CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2017-0021

WASTE DISCHARGE REQUIREMENTS

FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING PLANT
FRESNO COUNTY

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

1. Harris Ranch Beef Company (hereafter Harris Ranch or Discharger), a California Corporation, owns and operates the Selma beef processing plant (Plant) about seven miles south of the community of Selma and four miles west of the community of Kingsburg as shown on Attachment A, which is attached hereto and made part of this Order by reference. Wastewater generated during the processing of beef is discharged to a series of three ponds and then recycled as irrigation water on about 86 acres of adjacent farm land (land application areas). Harris Ranch owns the land application areas to which the wastewater is reused. On 17 November 2015, Harris Ranch submitted a Report of Waste Discharge (RWD) describing proposed upgrades to the wastewater treatment and reuse system at the Plant.

2. The Plant is at 16277 South McCall Avenue on the west side of South McCall Avenue. The Plant and the associated land application areas are in Section 31, T16S, R22E, Mount Diablo Baseline and Meridian (MDB&M).

3. Waste Discharge Requirements (WDRs) Order 90-183, adopted by the Central Valley Water Board on 22 June 1990, prescribes requirements for the discharge. Order 90-183 allows a monthly average wastewater flow of up to 1.0 million gallons per day (mgd). The land application areas in 1990 consisted of about 86 acres. The existing WDRs are outdated and do not accurately represent the current operations at the Plant or the proposed upgrades to it. Therefore, Order 90-183 will be rescinded and replaced with this Order.

Plant Background

4. The property has a long history of use as a beef processing facility with meat processing activities conducted at the site since the early 1900's. The earliest record of the site is from 1953. Fresno County records show that the property was operated by a company doing business as the "Selma Dressed Beef Company." The earliest WDRs on record was WDRs Order 60-41 issued to the Diamond Meat Company. WDRs Order 78-10 was issued to the Diamond Meat Company on 27 January 1978 and allowed a discharge of up to 0.27 million gallons per day to 2.5 acres of

stabilization ponds and to about 40 acres of farmland used to grow corn, cotton, and row crops. Harris Ranch began operations at the site in 1986.

5. The property immediately north of the Harris Ranch Plant, proposed for use as part of the new 100-acre land application area, previously contained a wastewater treatment facility and solid waste disposal site. A 1962 aerial photograph of the property shows what appear to be four sewage effluent storage/treatment ponds to the northwest of the existing Harris Ranch effluent storage ponds. The wastewater treatment facility ceased operations in the early 1970's with the completion of the nearby Selma-Kingsburg-Fowler regional wastewater treatment facility. The property has been farmed since the 1970's. A 1992 aerial photograph shows what appear to be vineyards on the site and Harris Ranch recently removed grape vineyards from the property as part of the Plant improvements described in the November 2015 RWD. A triangular shaped area of disturbed soil is visible in the area of the former solid waste disposal site.

Existing Plant and Discharge

6. The existing Harris Ranch property is situated on about 140 acres (does not include the 100 acres of additional land proposed for use as a land application area) with the processing Plant buildings on about 45 acres. The Plant consists of the main meat processing building plus five secondary buildings including offices, warehouse, garage, mechanical room, and guard shack. The remaining acreage contains the 86-acre land application areas, three wastewater retention ponds, and a storm water retention pond as shown on Attachment B, which is attached hereto and made part of this Order by reference.

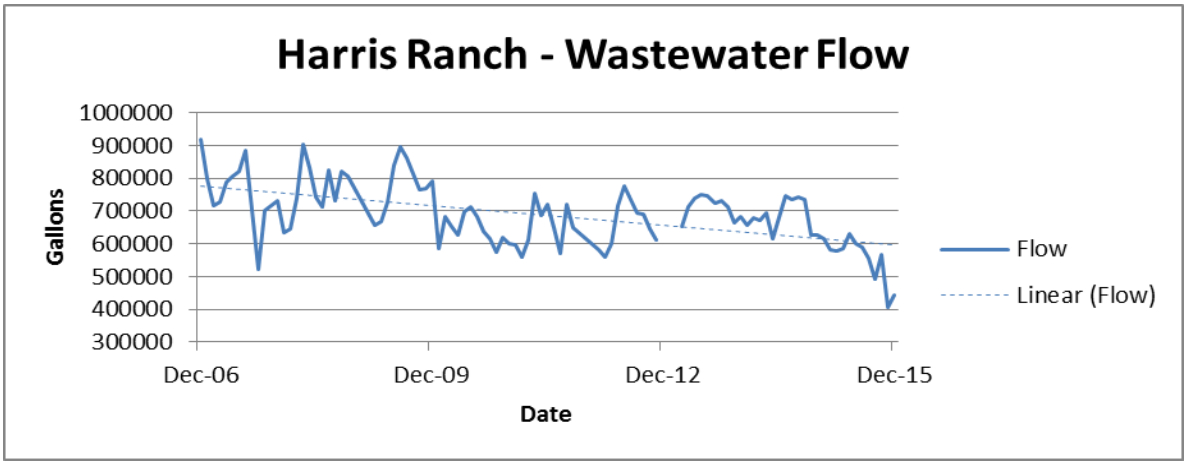
7. The Plant operates five to seven days a week year round. The Plant processes an average of 800 to 900 cattle per day and up to 6,300 cattle per week and also provides finish processing of deli pork (780,000 pounds annually) and turkey (4 million pounds annually) as well, but those animals are not slaughtered on site. A process flow diagram showing how the wastewater is generated and handled at the Plant is included as shown on Attachment C, which is attached hereto and made part of this Order by reference.

8. Wastewater is generated from the beef processing and the cleaning of equipment. A list of industrial cleansers and chemicals used to wash down and disinfect the equipment used in the process is included as Attachment D, which is attached hereto and made part of this Order by reference.

9. Pre-treatment of wastewater currently consists of screening of solids from the waste stream using a bar screen prior to the discharge of wastewater to a sump on the southern side of three 1.38-acre wastewater retention ponds for further settling and decomposition. Wastewater from the sump is routed through a shaker for additional solids removal, prior to being discharged to a clay-lined 1.38-acre facultative pond (West Pond) (Attachment C). Solids from the screening processes are contained in

dumpsters and sent to a company-owned composting operation. Wastewater from the West Pond is then discharged into two 1.38-acre unlined evaporation/percolation ponds (Middle and East Ponds). Wastewater from the East Pond is used to flood irrigate the land application areas. The land application areas currently consist of two separate areas comprising about 86 acres. An approximately 74-acre land application area is southwest of the Plant, and an approximately 12-acre parcel is to the east of the Plant.

10. The average daily discharge to the land application areas from 2013 through 2015 was 0.648 mgd. Due to water conservation efforts by Harris Ranch, the volume is decreasing and the average flow in 2015 was 0.553 mgd. The decrease in flow is shown in the following graph.



