plan establishes several salt management requirements, including:
  - a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500  $\mu\text{mhos/cm}$ .
  - b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000  $\mu\text{mhos/cm}$ , a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.
43. This Order implements the maximum discharge EC limit of no more than the source water EC plus 500  $\mu\text{mhos/cm}$  as a 12-month rolling average. The discharge has exceeded this level (by an average of 130  $\mu\text{mhos/cm}$ ) about 70 percent of the time since January 2012. Provision F.20 of this Order requires the Discharger to submit a Salinity Management Plan, and includes a time schedule for implementation that will bring the Discharger into compliance with the 500  $\mu\text{mhos/cm}$  over source effluent EC limit by (seven years following Order adoption).
44. As indicated in Finding 35, receiving groundwater has an EC of over 1,000  $\mu\text{mhos/cm}$  (likely over 2,000  $\mu\text{mhos/cm}$ ). The concentration of chloride in first encountered groundwater may be low, as it is influenced by deeper groundwater with concentrations below 100 mg/L. As such, the effluent limit for EC does not apply, but the effluent limit for chloride does apply to the discharge. The concentration of boron in receiving water is unknown (nearby wells average about 1.1 mg/L), but the discharge does not appear to be near the Basin Plan limit of 1.0 mg/L, with an effluent concentration of about 0.4 mg/L.

45. The Basin Plan requires that each RWD for a land disposal operation justify why reclamation is not practiced or proposed. The Discharger has not fulfilled this requirement.

### **Antidegradation Analysis**

46. State Water Board Resolution No. 68-16 (*"Policy with Respect to Maintaining High Quality Water of the State"*) (the "Antidegradation Policy") prohibits degradation of groundwater unless it has been shown that:
- a. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;
  - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
  - c. The discharger employs Best Practicable Treatment or Control (BPTC) to minimize degradation; and
  - d. The degradation is consistent with the maximum benefit to the people of the state.
47. In general, underlying groundwater quality is expected to be of poorer quality than the discharge. For example, WWTF effluent EC, which is indicative of overall salinity, averages about 1,100 umhos/cm compared to a groundwater EC likely above 2,000 umhos/cm. However, particular constituents in the discharge have potential to cause groundwater degradation, including nitrogen and chloride. Chloride concentrations are low (less than 100 mg/L) in deeper groundwater, in contrast to 160 mg/L chloride in the single effluent sample collected during an inspection by Central Valley Water Board staff. This Order includes an effluent chloride limit of no more than 175 mg/L, which sufficiently limits groundwater degradation to a minimal amount that does not result in adverse effects on beneficial uses.
48. While available groundwater data is limited, it appears to indicate that first encountered groundwater contains low concentrations of nitrate (Findings 35 and 36), below the Maximum Contaminant Level (MCL) of 10 mg/L as nitrogen.
49. At about 50 mg/L, effluent is relatively high in TKN. Some losses may occur as ammonia volatilizes in the disposal ponds, but most of the nitrogen is expected to convert to nitrate in vadose zone soils over time as it percolates to groundwater. The presence of clay layers in the stratigraphy immediately below the disposal ponds may be conducive to denitrification, but the Discharger has not provided evidence to demonstrate that sufficient nitrogen removal will occur that the discharge will not cause groundwater degradation with nitrate that could adversely affect the beneficial use of groundwater. Improved denitrification is expected in the soil column if WWTF effluent is sufficiently nitrified prior to percolation.
50. The Discharger currently disposes of WWTF effluent only by evaporation and percolation in disposal ponds. Crops irrigated with WWTF effluent would take up nitrogen and reduce the potential for groundwater degradation with nitrate. Provision F.18 of this Order requires the Discharger to identify potential uses of recycled water in the area and move forward with a recycled water project, if possible. If the Discharger demonstrates that crop irrigation with WWTF is infeasible, Provision F.19 of this Order also requires the Discharger to either reduce effluent nitrogen concentrations or otherwise demonstrate that disposal practices will not cause groundwater to contain concentrations of nitrate above the MCL.



51. This Order includes influent and effluent monitoring requirements to verify that the discharge does not cause violations of water quality objectives or impairment of beneficial uses.
52. The WWTF described in Finding 7, will provide treatment and control of the discharge that incorporates:
  - a. Secondary treatment of wastewater;
  - b. An operation and maintenance manual;
  - c. Lined treatment ponds and sludge handling facilities to limit the amount of waste that percolates to groundwater.
  - d. Certified operators to ensure proper operation and maintenance; and
  - e. Source water and discharge monitoring.

The Board finds that the preceding treatment and control measures represent BPTC for these discharges.

53. Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., sodium, chloride, sulfate, and nitrate) released with discharge from a municipal wastewater utility after effective source control, treatment, and control 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. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the state, and therefore provides sufficient reason to accommodate planned growth and allow for limited groundwater degradation.

#### **Other Regulatory Considerations**

54. 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.
55. Based on the threat and complexity of the discharge, the WWTF 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: "Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units."

56. Title 27 of the California Code of Regulations (hereafter "Title 27") contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. 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. Title 27, section 20090 states in part:

(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 regional water quality control board has issued WDRs, reclamation requirements, or waived such issuance;
- (2) The discharge is in compliance with 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.

57. The discharge authorized herein is exempt from the requirements of Title 27 in accordance with Title 27, section 20090(b) because:

- a. The Central Valley Water Board is issuing WDRs.
- b. The discharge is in compliance with the Basin Plan, and;
- c. The treated effluent discharged to ponds does not need to be managed as hazardous waste.

58. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The wastewater treatment facility has a design capacity of less than 1.0 mgd; therefore, the Discharger is not required to obtain coverage under NPDES General Permit CAS000001.

59. Water Code section 13267(b) states that:

In conducting an investigation specified in subdivision (a), the Central Valley Water 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...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Central Valley Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Central Valley Water 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.

60. The technical reports required by this Order and monitoring reports required by the attached MRP R5-2014-0163 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the wastewater treatment facility that discharges the waste subject to this Order.
61. DWR set standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991). These standards, and any more stringent standards adopted by the State or county pursuant to California Water Code section 13801, apply to all monitoring wells.
62. The City circulated a document entitled *Environmental Assessment and Finding of No Significant Impact* in September 2001 for the WWTF expansion and improvement project. The City certified a Negative Declaration and issued a Notice of Determination for the project in January 2002. The City later certified an Environmental Impact Report (EIR) for General Plan Update 2005-2025 in July 2007. The discharge authorized by this Order is within the scope of the projects described in the Negative Declaration and EIR. The action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.
63. 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.
64. The Discharger has been in discussion with a cotton grower who owns land adjacent to the WWTF to the east about using WWTF effluent for a recycled water project. Central Valley Water Board staff has notified the Discharger that it needs to explore the possibility of recycling WWTF effluent and explained the requirements for use of recycled water.
65. Title 22, section 60323, requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. The Discharger has not submitted a Title 22 Engineering Report to the State Water Board Division of Drinking Water. A provision requiring the Discharger to submit a Title 22 Engineering Report to the Division of Drinking Water (prior to implementation of a recycled water project) and a written copy of the letter from the Division of Drinking Water approving the Title 22 Engineering Report prior to the application of recycled water is included in this Order.