11. Influent results from January 2013 through June 2016 are summarized in Table 1.

Table 1 – 2013/2015 Influent Results

Biochemical Oxygen Demand mg/L[1]	Electrical Conductivity umhos/cm[2]	Total Dissolved Solids mg/L[1]	Fixed Dissolved Solids mg/L[1]	Total Nitrogen mg/L[1]	Ammonia mg/L[1]
1,834	2,056	1,344	514	200	51
(495 – 4,600)	(1,352 – 2,815)	(590 – 3,500)	(110 – 1,110)	(63 – 430)	(11 – 200)

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

Effluent Quality

12. The Monitoring and Reporting Program (MRP) 90-183 required the volume of the effluent to be measured, and for the effluent to be analyzed weekly for its dissolved oxygen content and quarterly for electrical conductivity (EC). The MRP was revised in October 2009 to include additional constituents. The effluent quality for biochemical oxygen demand (BOD), EC, total dissolved solids (TDS), fixed dissolved solids (FDS),

total nitrogen, and ammonia from January 2013 through June 2016 is summarized in Table 2 shown on the next page. The EC results are from weekly sampling events; the BOD results are from twice-monthly sampling events; and the TDS, FDS, total nitrogen, and ammonia results are from monthly sampling events. The upper number is the average and the range is shown below in parentheses.

Table 2 – 2013/2016 Effluent Results

Biochemical Oxygen Demand mg/L[1]	Electrical Conductivity umhos/cm[2]	Total Dissolved Solids mg/L[1]	Fixed Dissolved Solids mg/L[1]	Total Nitrogen mg/L[1]	Ammonia mg/L[1]
75	2,143	720	547	184	171
(33 – 220)	(1,647 – 2,567)	(510 – 960)	(260 –780)	(120 – 250)	(87 – 260)

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

13. The revised MRP also requires the effluent to be analyzed quarterly for general minerals and the averages of select constituents from January 2013 through April 2016 are summarized in Table 3 below. The upper number is the average and the range is shown below in parentheses.

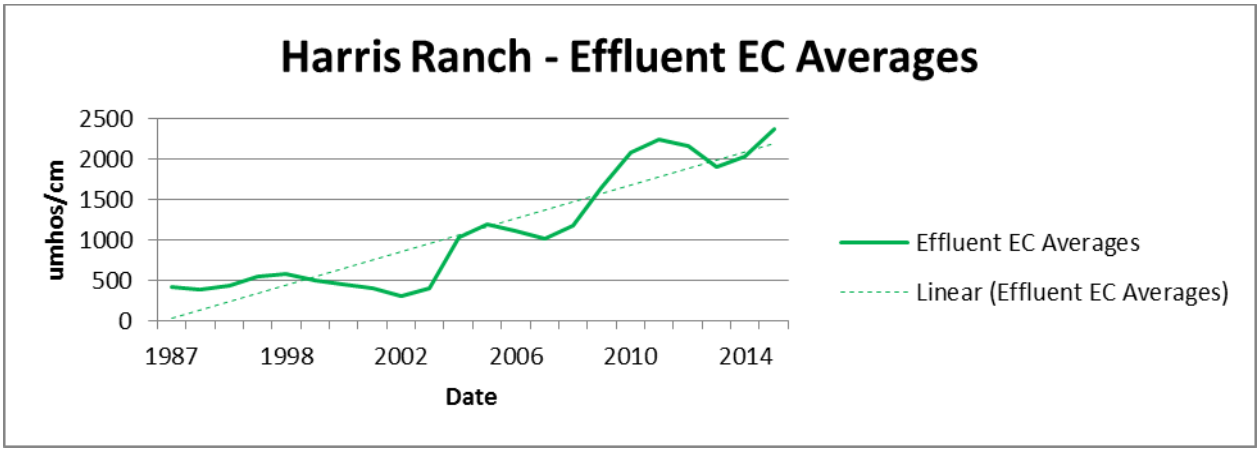
Table 3 – 2013/2015 Quarterly Effluent Results

Alkalinity mg/L[1]	Bicarbonate mg/L[1]	Sodium mg/L[1]	Chloride mg/L[1]	Magnesium mg/L[1]	Potassium mg/L[1]
899	872	164	113	7.7	56
(660 – 1,200)	(610 – 1,200)	(110 – 250)	(88 – 170)	(5.8 – 9.9)	(36 – 85)

1. mg/L = milligrams per liter

14. The results indicate the discharge to the land application areas is high in salts and nitrogen (primarily ammonia) and is likely contributing to the groundwater degradation and/or exceedances of groundwater quality objectives observed in the area with respect to salts and nitrogen.

15. The EC of the effluent has increased since Harris Ranch began operations in 1986. In 1987, the EC of the effluent averaged 414 micromhos per centimeter (umhos/cm) and the average values were generally stable from 1987 through 2003, but the EC concentrations in the effluent began an increasing trend in 2004 as shown in the following graph.



16. Using the results indicated above and the average flow of 0.64 mgd since 2013 discharged to about 86 acres of land application areas, Central Valley Water Board staff estimated loadings for BOD in pounds per acre per day (lbs/ac/day), and for salt and total nitrogen in pounds per acre per year (lbs/ac/yr) as presented below:

- BOD loading = 3.8 lbs/ac/day on a monthly average.
- Salt loading using FDS = 7,592 lbs/ac/yr.
- Nitrogen loading = 2,620 lbs/ac/yr.

17. BOD loading at about four lbs/ac/day is not an issue, but salt loading at over 7,500 lbs/ac/yr and nitrogen loading at over 2,600 lbs/ac/yr is likely contributing to the groundwater degradation and exceedance of water quality objectives observed in the Harris Ranch groundwater monitoring wells. The downgradient extent of the nitrate as nitrogen plume has not been defined.

Proposed Changes to the Discharge

18. Harris Ranch has purchased another 100 acres north/northwest to add to the 86-acre land application area as shown on Attachment B.

19. Even with the additional acreage, nitrogen loading will initially continue to exceed the potential uptake of the crops grown in the existing 86-acre land application areas. Harris Ranch is proposing pretreatment of the wastewater to remove nitrogen (denitrification) from the effluent using a three phased approach as follows:

- Phase 1 - Construction of a pretreatment system that will use coagulants and a dissolved air flotation (DAF) unit to remove/recover marketable grease and proteins.
- Phase 2 - Construction of an anaerobic biological treatment system consisting of a lined anaerobic lagoon that will be covered to collect the biogas produced by the lagoon. Construction of secondary and tertiary treatment systems to treat

effluent prior to discharge to the land application areas. The system will include, in part, anoxic (denitrification) and aerobic treatment in tanks and solids separation, processing, and offsite disposal.

- Phase 3 - Construction of a lined effluent storage lagoon.