66. On 2 May 2006, the State Water Resources Control Board (hereafter State Water Board) adopted a General Sanitary Sewer System Order (State Water Resources Control Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*) (the "General Order"). The General Order requires that all public agencies that own or operate sanitary sewers systems greater than one mile in length comply with the General Order. The Discharger's collection system is greater than one mile in length. The Discharger has been enrolled under the General Order since 3 January 2007.
67. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 Code of Federal Regulations part 503, Standards for the Use or Disposal of Sewage Sludge, which establish management criteria for protection of ground and surface waters, sets limits and application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA.
68. 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**

69. 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 conditions of discharge of this Order.
70. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
71. All comments pertaining to the discharge were heard and considered in a public meeting.

**IT IS HEREBY ORDERED** that Waste Discharge Requirements Order 87-012 is rescinded, and pursuant to Water Code sections 13263 and 13267, City of Huron, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

#### **A. Discharge Prohibitions**

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by Standard Provisions E.2 in *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in California Code of Regulations, title 23, section 2521(a), is prohibited.
4. Discharge of wastewater in a manner or location other than that described herein or in the RWD is prohibited.

## B. Effluent Limitations

1. Representative samples from location EFF-001, as identified in MRP R5-2014-0163 shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> <sup>1</sup>	mg/L	40	80
TSS <sup>2</sup>	mg/L	40	80

<sup>1</sup> Five-day biochemical oxygen demand

<sup>2</sup> Total suspended solids

2. The arithmetic mean of BOD<sub>5</sub> and TSS in effluent (EFF-001) 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 (EFF-001) shall not exceed the 12-month flow weighted average EC of the source water plus 500 umhos/cm. Compliance with this effluent limitation shall be determined monthly. The Discharger shall comply with this limit in accordance with Provision F.20.
4. The discharge (EFF-001) shall not contain chloride in a concentration exceeding 175 mg/L.

## C. Discharge Specifications

1. The monthly average dry weather discharge flow shall not exceed 1.0 mgd.
2. No waste constituent shall be released, discharged, or placed where it will cause violation of Groundwater Limitations of this Order.
3. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
4. The discharge shall remain within the permitted waste treatment/containment structures and Use Areas at all times.
5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
6. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
7. Public contact with effluent (treatment works, percolation ponds) shall be precluded through such means as fences, signs, or acceptable alternatives.
8. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.

9. The 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 continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
10. On or about **1 October** of each year, available pond storage capacity shall be at least equal the volume necessary to comply with Discharge Specification C.9.
11. All ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.
  - c. Dead algae, vegetation and other debris shall not accumulate on the water surface.
  - d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the April 1 to June 30 bird nesting season.
  - e. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
12. The Discharger shall periodically monitor sludge accumulation in the wastewater treatment/storage ponds and shall remove sludge as necessary to maintain adequate treatment and storage capacity.

#### **D. Solids Disposal Specifications**

Sludge 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 screening material 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 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, aeration basins, ponds, clarifiers, etc., as needed to ensure optimal plant operation.
2. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) 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, solid waste, and biosolids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or

reuse at sites (i.e., landfill, composting sites, and soil amendment sites) operated in accordance with valid waste discharge requirements 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 or a local (e.g., county) program authorized by a regional water board. In most cases, this means the General Biosolids Order (State Water 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 authorized by the General Biosolids Order, the Discharger must file a complete Notice of Applicability for each project.
5. 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.

#### **E. Groundwater Limitations**

1. Release of waste constituents from any treatment, reclamation or storage component associated with the discharge 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 N) of 10 mg/L.
    - (ii) For constituents identified in Title 22, the MCLs quantified therein.
  - b. Containing Total Coliform Organisms over any 7-day period equaling or exceeding 2.2 MPN/100 mL.

#### **F. Provisions**

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions), which are part of this Order.
2. The Discharger shall comply with MRP R5-2014-0163, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer.
3. 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.
4. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
5. The Discharger shall not allow pollutant-free wastewater to be discharged into the WWTF collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e.,

inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.

6. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
7. The Discharger must 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 only when the operation is necessary to achieve compliance with the conditions of this Order.
8. The Discharger shall provide certified wastewater treatment plant operators in accordance with California Code of Regulations, title 23, division 3, chapter 26.
9. 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."
10. The Discharger shall maintain and operate ponds sufficiently to protect the integrity of containment levees and prevent overtopping or overflows. 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 shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain a permanent marker with calibration that indicates the water level at the design capacity and enables determination of available operational freeboard.
11. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following provisions by the due dates specified.
12. 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 persons 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.

13. 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 any revisions thereto as adopted by the State Water Board.
14. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall 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.
15. To assume operation 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 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.
16. **By 5 June 2015**, the Discharger shall submit documentation that it has properly disposed of the estimated 8,900 tons of sludge that had accumulated in previous treatment ponds at a facility authorized to receive the waste, as described in the RWD.
17. **By 5 June 2015**, the Discharger shall submit documentation, certified by a licensed engineer (see Provision F.12), that it complies with Discharge Specification C.6 of this Order regarding hazards associated with a flood of 100-year return frequency.
18. The Discharger shall, in accordance with the following time schedule, demonstrate compliance with the Tulare Lake Basin Plan policies for recycled water (Chapter IV, page 12):
  - a. **By 4 December 2015**, the Discharger shall submit a demonstration that it has determined the current land uses for each parcel within a one (1) mile radius of the WWTF (including City-owned parcels), identified potential uses of recycled water for each parcel, and appropriately informed land owners and formally requested their consideration of accepting WWTF effluent for a recycled water project. The Discharger shall provide an explanation if no potential uses of recycled water are identified for a particular parcel. Notification of land owners must include pertinent effluent monitoring results and water quality goals for the recycled water uses identified.
  - b. **By 5 December 2016**, if the Discharger identifies a feasible recycled water project, the Discharger shall submit a Report of Waste Discharge and arrange for preparation of a Title 22 Engineering Report in accordance with Title 22, section 60323, and a copy of this report shall be provided to the State Water Board Division of Drinking Water. This provision shall be considered satisfied upon submittal by the Discharger of a complete Report of Waste Discharge and a letter from Division of Drinking Water determining the corresponding Title 22 Engineering Report is complete, or when the Executive Officer

concludes that the Discharger has provided sufficient justification for not using effluent for recycled water.

19. **By 4 December 2015**, the Discharger shall submit a Nitrogen Plan in the form of a technical report describing how the Discharger complies with Groundwater Limitation E.1.a. of this Order. The technical report shall include either a Nutrient Management Plan for irrigation of crops with the WWTF effluent (consistent with a Title 22 Engineering Report and Report of Waste Discharge submitted pursuant to Provision F.18.a. of this Order), or a demonstration that the Discharger has reduced effluent nitrogen concentrations and/or otherwise demonstrate that disposal practices will not cause groundwater to contain concentrations of nitrate above the MCL.
20. The Discharger shall, in accordance with the following time schedule, comply with Effluent Limitation B.3:
  - a. **By 4 December 2015**, the Discharger shall submit a Salinity Management Plan, with salinity source reduction goals and a proposed implementation time schedule. The control plan shall identify any additional methods, if any, that could be used to further reduce the salinity of the discharge to the maximum extent feasible (i.e., further treatment to remove constituents from wastewater that contribute to EC, use of liquid detergent at laundry facilities, community outreach), and provide a description of the tasks, cost, and time required to investigate and implement various elements of the Salinity Management Plan. The Plan shall specifically address how the Discharger will comply with WWTF Effluent Limitation B.3 for EC.
  - b. **By (1 February of each year beginning 1 February 2016)**, the Discharger shall submit an annual progress report documenting measures it has taken to implement the Salinity Management Plan and reduce effluent salinity.
  - c. **By 6 December 2021**, the Discharger shall submit documentation that it consistently complies with Effluent Limitation B.3.
21. If the Central Valley Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of an objective for groundwater, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for potential constituents.
22. The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a comprehensive salt and nitrate management plan for the Central Valley. Through this effort the Basin Plan will be amended to define how narrative and numeric water quality objectives are to be interpreted for the protection of beneficial uses. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits, and the Discharger shall have the option of revising any Nitrogen Plan or Salinity Management Plan developed under Provisions F.19 or F.20 to be consistent with the revised Basin Plan.
23. 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, section 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 filling petitions may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality/](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 the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 5 December 2014.

*Original signed by:*

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PAMELA C. CREEDON, Executive Officer

Order Attachments:

- A Vicinity Map
  - B Site Map
  - C Process Flow Diagram
- Monitoring and Reporting Program R5-2014-0163  
Information Sheet  
Standard Provisions (1 March 1991)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2014-0163  
FOR  
CITY OF HURON  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

This monitoring and Reporting Program (MRP) is required pursuant to Water Code 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) 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 and 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's 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 the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for the requested reduction in monitoring frequency.

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

<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
<b>INF-001</b>	Location where a representative sample of the WWTF's influent can be obtained prior to any additives, treatment processes, and plant return flow.
<b>EFF-001</b>	Location where a representative sample of the WWTF's effluent can be obtained prior to discharge into the disposal ponds.
<b>PND-T01 through PND-T0X</b>	Location representative of treatment ponds (e.g., the fourth treatment pond is identified as PND-T04).
<b>PND-001 through PND-00X</b>	Location representative of effluent disposal ponds (e.g., the eleventh disposal pond is identified as PND-011).
<b>BIO-001</b>	Location representative of WWTF sludge.
<b>SPL-001</b>	Location where a representative sample of the City's water supply can be obtained.

### INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks of the WWTF. Time of collection of the sample shall be recorded. Influent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH units	Grab
Weekly	EC	umhos/cm	Grab
Weekly	TSS	mg/L	Grab
Weekly	BOD <sub>5</sub>	mg/L	Grab
Monthly	Monthly Average Discharge Flow	mg/L	Computed

### EFFLUENT MONITORING

Effluent samples shall be collected at a point in the system following treatment and before discharge to the effluent disposal ponds. Time of collection of the sample shall be recorded. Effluent monitoring shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	pH	pH Units	Grab
Weekly	EC	umhos/cm	Grab
Weekly	BOD <sub>5</sub>	mg/L	24-hour composite

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	TSS	mg/L	24-hour composite
Monthly	TKN	mg/L	24-hour composite
Monthly	Nitrate (as Nitrogen)	mg/L	24-hour composite
Monthly	Ammonia	mg/L	24-hour composite
Monthly	Total Nitrogen	mg/L	Computed
Biannually <sup>1</sup>	General Minerals	mg/L	24-hour composite

<sup>1</sup> Biannual monitoring shall consist of two samples per year (January and July).

### POND MONITORING

Permanent markers (e.g., staff gages) shall be placed in all ponds other than treatment ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard. Treatment and disposal pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	DO	mg/L	Grab
Weekly	Freeboard <sup>1</sup>	Feet <sup>2</sup>	Observation
Weekly	Odors	---	Observation
Weekly	Berm Condition	---	Observation

<sup>1</sup> Freeboard measurements are not required for ponds that maintain a static water level (e.g., treatment ponds).

<sup>2</sup> To the nearest tenth of a foot.

The Discharger shall inspect the condition of the disposal ponds 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

For each source (either well or surface water supply), the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as is served by the WWTF.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Monthly	Flow-Weighted EC	umhos/cm	Computed Average
Annually	General Minerals	mg/L	Grab

### BIOSOLIDS/SLUDGE MONITORING

The Discharger shall perform the following monitoring when biosolids are removed from the treatment ponds.

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 needs to demonstrate that the facility where sludge is hauled to complies with Title 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:	<b>1 May</b>
Second Quarter Monitoring Report:	<b>1 August</b>
Third Quarter Monitoring Report:	<b>1 November</b>
Fourth Quarter Monitoring Report:	<b>1 February</b>

The Central Valley Water Board has gone to a Paperless Office System. All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to: [centralvalleyfresno@waterboards.ca.gov](mailto: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 block should be included in any email used to transmit documents to this office:

Program: Non-15, WDID: 5D100107001, Facility Name: Huron WWTF, Order: R5-2014-0163

In reporting monitoring data, the District 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 discharge complies with waste discharge requirements, and 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.

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. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

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 District 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.