20. Pre-treating the wastewater will greatly reduce the loadings from nitrogen. Increasing the acreage decreases the estimated loading to the land application areas. BOD loading is anticipated to be about 2 lbs/ac/day, which is very low and should not affect groundwater quality. Salt loading using FDS is estimated to add about 2,186 lbs/ac/yr, which is significantly less than the current salt loading and should be protective of the underlying groundwater quality with respect to EC and TDS. This Order contains Provision G. 16 that requires the Discharger to prepare a Salinity Management Plan to further ensure the salt in the discharge is continuing to be evaluated. The estimated nitrogen loading to the expanded land application areas will be about 240 lbs/ac/yr and the proposed cropping requirements (double cropping with crops such as Sudan grass, winter wheat, etc.) for the crops grown in the land application areas will exceed the nitrogen content of the wastewater. The RWD proposes splitting the land application area into six fields of about 31 acres each and rotating various crops (Sudan grass, triticale, etc.) on a seasonal basis. The discharge as proposed will be protective of the underlying groundwater quality. Additionally, this Order contains Provision G.17 that requires Harris Ranch to submit a nutrient management plan to assess and implement measures to ensure nitrogen is applied at agronomic rates.

21. The RWD includes a schedule to implement the proposed changes to the treatment of the beef processing wastewater as shown in Table 4.

Table 4 –Schedule for Improvements

Task	Task Description	Proposed Date
A.	Prepare new CUP and submit to Fresno County for approval	**6 Months after adoption of this Order**
B.	Approval of CEQA Process and CUP	**18 Months after adoption of this Order**
C.	Complete Phase I (DAF - Pretreatment) construction	**24 Months after adoption of this Order**
D.	Complete Phase II (Anaerobic lagoon and biogas reuse) construction	**4 years after adoption of this Order.**
E.	Complete Phase III (Storage lagoon and irrigation system)	**5 Years after adoption of this Order**

22. An existing four well groundwater monitoring network is in place around the Plant and downgradient of the land application areas. The addition of the new 100-acre land application area results in there being no upgradient monitoring wells. Harris Ranch is proposing adding an additional groundwater monitoring well to the network at the northeast corner of the 100-acre land application area. This Order contains

Provision G.15 that requires Harris Ranch to submit a Work Plan that evaluates the existing groundwater monitoring well network and requires the installation of any new groundwater monitoring wells within a year of the adoption of this Order. Task 3 of the accompanying Cease and Desist Order (CDO) R5-2017-0012 requires the Discharger to define the horizontal and vertical extent of elevated EC, TDS, and nitrate as nitrogen degradation/pollution in groundwater beneath and downgradient of the Harris Ranch Land Application Areas and proposes an appropriate course of action.

Other Considerations for Food Processing Waste

23. Excessive application of food processing wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and potentially unreasonable degradation of the underlying groundwater. It is reasonable to expect some attenuation of various waste constituents that percolate below the root zone within the vadose (unsaturated) zone. Specifically, excess nitrogen can be mineralized and denitrified by soil microorganisms, organic constituents (measured as both BOD and volatile dissolved solids) can be oxidized, and the cation exchange capacity of the soil may immobilize some salinity constituents.

24. The RWD indicates the proposed discharge will add about 240 lbs/ac/yr of total nitrogen to the land application areas. The RWD indicates the land application areas will be double cropped with Sudan grass grown in the summer months and winter forage crops such as wheat and triticale grown in the winter. Sudan grass can remove from 300 to 350 lbs/ac/yr of nitrogen, while winter wheat can remove from 140 to 175 lbs/ac/yr. The estimated nitrogen uptake of the crops grown is reported to be greater than the estimated loading of the wastewater, indicating the crops should remove the available nitrogen from the soil. Due to the Harris Ranch discharge likely contributing to the existing groundwater degradation and exceedances of water quality objectives, this Order contains Land Application Area Specification E.2 that requires the application of waste constituents to the land application areas shall be at reasonable agronomic rates to preclude creation of a nuisance and unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The Discharger shall achieve compliance with this limit in accordance with Provision Task 2.e of CDO R5-2017-0012.

25. Food processing wastewater may contain elevated concentrations of TDS resulting from the products or materials used for production. Typically, a percentage of the TDS is organic, which will generally decompose into its component elements of carbon, hydrogen and oxygen that can be utilized by plants and microorganisms in the soil. In contrast, the FDS is primarily that portion of the TDS that consists of inorganic constituents, which can accumulate in the soil. Excessive salts may leach to groundwater where they will degrade and could pollute groundwater quality. Growing and harvesting crops provides a means to remove some of these constituents, particularly calcium, magnesium, potassium, phosphorus, nitrate, and ammonia.

26. Typically, irrigation with high strength wastewater can result in high BOD loading on the day of application. It is common practice to follow a BOD loading event with a number of days without application so that soil biochemical processes will consume the applied BOD. If the rate of oxygen transfer into the soil is not adequate, anaerobic or reducing conditions may result and lead to nuisance odor conditions. When insufficient oxygen is present below the ground surface, anaerobic decay of organic matter can cause dissolution and leaching of some metals (primarily iron, manganese, and arsenic) and increases in groundwater alkalinity that can degrade groundwater quality. Excessive BOD loading over extended periods may impact beneficial uses.

27. The California League of Food Processor's (CLFP) Manual of Good Practice for Land Application of Food Processing/Rinse Water proposes risk categories associated with particular BOD loading rate ranges as follows:

    a. Risk Category 1: (less than 50 lbs/acre/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.
    b. Risk Category 2: (less than 100 lbs/acre/day; depth to groundwater greater than 5 feet) Minimal risk of unreasonable groundwater degradation with good distribution more important.
    c. Risk Category 3: (greater than 100 lbs/acre/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site specific application cycles and soil properties and special monitoring.

    The Manual of Good Practice recommends allowing a 50 percent increase in the BOD loading rates in cases where sprinkler irrigation is used, and recommends that additional safety factors be used for sites with heavy and/or compacted soils. Although it has not been subject to a scientific peer review process, the Manual of Good Practice provides science-based guidance for BOD loading rates that, if fully implemented, may be considered management practices to help prevent groundwater degradation due to reducing conditions.

28. The cycle average BOD loading rates for the proposed discharge of beef processing wastewater to the land application areas indicate very low BOD cycle loading rates of two to four lbs/ac/day. The discharge of wastewater at loading rates of less than 50 lbs/ac/day is unlikely to cause or contribute to groundwater degradation underlying the Plant.

Site-Specific Conditions

29. Source water is provided by two supply wells and the average of the annual sampling results since 2012 is shown in Table 5.

Table 5 – Source Water Results

pH	Electrical Conductivity	Total Dissolved Solids	Nitrate as Nitrogen	Chloride	Sodium	Alkalinity
s.u.	umhos/cm	mg/L	mg/L	mg/L	mg/L	mg/L
8.3	254	140	9.1	9.9	21	69

1. EC = Electrical conductivity, TDS = Total dissolved solids, Cl = Chloride, Na = Sodium.
2. s.u. = Standard pH units, umhos/cm = micromhos per centimeter, mg/L = milligram per liter.

30. The land surface in the area of the Plant and the land application areas are generally flat, with a slight regional slope to the southwest. The elevation of the Plant is about 280 feet above mean sea level with the elevation dropping to about 275 feet above mean seal level at the southwest corner of the southern land application area.