**A. All Quarterly Monitoring Reports** shall include the following:

**Wastewater Reporting**

1. The results of Influent, Effluent, and Pond Monitoring specified on page 2 and 3.
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each of the quarters, calculation of the 12-month rolling average EC of the discharge using the EC values 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<sub>5</sub> and TSS concentrations, and calculation of the percent removal of BOD<sub>5</sub> 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.



### **Source Water Reporting**

1. The results of Source Water Monitoring specified on page 3.
2. For each month of the quarter, calculation of the flow-weighted 12-month rolling average EC of the source water using monthly flow data and the source water EC values for the most recent four quarters.

**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 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 meter 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, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
5. 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.
6. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with this Order.

### **Biosolids/Sludge Monitoring**

1. Annual production totals 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 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).
- d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

3. Include the results of monitoring specified on page 4.

**Source Water Reporting**

1. Include the results of monitoring specified on page 3.

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

*Original signed by:*  
Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer  
  
5 December 2014  
\_\_\_\_\_  
(Date)

## GLOSSARY

BOD <sub>5</sub>	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	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected at least 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
ug/L	Micrograms per liter
umhos/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
	Nitrate
	General Minerals analyses shall be accompanied by documentation of cation/anion balance.

# INFORMATION SHEET

INFORMATION SHEET-ORDER R5-2014-0163  
CITY OF HURON  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

## Background

The City of Huron (City or Discharger) owns and operates the Huron Wastewater Treatment Facility (WWTF). The WWTF is in Assessor's Parcel Numbers 075-03-271 and 075-03-222, in Fresno County. The WWTF is in sections 1 and 12, T16S, R19E, MDB&M. The Discharger submitted a Report of Waste Discharge (RWD) on 18 February 2005 in support of a project to increase the treatment and disposal capacity of the WWTF to 1.0 million gallons per day (mgd) and generally improve its function with new headworks, treatment ponds, disposal ponds, and biosolids management system. The Discharger completed the proposed WWTF improvement project in 2006.

## Facility and Discharge

The Discharger constructed new headworks, four concrete-lined and actively aerated treatment ponds, eleven evaporation/percolation disposal ponds (about 59 acres), and a clay-lined sludge drying bed and dry sludge storage area. The first treatment pond is designed for complete mixing and includes multiple aerators. The last three treatment ponds, partial suspension ponds, are minimally mixed and aerated by design. Four of the percolation ponds had been treatment ponds in the past, but were converted to percolation ponds as part of the WWTF improvement project.

The Discharger's self-monitoring reports (SMRs) from June 2012 through May 2014 indicate the monthly average influent flow is about 0.47 mgd, ranging from 0.43 mgd to 0.49 mgd. The highest reported flow the Discharger reported for one day during this period is 0.98 mgd (March 2013).

The table below summarizes the results of WWTF influent and effluent monitoring for the period of June 2012 through May 2014. The Discharger has not submitted results of required annual effluent general minerals or metals analyses.

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Range</u>
EC	umhos/cm	1,065	459 - 1593
TDS	mg/L	572	360 - 940
Calcium	mg/L	33	33
Magnesium	mg/L	19	19
Sodium <sup>1</sup>	mg/L	130	130
Chloride <sup>1</sup>	mg/L	160	160
Sulfate <sup>1</sup>	mg/L	96	96
Nitrate (as N)	mg/L	< 0.2	< 0.2 – 0.9
Total Nitrogen	mg/L	50	20 - 77
BOD	mg/L	22	5 - 62
Bicarbonate <sup>1</sup>	mg/L	330	330

<sup>1</sup> Based on analysis of a single effluent sample collected by Central Valley Water Board staff during an inspection on 12 June 2014.

The record does not include a survey of industrial sewer users, but a few industrial facilities operate within the City limits. The large facilities are primarily storage for agricultural products, like Harris Fresh Onion Division and Dole Fresh Vegetables. Influent BOD ranged from 42 mg/L to 340 mg/L,

with an average of 207 mg/L from June 2012 through May 2014. Effluent BOD monitoring results show that the WWTF is capable of achieving BOD removal to below 40 mg/L, a standard included in the Tulare Lake Basin Plan.

Influent nitrogen concentrations are expected to be consistent with typical domestic wastewater. The current treatment process does not appear to provide significant nitrogen removal. Relative to other WWTFs in the Region, effluent is high in total Kjeldahl nitrogen (TKN), which is indicative of insufficient dissolved oxygen concentrations in the treatment ponds for biological nitrification to occur. The concentration of dissolved oxygen in the treatment ponds depends primarily on aerator duty cycle.

The RWD includes a water balance that indicates the WWTF is capable of accommodating the design flow of 1.0 mgd, plus seasonal precipitation with a 100-year return period. The headworks were reportedly designed to accommodate influent flows up to 2.0 mgd.

The RWD includes a brief description of how future expansion of the RWD to 2.0 mgd could be accomplished through construction of an additional sludge drying bed and four additional treatment ponds, adjacent and similar in design to the existing ponds. The Discharger has not submitted detailed plans for the next phase of proposed expansion, which is not expected to be necessary within the next ten years.

### **Biosolids**

WDRs Order 87-012 requires that collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer. The RWD describes a plan to remove approximately 8,900 tons of sludge from the previous treatment ponds, the result of many years of accumulation. The plan was to haul the sludge to the Synagro West, Inc., facility in Merced County. The record does not include documentation of final sludge disposal.

The existing WWTF incorporates settled sludge collection ports at the bottom of the second and third treatment ponds, which directs sludge to a clay-lined sludge drying bed. Liquids drained off the sludge flow to a sump where they are pumped to the WWTF headworks. Dried sludge is stockpiled in the sludge storage area just west of the drying bed until there is sufficient quantity to economically remove it (no more than two years, according to the RWD).

Based on an addendum to the geotechnical report submitted with the RWD, prepared by John Minney (GE No. 602), soils underlying the sludge drying bed are approximately 50 percent clay and are expected to have a permeability less than  $10^{-7}$  cm/s when compacted. The record drawings show the subgrade was compacted to 95 percent relative density. The six-inch clay liner is native soil treated with 5 percent bentonite and compacted to 95 percent relative density.

The RWD includes a projected sludge production rate for a WWTF of this particular design of about 6,300 cubic yards of sludge annually (about 224 tons of dry sludge per year). However, the RWD states that sludge production rates have been less than the design projections at similar WWTFs in the Central Valley, and actual sludge generation is expected to be less than 175 tons of dry sludge per year. The RWD describes offsite land application of dry sludge at the Synagro West, Inc., facility in Merced County or at another permitted facility approved to receive the waste.