31. According to Federal Emergency Management Agency map number 06019C2675H, the Plant and land application areas are not located within a 100-year flood plain. The Cole Slough, a branch of the Kings River is located about 2.5 miles south/southeast of the Plant.

32. Soils in the land application areas are comprised primarily of the Hesperia sandy loam according to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service.

33. The Hesperia sandy loam is described as well drained with a high capacity to transmit water. The Hesperia sandy loam is described as a Class 2s soil. Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. The “s” subclass indicates the soil is limited mainly because it is shallow, droughty, or stony.

34. The Selma - Kingsburg area is characterized as semi-arid with hot dry summers and cooler winters. The rainy season generally extends from November through March. Average annual precipitation and pan evaporation for the area are 11 inches and 65 inches, respectively. The annual precipitation with a 100-year return period is approximately 21 inches.

35. Land uses in the vicinity of the WWTF are primarily agricultural. The primary crops grown in the area are field crops, pasture, and tree crops including almonds, apples, apricots, cherries, figs, peaches, pistachios, plums, prunes, and walnuts, according to data published by the Department of Water Resources (DWR).

Groundwater Conditions

36. Basin Plan water quality objectives to protect the beneficial uses of groundwater include numeric and narrative objectives, including objectives for chemical constituents, toxicity of groundwater, and taste and odor. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations

that produce detrimental physiological responses in humans, plants, or animals. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. For groundwater that is designated for use as domestic and municipal supply, the Basin Plan incorporates by reference drinking water maximum contaminant levels (MCLs) promulgated in Chapter 15 of Title 22 of the California Code of Regulations (Title 22). The Basin Plan requires the application of the most stringent objective necessary to ensure that groundwater does not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

37. State Water Board Resolution No. 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (*State Antidegradation Policy*) generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:

    a. The degradation will 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 will employ 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.

38. The California Legislature enacted A.B. 3030 during the 1992 session, subsequently codified in Water Code section 10750, *et seq*. Water Code section 10750 states, in part, that:

> "Any local agency, whose service area includes a groundwater basin, or a portion of a groundwater basin, that is not subject to groundwater management pursuant to other provision of law or a court order, judgment, or decree, may, by ordinance, or by resolution if the local agency is not authorized to act by ordinance, adopt and implement a Groundwater Management Plan pursuant to this part within all or a portion of its service area."

39. Water Code section 60224 empowers a District created under the Water Replenish Act to take any action needed for protection and preservation of underlying groundwater supplies including:

    - The prevention of contaminants from entering groundwater supplies;
    - The removal of contaminants from groundwater supplies;
    - The locating and characterizing of contaminants which may enter the groundwater supplies;

- The identification of parties responsible for contamination of groundwater; and
- The performance of engineering studies.

Plant Groundwater Considerations

40. Harris Ranch monitors a four-well groundwater monitoring network with well depths of 85 feet below the ground surface (bgs) (MW-1) and 95 feet bgs (MW-2 through MW-4). The data indicates the depth to water is currently about 80 to 85 feet bgs, and the direction of groundwater flow is typically to the southwest. Lowering water levels due to the drought and groundwater pumping in the area have caused MW-1 to go dry. MW-1 has not contained sufficient water for sample collection since the first quarter of 2015 monitoring event. This Order contains Provision G.15, that requires the Discharger to evaluate the existing groundwater monitoring well network, and if needed, recommend additional wells to monitor groundwater quality both upgradient and downgradient of the Plant and land application areas. The Discharger shall evaluate the current water levels in each of the existing wells and shall replace any well dry for four or more consecutive quarters of monitoring.

41. MW-1 is downgradient of the Plant and the effluent ponds, and at the upgradient edge (NW corner) of the southern land application area. MW-2 is at the northeast corner of the property and serves as the upgradient well, but it is set adjacent to the northeast land application area and may be affected by the discharge of wastewater. MW-3 is downgradient of the Plant and the eastern land application area, but is adjacent to a storm water retention pond that can affect water quality in the well. MW-4 is south and downgradient of the Plant, set midway along the southern boundary of the land application area.

42. Harris Ranch samples the four wells quarterly for EC, nitrate as nitrogen, sodium, and total dissolved solids. The averages of the quarterly sampling from October 2009 through May 2016 are presented below. The upper number is the average and the range is shown below in parentheses.

Table 6 – Quarterly Groundwater Results

Well	Electrical Conductivity umhos/cm[1]	Nitrate as Nitrogen mg/L[2]	Chloride mg/L[2]	Sodium mg/L[2]	Total Dissolved Solids mg/L[2]
MW-1	1,633 (1400 – 2100)	60.7 (32.0 – 73.0)	82 (69 – 113)	107 (88 – 130)	1,140 (1000 – 1500)
MW-2	1,454 (1300 – 1600)	24.5 (20.0 – 29.0)	73 (60 – 92)	137 (110 – 198)	986 (780 – 1100)
MW-3	1,001 (690 – 1600)	30.9 (13.9 – 53.6)	35 (18 – 81)	75 (59 – 98)	680 (450 – 1100)
MW-4	1,776 (1500 – 2000)	67.9 (32.4 – 97.0)	99 (68 – 160)	145 (97 – 167)	1,195 (930 – 1600)
MCLs[3]	900/1600/2200	10	250/500/600	---	500/1000/1500

1. umhos/cm = micromhos per centimeter.

2. mg/L = milligrams per liter.
3. MCLs = maximum contaminant level. The MCL for nitrate as nitrogen is a Primary MCL and it has one numerical limit. The MCLs for electrical conductivity, chloride, and total dissolved solids are Secondary MCLs or "Consumer Acceptance Contaminant Level Ranges" and three different values are shown as the limits. The first number is the "Recommended" MCL, while the second number is the "Upper" MCL, and the third number is the "Short term" MCL.

43. Additional groundwater sampling has been conducted annually since April 2010 through May 2015. The averages of the annual sampling since 2010 are shown in the following Table 7. The upper number listed is the average and the range is shown below in parentheses.

Table 7 - Annual Groundwater Results

Well	Arsenic ug/L[1]	Iron ug/L[1]	Manganese ug/L[1]	Alkalinity mg/L[2]	Bicarbonate mg/L[2]	Sulfate mg/L[2]
MW-1	1.3 (0.1 – 2.3)	3.1 (0.05 – 3.9)	0.08 (0.09 – 0.1)	369 (360 -384)	368 (317 – 380)	145 (114 - 170)
MW-2	2.4 (0.1 – 4.6)	5.4 (1.3 – 7.4)	2.6 (0.04 – 10)	383 (354 – 400)	386 (319 – 490)	203 (137 - 240)
MW-3	1.5 (nd – 3.0)	5.3 (3.0 – 7.7)	0.60 (0.14 – 1.8)	295 (250 – 340)	318 (250 – 410)	54 (30 - 87)
MW-4	2.3 (nd – 4.7)	6.5 (3.4 – 9.1)	0.44 (nd – 0.23)	476 (430 – 550)	505 (417 – 610)	70 (30 - 144)
MCLs[3]	10	300	50	---	---	250/500/600

1 ug/L = micrograms per liter.
2 mg/L = milligrams per liter.
3 MCLs = maximum contaminant level. The MCL for arsenic is a Primary MCL with one numerical limit. The MCL for Iron and Manganese is a Secondary MCL or a "Consumer Acceptance Contaminant Levels,' that has one numerical limit. The MCLs for sulfate is a Secondary MCL or "Consumer Acceptance Contaminant Level Range" and has three different values shown as the limits. The first number is the "Recommended" MCL, while the second number is the "Upper" MCL, and the third number is the "Short Term" MCL.