Screenings removed at the headworks are conveyed by an auger to a waste bin and are hauled to a landfill.

### **Site-Specific Conditions**

The WWTF lies about 25 miles east of the Southern Coast Ranges, on the west side of the San Joaquin Valley, at an elevation of about 335 feet above mean sea level.

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 65 inches, according to DWR Bulletin No. 113-3. Western Regional Climate Center monitoring data for Five Points show the average annual precipitation in the discharge area is about 6.8 inches. The 100-year return period wet year precipitation is about 18 inches.

Soils in the vicinity of the WWTF are alluvium deposited by Los Gatos Creek, predominately sandy loams and clay loams. According to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service, the most prevalent soil series' in the area are Westhaven loam, Westhaven clay loam, and Excelsior sandy loam, all of which are sandy with relatively high permeability.

The area immediately north of the WWTF is characterized by occasional flooding and ponding due to high storm flows in Los Gatos Creek, which terminates about 1 mile north of the WWTF.

The current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Number FM06019C3255H, revised 18 February 2009, identifies some areas of the WWTF (including the four new treatment ponds) as being in an area inundated by a 100-year return frequency flood. The FEMA map does not appear to have been modified to reflect the change in surface topology from the WWTF improvement project. The top elevations of WWTF berms containing wastewater are six to eight feet above the ground surface, which is expected to be above the level of 100-year return period flood waters.

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

State Water Project water from the California Aqueduct less than half a mile east of the City provides the City's water supply.

The Discharger has performed weekly monitoring of source water EC, required to be done at least quarterly by Order 87-012, but has not submitted results of minerals analyses required annually. Supply water EC varies significantly over time (e.g., increasing from 300 umhos/cm in January 2012 to about 600 umhos/cm in April 2012), but is generally between 200 umhos/cm and 900 umhos/cm. The Discharger submitted its 2013 Consumer Confidence Report to characterize source water for preparation of WDRs. .

The WWTF is within the Westlands Water District. Apart from urban uses within the City limits, land uses in the vicinity of the WWTF are primarily agricultural. Fresno County records for 2013 show pesticide permits for farmland within two miles of the WWTF were issued for almonds, garbanzo beans, broccoli, cotton, garlic, lettuce, melon, oats, onion, pistachio, pumpkin, tomato, and wheat.

Westlands Water District publishes a water supply report on its website that indicates the majority of irrigation water (up to 90 percent) is from the Central Valley Project (Aqueduct), but the amount depends on water availability. The District projects that nearly 70 percent of its water will be supplied by groundwater wells in the 2014 to 2015 water year (March through February).

### **Groundwater Considerations**

The WWTF is in the Westlands Hydrologic Area (No. 551.10) of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by the State Water Resources Control Board in August 1986.

The WWTF is outside the area described in *Lines of Equal Elevation of Water in Wells, Unconfined Aquifer*, published by DWR. The Discharger has no groundwater monitoring wells onsite and the State Water Resources Control Board Geotracker database shows no groundwater monitoring wells installed in the City.

The Corcoran Clay occurs at a depth of about 700 feet below the WWTF. The western edge of the Corcoran Clay is within about 1,500 feet of the WWTF to the southwest, near the center of the City.

The WWTF is about five miles west of a large area, spanning from Kettleman City north almost to Patterson, characterized by shallow groundwater and poor drainage. Maps published by the Department of Water Resources indicate the depth to groundwater in that area ranges from less than five to less than 20 feet below ground surface (bgs). Groundwater was encountered in two wells in the unconfined aquifer between the shallow groundwater area and the WWTF at depths of about 80 feet and 150 feet in the 1960s. No water was encountered during construction in June 2014 of a soil vapor extraction (SVE) well to a depth of 150 feet at the former C&T Service Station at 36582 Lassen Avenue in Huron. The depth to groundwater in the immediate vicinity of the WWTF appears to be in the range of about 300 to 400 feet bgs.

A 1957 groundwater report by the United States Geologic Survey (USGS) called *Ground-Water Conditions in the Mendota-Huron Area Fresno and Kings Counties, California*, characterizes groundwater quality in the area. It describes groundwater in the unconfined aquifer, above the Corcoran Clay, as generally containing high concentrations of calcium and magnesium sulfate, with a TDS of about 3,000 mg/L. All of the wells within 5 miles of the WWTF in the USGS database of published groundwater quality data are screened either below or across the Corcoran Clay, with an average depth of about 2,000 feet bgs.

Staff from Westlands Water District provided water quality data, and some groundwater surface elevation data, for 29 wells within three miles of the WWTF. Most of the data is from monitoring performed in the 1950s and 1960s, the same as that provided in the published USGS database. The dataset from Westlands only includes wells with screened interval either through or above the Corcoran Clay, though only three are fully above the Clay, installed to depths of 301 feet, 200 feet, and 151 feet bgs. Table 3 summarizes the dataset provided by Westlands Water District.

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Range</u>
EC	umhos/cm	2,210	1,240 - 4,700
TDS	mg/L	2,320	1,100 - 3,100

<u>Parameter</u>	<u>Units</u>	<u>Average</u>	<u>Range</u>
Sodium	mg/L	220	53 - 477
Chloride	mg/L	101	36 - 322
Sulfate	mg/L	903	459 - 1,770
Nitrate (as N)	mg/L	16	0.54 - 9.7
Bicarbonate	mg/L	151	82 - 231
Calcium	mg/L	130	61 - 362
Magnesium	mg/L	98	27 - 222
Potassium	mg/L	5.4	2.8 - 11
Boron	mg/L	1.1	0.37 - 5.9

The table shows high variability in groundwater quality. The shallow wells exhibit the poorest quality. None of the samples contained nitrate above the Maximum Contaminant Level (MCL) of 10 mg/L. For wells screened through the Corcoran Clay, the deeper water likely dilutes the poorer quality shallower water.

### **Basin Plan, Beneficial Uses, and Water Quality Objectives**

The Water Quality Control Plan for the Tulare Lake Basin, Second Edition (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 Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

The WWTF is in Detailed Analysis Unit (DAU) No. 244, within the Westside Basin hydrologic unit. The beneficial uses of underlying groundwater as set forth in the Basin Plan for this DAU are municipal and domestic supply (MUN), agricultural supply (AGR), and industrial service supply (IND).

The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in 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.

The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. 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.

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.

The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until a mechanism to carry salts out of the basin is established. To limit the degradation, the Basin Plan establishes several salt management requirements, including:

The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500  $\mu\text{mhos/cm}$ .

Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000  $\mu\text{mhos/cm}$ , a chloride content of 175  $\text{mg/L}$ , or a boron content of 1.0  $\text{mg/L}$ .

This Order implements the maximum discharge EC limit of no more than the source water EC plus 500  $\mu\text{mhos/cm}$  as a 12-month rolling average. The discharge has exceeded this level (by an average of 130  $\mu\text{mhos/cm}$ ) about 70 percent of the time since January 2012. The proposed Order requires the Discharger to submit a Salinity Management Plan, and includes a time schedule for implementation that will bring the Discharger into compliance with the 500  $\mu\text{mhos/cm}$  over source effluent EC limit by (seven years following Order adoption).

The concentration of chloride in first encountered groundwater may be low, as it is influenced by deeper groundwater with concentrations below 100  $\text{mg/L}$ . Groundwater EC exceeds 1000  $\mu\text{mhos/cm}$ . As such, the effluent limit for EC does not apply, but the effluent limit for chloride does apply to the discharge. The concentration of boron in receiving water is unknown (nearby wells average about 1.1  $\text{mg/L}$ ), but the discharge does not appear to be near the Basin Plan limit of 1.0  $\text{mg/L}$ , with an effluent concentration of about 0.4  $\text{mg/L}$ .

The Basin Plan requires that each RWD for a land disposal operation justify why reclamation is not practiced or proposed. The Discharger has not fulfilled this requirement.

### **Antidegradation Analysis**

State Water Board Resolution No. 68-16 (“Policy with Respect to Maintaining High Quality Water of the State”) (the “Antidegradation Policy”) prohibits degradation of groundwater unless it has been shown that:

- a) The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;
- b) The degradation will not unreasonably affect present and anticipated future beneficial uses;
- c) The discharger employs Best Practicable Treatment or Control (BPTC) to minimize degradation;  
and
- d) The degradation is consistent with the maximum benefit to the people of the state.

In general, underlying groundwater quality is expected to be of poorer quality than the discharge. For example, WWTF effluent EC, which is indicative of overall salinity, averages about 1,100 umhos/cm compared to a groundwater EC likely above 2,000 umhos/cm. However, particular constituents in the discharge have potential to cause groundwater degradation, including nitrogen and chloride. Chloride concentrations are low (less than 100 mg/L) in deeper groundwater, in contrast to 160 mg/L chloride in the single effluent sample collected during an inspection by Central Valley Water Board staff. This Order includes an effluent chloride limit of no more than 175 mg/L, which sufficiently limits groundwater degradation to a minimal amount that does not result in adverse effects on beneficial uses.

While available groundwater data is limited, it appears to indicate that first encountered groundwater contains low concentrations of nitrate, below the Maximum Contaminant Level (MCL) of 10 mg/L as nitrogen.

At about 50 mg/L, effluent is relatively high in TKN. Some losses may occur as ammonia volatilizes in the disposal ponds, but most of the nitrogen is expected to convert to nitrate in vadose zone soils over time as it percolates to groundwater. The presence of clay layers in the stratigraphy immediately below the disposal ponds may be conducive to denitrification, but the Discharger has not provided evidence to demonstrate that sufficient nitrogen removal will occur that the discharge will not cause groundwater degradation with nitrate that could adversely affect the beneficial use of groundwater. Improved denitrification is expected in the soil column if WWTF effluent is sufficiently nitrified prior to percolation.

The Discharger currently disposes of WWTF effluent only by evaporation and percolation in disposal ponds. Crops irrigated with WWTF effluent would take up nitrogen and reduce the potential for groundwater degradation with nitrate. The proposed Order requires the Discharger to identify potential uses of recycled water in the area and move forward with a recycled water project, if possible. If the Discharger demonstrates that crop irrigation with WWTF is infeasible, the proposed Order also requires the Discharger to either reduce effluent nitrogen concentrations or otherwise demonstrate that disposal practices will not cause groundwater to contain concentrations of nitrate above the MCL.

This Order includes influent and effluent monitoring requirements to verify that the discharge does not cause violations of water quality objectives or impairment of beneficial uses.

The WWTF will provide treatment and control of the discharge that incorporates: Secondary treatment of wastewater; an operation and maintenance manual; lined treatment ponds and sludge handling facilities to limit the amount of waste that percolates to groundwater. certified operators to ensure proper operation and maintenance; and source water and discharge monitoring. The Board finds that the preceding treatment and control measures represent BPTC for these discharges.

Generally, limited degradation of groundwater by some of the typical waste constituents of concern (e.g., sodium, chloride, sulfate, and nitrate) released with discharge from a municipal wastewater utility after effective source control, treatment, and control 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. The economic prosperity of valley communities and associated industry is of maximum benefit

to the people of the state, and therefore provides sufficient reason to accommodate planned growth and allow for limited groundwater degradation.

### **Proposed Order Terms and Conditions**

#### **Discharge Prohibitions, Specifications and Provisions**

The proposed Order prohibits the discharge of waste to surface waters and to surface water drainage courses.

The proposed Order restricts the discharge to a monthly average daily flow limit of 1.0 mgd. This Order sets effluent limits for BOD<sub>5</sub> and TSS of 40 mg/L as monthly average and 80 mg/L as daily maximum percent removal. This Order limits the overall increase in EC of the discharge over source water to no more than 500 umhos/cm and limits the concentration of chloride in the discharge to no more than 175 mg/L.

The proposed Order prescribes groundwater limitations that ensure the discharge does not affect present and anticipated beneficial uses of groundwater.

The Order also includes Provisions requiring the Discharger to pursue water recycling, ensure flood hazard preparedness, demonstrate that accumulated sludge from previous treatment ponds has been addressed, develop a Nitrogen Plan to address the potential of the discharge to cause nitrate pollution in groundwater, and submit a Salinity Management Plan that addresses compliance with the incremental increase in salinity of effluent over source water.