44. The EC and TDS groundwater results indicate poor water quality in all four wells, with the highest values observed in downgradient wells MW-1 and MW-4. The average EC and TDS results for MW-1 and MW-4 exceed the upper Secondary MCL for EC of 1,600 umhos/cm, and the upper Secondary MCL for TDS of 1,000 mg/L. However, the average EC and TDS results in upgradient MW-2 are also elevated, exceeding the recommended Secondary MCL of 900 umhos/cm for EC and the recommended Secondary MCL of 500 mg/L. MW-2 is set on the north and upgradient of the smaller land application area and the discharge could be affecting the groundwater quality in MW-2, but offsite groundwater data and the presence of a former wastewater treatment facility and solid waste disposal site along the northern property boundary suggest offsite sources are contributing to the regional groundwater quality as discussed in Findings 47 through 52.

45. Nitrate as nitrogen concentrations exceed the primary MCL of 10 mg/L in all four groundwater monitoring wells, with the highest concentrations observed in downgradient wells MW-1 and MW-4. The average nitrate as nitrogen result since October 2013 from upgradient MW-2 is 25 mg/L, two and a half times the MCL. However, since 2013 the average results in downgradient MW-1 and MW-4 are

64 mg/L and 75 mg/L, respectively. The averages are over six to seven times the Primary MCL and indicate the discharge from the Plant has at least contributed to the exceedance of water quality objectives of the underlying groundwater with respect to nitrate as nitrogen. The nitrate as nitrogen result from downgradient MW-4 in November 2015 was 97 mg/L, almost ten times the Primary MCL of 10 mg/L and four times the average nitrate as nitrogen results from MW-2. There are residences downgradient of the Plant and land application areas that use groundwater for source water.

46. The existing discharge will likely continue to contribute to the nitrate as nitrogen groundwater contamination observed in downgradient wells MW-1 and MW-4. However, Task 2 of the accompanying CDO R5-2017-0012 requires the Discharger to construct a wastewater treatment system and for the discharge of wastewater to the land application areas to be at agronomic rates within five years of the adoption of this Order. Nitrate as nitrogen concentrations in Harris Ranch's downgradient groundwater wells will likely continue to be higher than the nitrate as nitrogen concentrations in MW-2 or the new upgradient well for some time, and would place Harris Ranch in violation with any recommended groundwater quality objectives. To ensure that the trends of nitrate as nitrogen and salts in all wells are closely monitored and evaluated, Task 3a and 3b of the CDO requires the Discharger to assess the horizontal and vertical extent of the impact from the historical discharge of beef processing wastewater to the land application areas and to submit a technical report that describes the findings. Task 3c of the CDO requires the submittal of an annual report documenting the progress in meeting the Groundwater Limitations as defined in the Order. Should the monitoring indicate it will take longer than 10 years from the adoption of this Order for the groundwater to meet the Groundwater Limitations of this Order, Task 3d of the CDO requires the Discharger to submit a work plan with a compliance schedule for implementing additional measures to meet the Groundwater Limitations of this Order. To evaluate the trends in groundwater concentrations, this Order will require quarterly sampling and an intra-well analysis of the data to determine if the discharge is complying with the Groundwater Limitations of this Order.

47. Regional groundwater underlying the area is first-encountered at about 60 to 70 feet below the ground surface (bgs) and flows to the southwest, according to *Lines of Equal Elevation of Water in Wells, Unconfined Aquifer*, published by DWR in 2010. However, due to the drought of 2012 through 2015, the water levels have dropped to about 85 to 90 feet bgs.

48. Groundwater quality data for the region can be found on the Water Quality Portal web site, a cooperative service provided by the United States Geological Survey (USGS), the Environmental Protection Agency, and the National Water Quality Monitoring Council. Thirteen wells are reported to be within a five mile radius of the Plant, with four being within two miles of the plant. Three USGS wells are ~1.5 miles north/northwest of the Harris Ranch property as described below and the results are summarized in Table 8.

- USGS well 363106119372001 (USGS Well 2001). About 900 feet west of the intersection of East Conejo and Thompson Avenues and has a reported well depth of 118 feet bgs.
- USGS well 363106119372002 (USGS Well 2002). Adjacent to USGS 2001 with a reported well depth of 85 feet bgs. The 85 foot depth makes USGS Well 2002, the same depth as MW-1 and 10-feet shallower than MW-2 through MW-4.
- USGS Well USGS-363107119372201 (USGS Well 2201). About 500 feet northwest of USGS Well 2001 and USGS Well 2002, with a reported well depth of 128 feet bgs.

The results from the three USGS wells in 1993/1994 are summarized in Table 8.

Table 8 - 1993/1994 Regional Groundwater Quality

Constituent	Units[1]	Maximum Contaminant Levels[2]	USGS Well 2001 1994	USGS Well 2002 1994	USGS Well 2201 1993
Electrical Conductivity	umhos/cm	900/1600/2000	895	969	612
Total Dissolved Solids	mg/L	500/1000/1500	599	639	369
Calcium	mg/L	---	82	86	52
Magnesium	mg/L	---	26	26	14
Potassium	mg/L	---	5.1	5.7	3.2
Sodium	mg/L	---	57	71	38
Alkalinity	mg/L	---	264	316	189
Bicarbonate	mg/L	---	320	371	230
Chloride	mg/L	250/500/600	43	45	22
Sulfate	mg/L	250/500/600	60	64	34
Nitrate as Nitrogen	mg/L	10	22	20	9.8
Total Kjeldahl Nitrogen	mg/L	---	nd	nd	nd
Ammonium	mg/L	---	0.013	0.026	nd

1. umhos/cm = micromhos per centimeter; mg/L = milligrams per liter; ug/L = microgram per liter.
2. The MCLs for electrical conductivity, chloride, and total dissolved solids are Secondary MCLs or "Consumer Acceptance Contaminant Level Ranges" and three different values are shown as the limits. The first number is the "Recommended" MCL, while the second number is the "Upper" MCL, and the third number is the "Short term" MCL. The MCL for nitrate as nitrogen is a Primary MCL that has one numerical limit as shown.

49. The results from three wells in 1993 and 1994 indicate generally good water quality with the exception of nitrate as nitrogen. TDS is just above the recommended Secondary MCL of 500 mg/L in USGS Well 2001 and USGS Well 2002, and EC exceeds the recommended Secondary MCL of 900 umhos/cm in USGS 2002. The

results indicate water quality improves with depth in the aquifer. The highest results are from the 85-foot USGS Well 2002, and the lowest from 128 foot USGS Well 2201.