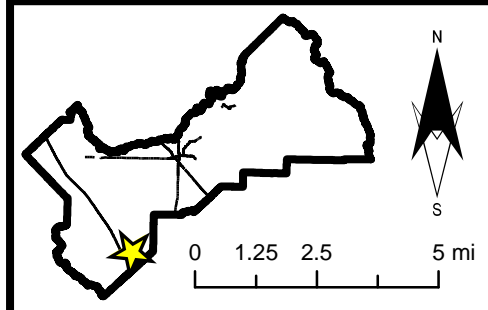
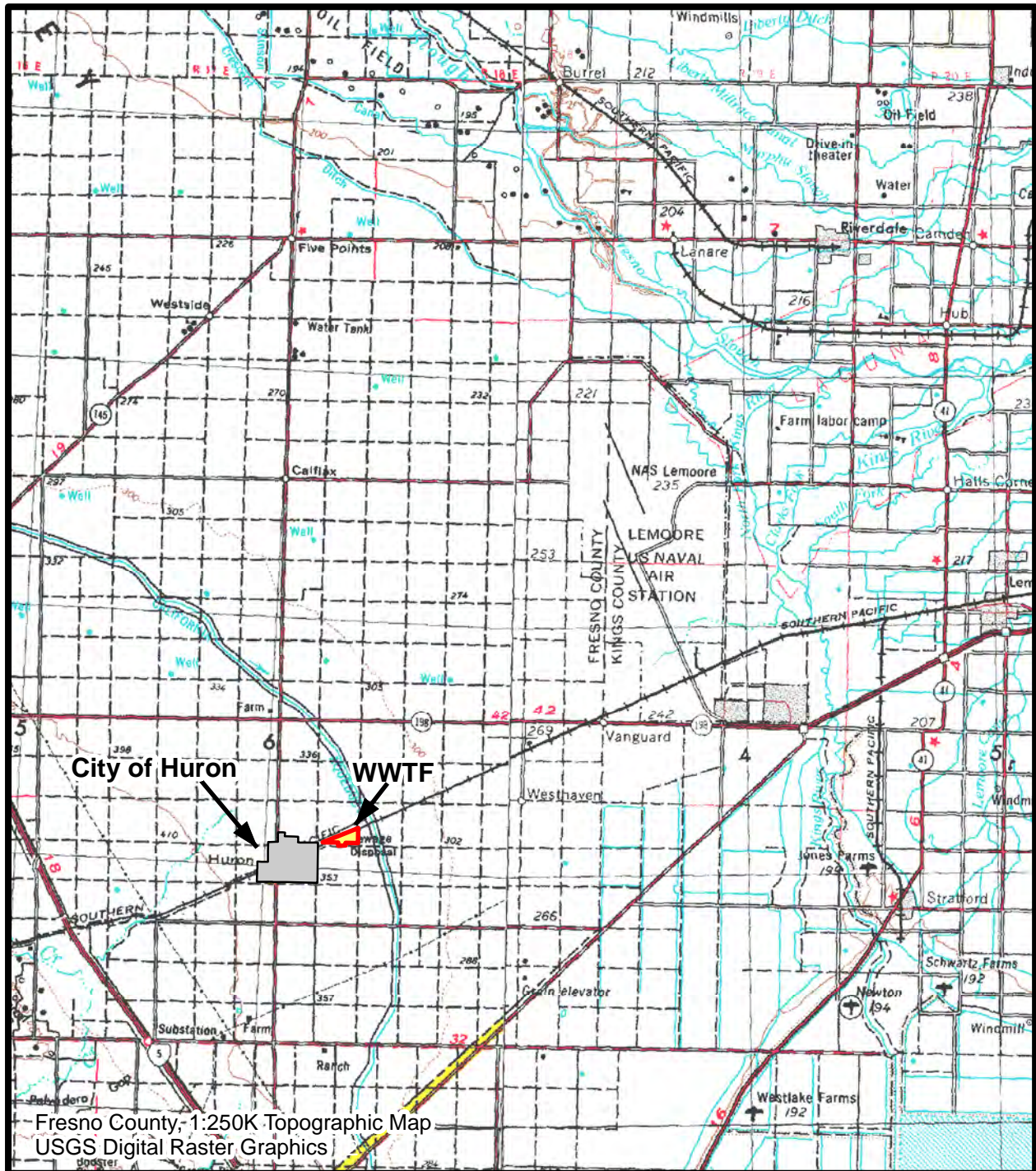
#### **Monitoring Requirements**

Section 13267 of the Water Code authorizes the Central Valley Water Board to require the District to submit monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State.

The proposed Order includes influent and effluent monitoring requirements, pond monitoring, source water monitoring, biosolids/sludge monitoring, and groundwater monitoring. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations prescribed by the Order, and evaluate groundwater quality and the extent of degradation, if any, caused by the discharge.

#### **Reopener**

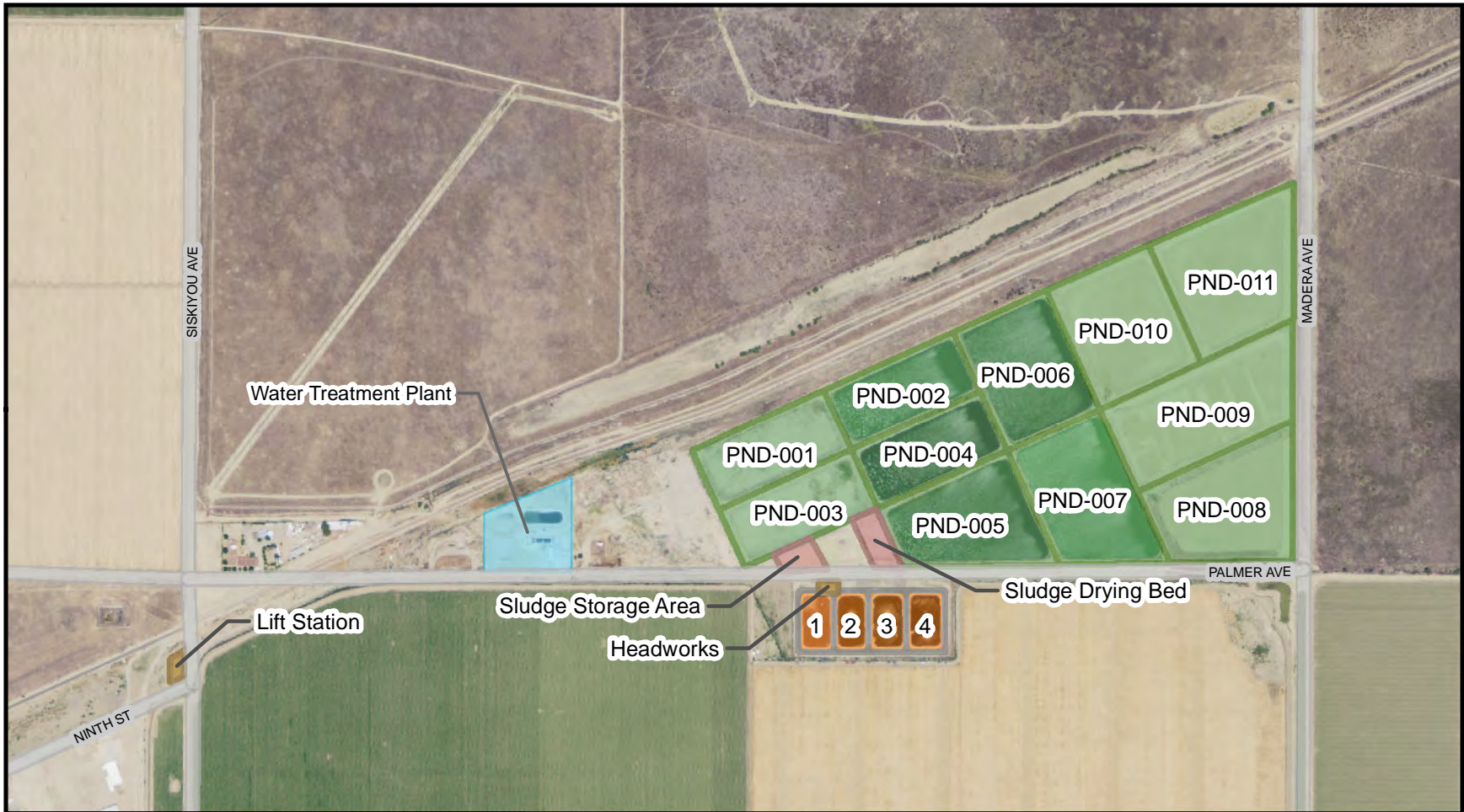
The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is received or if applicable laws and regulations change.



**VICINITY MAP**  
 ORDER R5-2014-0163  
 WASTE DISCHARGE REQUIREMENTS  
 CITY OF HURON  
 WASTEWATER TREATMENT FACILITY  
 FRESNO COUNTY


**ATTACHMENT A**



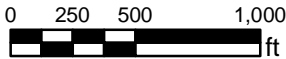


- Influent lift station and headworks
- Wastewater treatment ponds
- Effluent disposal ponds
- Biosolids facilities
- Surface water treatment facilities

Basemap Source:  
2012 NAIP DOQQ



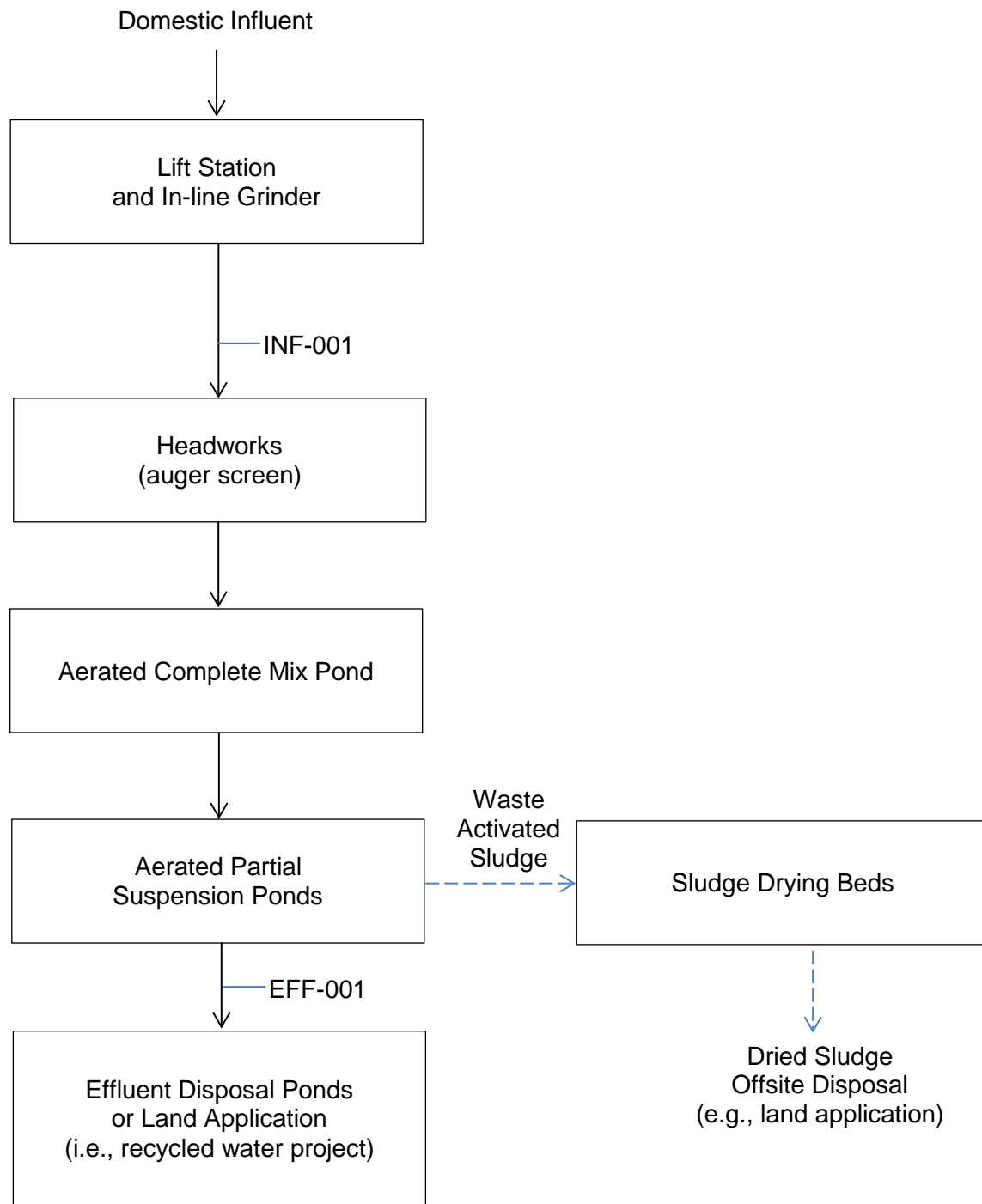
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**SITE MAP**

ORDER R5-2014-0163  
WASTE DISCHARGE REQUIREMENTS  
CITY OF HURON  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY

**ATTACHMENT B**



NOT TO SCALE

Symbol



Description

Wastewater  
Sludge

Sampling Points

INF-001      Influent  
EFF-001      Effluent

**PROCESS FLOW DIAGRAM**

ORDER R5-2014-0163  
WASTE DISCHARGE REQUIREMENTS  
FOR  
CITY OF HURON  
WASTEWATER TREATMENT FACILITY  
FRESNO COUNTY