50. Data from USGS Well 2001 was only available for 1994, but USGS Well 2002 and USGS Well 2201 had samples collected in 2001. The results of samples collected in September 2001 are summarized in Table 9.

Table 9 – 2001 Regional Groundwater Data

Constituent	Units[1]	Maximum Contaminant Levels[2]	USGS Well 2002 2001	USGS Well 2201 2001
Electrical Conductivity	umhos/cm	900/1600/2000	1570	933
Total Dissolved Solids	mg/L	500/1000/1500	1010	608
Calcium	mg/L	---	145	96
Magnesium	mg/L	---	43	29
Potassium	mg/L	---	5.5	4.2
Sodium	mg/L	---	82	54
Alkalinity	mg/L	---	353	280
Bicarbonate	mg/L	---	---	---
Chloride	mg/L	250/500/600	105	42
Sulfate	mg/L	250/500/600	175	80
Nitrate as Nitrogen	mg/L	10	29	11.2
Total Kjeldahl Nitrogen	mg/L	---	0.2	0.1
Ammonium	mg/L	---	nd	nd

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

2. The MCLs for electrical conductivity, chloride, and total dissolved solids are Secondary MCLs or "Consumer Acceptance Contaminant Level Ranges" and three different values are shown as the limits. The first number is the "Recommended" MCL, while the second number is the "Upper" MCL, and the third number is the "Short term" MCL. The MCL for nitrate as nitrogen is a Primary MCL that has one numerical limit as shown.

51. The results from USGS Well 2002 reveal a significant increase in EC, TDS, and nitrate as nitrogen results from 1994 to 2001. EC, TDS, and nitrate as nitrogen were in excess of the respective MCLs in 1994, but the results all increased by 2001. The EC value increased about 600 umhos/cm and the increase in the TDS was nearly 400 mg/L. There is no additional data for USGS Well 2002, but sampling of USGS Well 2201 continued until 2013.

Table 10 –Regional Groundwater Quality, 2004 through 2013

USGS Well 2201

Date	Electrical Conductivity umhos/cm[1]	Nitrate as Nitrogen mg/L[2]	Total Dissolved Solids mg/L[2]
2004	1040	16.9	700
2006	1060	16.8	676
2008	1060	14.7	633
2010	980	13.0	652
2012	908	10.6	610
2013	897	9.9	519

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

EC, TDS, and nitrate as nitrogen results from USGS Well 2201 all increased initially, but began to show a decreasing trend in the results around 2005 as shown above on Table 10.

52. Regional groundwater data indicates that in 2001, groundwater quality in USGS Well 2002 was similar to the current results for Harris Ranch's own upgradient groundwater monitoring well MW-2, suggesting an offsite source is contributing to the poor groundwater quality observed in the area wells. However, the EC and TDS results in the downgradient Harris Ranch groundwater monitoring wells MW-1 and MW-4 are higher than those observed in upgradient MW-2 and indicate the discharge from the Plant likely has contributed to EC and TDS groundwater degradation observed in the downgradient groundwater monitoring wells MW-1 and MW-4.

53. The discharge of beef processing wastewater has contributed to the nitrate as nitrogen concentrations in downgradient MW-1 and MW-4 being greater than two to three times the levels observed from upgradient MW-2, and over six to nine times the Primary MCL of 10 mg/L.

54. The existing upgradient groundwater monitoring well is MW-2. However, with the addition of the 100 acres north of the Plant, there will be no true upgradient groundwater monitoring well. Harris Ranch is proposing to add a 5th groundwater monitoring well (MW-5) near the northwest corner of the new 100-acre land application area. Provision G.15 requires Harris Ranch to submit a work plan to replace the currently dry monitoring wells in the network, propose additional groundwater monitoring well/wells and includes a time schedule for the well or wells to be installed within 12 months from the adoption of this Order.

55. It is unknown what the water quality will be in the new upgradient groundwater monitoring well, but the differences in the concentrations observed in the upgradient

MW-2 as compared to those of downgradient MW-1 and MW-4 warrants an evaluation and assessment of the horizontal and vertical extent of the degradation/pollution of the groundwater beneath and downgradient of the Plant. The Discharger shall achieve compliance with this limit in accordance with Provision Task 3. of CDO R5-2017-0012.

Basin Plan, Beneficial Uses, and Regulatory Considerations

56. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*, revised January 2015 (the "Basin Plan") designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Board. In accordance with Water Code section 13263(a), these waste discharge requirements implement the Basin Plan.

57. The Plant and land application areas are in the Consolidated Hydrologic Area (No. 551.70) of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by State Water Resources Control Board in August 1986. The discharge is to cropland, where drainage is expected to be contained onsite. Natural surface drainage is by sheet flow to Cole Slough, which discharges to the Kings River. The designated beneficial uses of Valley Floor Waters are agricultural and industrial service and process supply; water contact and non-contact water recreation; wildlife and warm freshwater habitat; groundwater recharge; and preservation and enhancement of rare, threatened, and endangered species.

58. The Plant and Land Application Areas are in Detailed Analysis Unit (DAU) No. 236, within the Kings Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in the DAU as municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

59. The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

60. The 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.

61. 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 salt from use and treatment must be controlled to the extent possible. The Tulare Lake Basin Plan effluent limit for EC limits the increase from a point source discharge to a maximum of 500 umhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.

b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L. As indicated in Finding 42, groundwater upgradient of the Plant has an average EC of about 1,450 umhos/cm and chloride concentration of about 70 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 and in the effluent is unknown.

62. The Basin Plan allows for an exception to the EC limit for industrial wastewaters when the discharger technically demonstrates that allowing a greater net incremental increase in EC will result in lower mass emissions of salt and in conservation of water, provided that beneficial uses are protected. The RWD addressed the water conservation efforts of Harris Ranch, but did not provide an analysis that water conservation practices had resulted in a lower mass discharge. Harris Ranch began a series of Plant improvements in 2008 to reduce its water usage. Using data from 2009, Central Valley Water Board staff estimated the salt load using TDS results and compared the load to the Harris Ranch 2015 results. The loading estimates indicate that the discharge in 2009 added 17,139 lbs/ac/yr of salt to the discharge. The salt loading in 2015 indicated the discharge added 11,798 lbs/ac/yr to the land application areas. Water conservation efforts by Harris Ranch have reduced the overall salt load to the land application areas by over 5,000 lbs/ac/yr and the net result is that less salt (TDS) is now discharged to the land application areas due to the water conservation efforts. The Harris Ranch discharge qualifies for the Basin Plan exception to the EC limit for industrial wastewaters. Still, this Order contains Provision G.16 that requires Harris Ranch to submit a Salinity Management Plan that requires Harris Ranch to evaluate salinity sources in its discharge and provide recommendations for alternatives that will reduce the salt in the discharge.

63. 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 irrigating with water having an EC less than 700 umhos/cm. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops. It is possible to achieve full yield potential for some crops with waters having EC up to 3,000 umhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

64. The list of crops in Finding 35 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.

65. Water Code section 13050, subdivision (k) states that, "Contamination" means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

66. Water Code section 13050, subdivision (l), states that:

(1) “Pollution" means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either of the following:

(A) The waters for beneficial uses.

(B) Facilities which serve these beneficial uses.

(2) "Pollution" may include "contamination."

67. As discussed in Finding 45, nitrate as nitrogen increases from an average of about 25 mg/L in upgradient MW-2 to an average of over 70 mg/L in downgradient MW-4. Once consumed, nitrate is converted to nitrite in the body. Nitrite can interfere with the ability of red blood cells to carry oxygen to the tissues of the body, producing a condition called methemoglobinemia. It is of greatest concerns in infants, whose immature stomach environment enables conversion of nitrate to nitrite, which is then absorbed into the blood stream. Clinical effects on infants ingesting nitrite at high levels in foods or from formula made with nitrate-contaminated drinking water are often referred to as the “blue baby syndrome.” High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women. The risk of health effects increases with an increase in dose or increasing concentrations.

68. Central Valley Water Board Resolution No. R5-2009-0028, *In support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants* was adopted in April 2009 to promote wastewater reuse projects such as the discharge authorized by this Order.

69. The Water Conservation Act of 2009, Senate Bill (SBX7-7), requires 20 percent reduction in statewide water use by 2020 to be achieved through implementation of Best Management Practices (BMPs) and optimization of water reclamation opportunities in the urban, industrial, and agricultural sectors. The proposed project is consistent with these goals.

Antidegradation Analysis

70. The *State Antidegradation Policy* prohibits the Central Valley Water Board from authorizing the degradation of high-quality waters 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 BPTC to minimize degradation, and

d. The degradation is consistent with the maximum benefit to the people of the state.

71. Constituents of concern that, when discharged to the clay-lined facultative and unlined evaporation/percolation ponds, and/or the land application areas, have the potential to cause degradation of high quality waters include, in part, organics, nutrients, and salts.

a. **Nitrogen.** The discharge has contributed to an exceedance of the water quality objectives for nitrate as nitrogen downgradient of the effluent storage ponds and land application areas. Most of the nitrogen in the process wastewater is present as TKN, which can readily mineralize and convert to nitrate (with some loss via ammonia volatilization) in the land application areas. Upgradient groundwater quality is poor (averaging 25 mg/L) with respect to nitrate as nitrogen and exceeds the primary MCL of 10 mg/L in MW-2. The poor quality of the upgradient groundwater is likely due to past and present uses of the surrounding land areas. It is not natural background groundwater quality, but it is the quality of the groundwater as it flows under the Harris Ranch property. However, since 2013 downgradient wells MW-1 and MW-4 have average nitrate as nitrogen results of 63 and 74 mg/L, respectively. The average nitrate as nitrogen result in 2015 from MW-4 was 86 mg/L, with the 4th Quarter 2015 result being 97 mg/L. The average nitrate as nitrogen result from MW-1 of 64 mg/L is more than twice the result from upgradient MW-2 and more than six times the MCL of 10 mg/L. The 2015 average nitrate as nitrogen result of 84 mg/L from MW-4 is more than 3 times the result from upgradient MW-2 and more than eight times the MCL of 10 mg/L.

In order to ensure that the discharge will not result in further nitrate as nitrogen degradation, this Order requires that nitrogen loading to the land application areas be at reasonable agronomic rates, and requires the Discharger to prepare a Nutrient and Wastewater Management Plan. The Central Valley Water Board expects that application of wastewater and fertilizers at reasonable agronomic rates for nitrogen will preclude further degradation/pollution of groundwater for nitrate as nitrogen. The proposed upgrades to the wastewater treatment system will maximize nitrogen removal before the discharge of the wastewater to the land application areas, and the expanded land application areas and proposed cropping patterns will minimize the potential for nitrate to migrate to groundwater. CDO R5-2017-0012 includes Tasks 2 and 3 that include compliance schedules that require Harris Ranch to comply with the effluent

limitations and evaluate if groundwater remediation alternatives are necessary to ensure that Harris Ranch facility does not cause a statistically significant increase in groundwater constituent concentrations over existing upgradient groundwater values for those constituent that exceed water quality objectives.

b. **Salinity:** The average effluent EC and chloride results of the Harris Ranch effluent exceed the upgradient groundwater quality for the area. Sulfate results are about equal to the upgradient results, but the average TDS of the effluent, is less than the TDS of the upgradient groundwater results. Harris Ranch's water conservation efforts have reduced the salt loading to the land application areas by about 5,000 pounds of salt per year and as such, the discharge qualifies for the EC effluent exception. Based on the planned modifications to the wastewater management system and expanded land application areas, groundwater quality with respect to salinity is expected to improve over time. This Order contains Provision G.16 that requires Harris Ranch to prepare a Salinity Management Plan to evaluate and implement salinity reduction measures to the process. CDO R5-2017-0012 includes a compliance schedule that requires Harris Ranch to comply with the effluent limitations and evaluate if groundwater cleanup alternatives are necessary to meet the EC groundwater limitations.

c. **Organics**: As described in Finding 23, application of organic materials (as measured by BOD) at excessive rates can cause anaerobic conditions that result in nuisance odor conditions, dissolution, and leaching of some metals (primarily iron, manganese, and arsenic) to groundwater. However, as discussed in Finding 28, the BOD loading rates of the existing and proposed discharge will range from about two to four lbs/ac/day and at such loading rates are unlikely to degrade the underlying groundwater quality.

72. Historically, Harris Ranch's discharge of beef processing wastewater has contributed to groundwater degradation/pollution with nitrates as nitrogen and salts in the vicinity of the Plant. The accompanying CDO requires Harris Ranch to fully treat its wastewater to the effluent limits of this Order by no later than **24 February 2022**. Discharges from the Plant may not meet the antidegradation requirements described in Finding 70.a.-d initially. However, the CDO addresses development of remedial actions, if necessary, to remediate groundwater impacted from past Harris Ranch discharges.

Treatment and Control Practices

73. The Discharger provides or will provide, for its discharges of beef processing wastewater to the land application areas, as required by this Order and CDO R5-2017-0012, treatment and control of the discharge that incorporates:

- Removal of suspended solids and sediment from the waste stream prior to discharge to the existing effluent storage pond;

- Appropriate solids disposal practices;
- Pretreatment using coagulants and construction of a DAF unit to remove and recover marketable grease and proteins;
- Construction of a lined anaerobic lagoon that will be covered to collect the biogas produced by the lagoon;
- Aerobic treatment to reduce odors and reduce nitrogen of the discharge;
- Treated wastewater storage in one or more lined lagoons designed to provide about 100 days of storage.
- Installation of a new irrigation system with flow metering and variable speed pumps for precise control of application rates;
- Application of treated wastewater to the land application areas at agronomic rates;
- Adding 100 acres to the existing 86-acre land application area;
- Implementation of a Salinity Management Plan;
- Implementation of a Nutrient Management Plan; and
- Comprehensive effluent and groundwater monitoring.

74. Harris Ranch's proposed treatment and waste water reuse on its land application areas is in general accordance with the United States Environmental Protection Agency's Effluent Limitations Guidelines for the Meat and Poultry Point Source Category (see 40 CFR Part 432) for surface water discharges that identify treatment that is considered best available technology that is economically achievable or BAT. While 40 CFR Part 432 is not directly applicable for a discharge of meat processing wastewater to land, it does demonstrate that the treatment system proposed by Harris Ranch will incorporate best available technology or BAT that is economically achievable and the proposed treatment system will be designed and operated to ensure that effluent nitrogen concentrations are appropriate to ensure application of nitrogen at agronomic rates. Effluent Limitation B.3 requires the Discharger to demonstrate that the monthly average concentration of total nitrogen in the discharge is protective of the underlying groundwater quality.

75. The provisions of this Order require that the Discharger implement BPTC for its discharges of wastewater and CDO R5-2017-0012 requires Harris Ranch to either meet the effluent limits or to otherwise modify its treatment or disposal operations to ensure compliance with the effluent limitations. These Treatment and Control Practices are reflective of BPTC of the discharge.

Antidegradation Conclusions

76. This Order, along with CDO R5-2017-0012, establishes terms and conditions to ensure that the authorized discharge from the Plant will not excessively degrade

groundwater, contribute to existing pollution, or unreasonably affect present and anticipated future beneficial uses of groundwater.

77. This Order establishes terms and conditions to ensure that the authorized discharge from the Plant will not excessively degrade groundwater, contribute to existing pollution, or unreasonably affect present and anticipated future beneficial uses of groundwater.

78. The provisions of this Order require the Discharger to implement treatment or control measures listed in Finding 73. These Treatment and Control Practices are reflective of BPTC of the discharge.

79. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason exists to accommodate growth and limited groundwater degradation around the Plant, provided that the terms of the Basin Plan are met. The Harris Ranch operation provides approximately 1,000 full time jobs and indirectly provides opportunities for local trucking firms, for firms that produce the feed stocks used to support the cattle, as well as the industries that produce materials and equipment used for beef processing activities. This Order does authorize degradation of groundwater for salinity, but this Order coupled with the CDO R5-2017-0012, is expected to improve groundwater quality and protect beneficial uses in the future. Any degradation authorized herein is to the maximum benefit to the people of the state.

80. This Order is consistent with the Anti-Degradation Policy since: the Discharger must implement BPTC to minimize degradation; although limited degradation is allowed by this Order, the Board expects that implantation of this Order and the CDO will result in improved groundwater quality and will not unreasonably affect present and anticipated beneficial uses of groundwater; and the limited degradation is of maximum benefit to people of the State.

Other Regulatory Considerations

81. Based on the threat and complexity of the discharge, the Plant is determined to be classified as 2B as defined below:

    a. Category 2 threat to water quality: “Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”

    b. Category B complexity, defined as: “Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units.”

82. California Code of Regulations, title 27 (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste, which includes designated waste, as defined by Water Code section 13173. However, Title 27 exempts certain activities from its provisions. The Plant contains treatment, processing, storage facilities, and wastewater land application areas. Some discharges regulated by this Order are exempt from Title 27 pursuant to a provision that exempts wastewater under specific conditions. This exemption, found at Title 27, section 20090, is described below:

***

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

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

(1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;

(2) the discharge is in compliance with the applicable water quality control plan; and

(3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

***

83. The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27. The existing unlined Middle and East evaporation percolation ponds will be replaced by a lined effluent storage pond as part of Phase 3 of the proposed site improvements outlined in the RWD. Provision G.18 of this Order requires the Discharger to submit a Pond Closure Plan within one year of the adoption of this Order. The current clay-lined West facultative pond, future lined anaerobic ponds and land application areas are exempt pursuant to Title 27, section 20090(b) because they are discharges of wastewater to land, and:

a. The Central Valley Water Board is issuing WDRs;

b. This Order prescribes requirements that will ensure compliance with the Basin Plan in the future; and

c. The wastewater discharged to the land application areas does not need to be managed as hazardous waste.

84. Although the discharge is exempt from Title 27, the statistical data analysis methods of Title 27, section 20415(e) are appropriate for determining whether the discharge complies with Groundwater Limitations specified in this Order.

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

86. Water Code section 13267(b) states:

> In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

87. The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2017-0021 are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

88. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 74-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.

89. The County of Fresno adopted a Negative Declaration on 18 December 1986 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000, et seq.) and the State CEQA guidelines. The Plant has been in use as a beef processing facility continuously since and prior to 1986. This Order for the current facility does not authorize any additional construction activities and imposes regulatory requirements that are protective of the underlying groundwater quality. As a result, the existing discharge is exempt from the requirements of CEQA in accordance with California Code of Regulations, title 14, section 15301. The proposed treatment facilities and expanded land application areas may require additional CEQA findings as contemplated Task 2 of the accompanying CDO R5-2017-0012.

90. 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.

91. 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 groundwater that receives discharges to meet groundwater limitations designed to protect human health and ensure that water is safe for domestic uses.

Public Notice

92. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

93. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

94. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order 90-183 is rescinded and that Harris ranch Beef Company, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.

3. Bypass of untreated wastes or partially treated wastes, except as allowed by Provision E.2 of Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991, is prohibited.

4. Discharge of wastewater in a manner or location other than that described in the report of waste discharge and herein is prohibited.

5. The discharge of wastewater not authorized by this Order, other than domestic wastewater to a septic system, is prohibited.

6. Discharge of toxic substances into the wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.

7. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.

8. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

B. Effluent Limitations

1. The monthly average daily discharge, measured at EFF-001, shall not exceed 1.0 million gallons. The average daily discharge shall be the average of the last 12-months of data.
2. The average TDS of the discharge, measured at EFF-001, shall not exceed an average TDS of 1,000 mg/L, which historically the discharge has met (see Table 2) and is similar to the upgradient groundwater quality as determined at groundwater monitoring well MW-2.
3. The Discharger shall demonstrate, measured at EFF-001, that the monthly average concentration of total nitrogen in the Harris Ranch discharge will be protective of the underlying groundwater, considering the crop, soil, climate, and the irrigation management system in place.

C. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations of this Order.

2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.

3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.

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

5. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.

7. As a means of discerning compliance with Discharge Specification C.6, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

8. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.

9. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring 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 capacity shall at least equal the volume necessary to comply with Discharge Specification C.9.

11. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

    a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.

    b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

    c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

12. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

D. Groundwater Limitations

Release of waste constituents from any treatment unit, delivery system, storage areas, or Land Application Area associated with the Plant shall not cause or contribute to groundwater containing concentrations of constituents as identified below.

1. Contain nitrate as nitrogen, EC, and/or TDS in concentrations statistically greater than the upgradient groundwater quality as measured in the Harris Ranch upgradient groundwater monitoring well MW-2. MW-2 will be replaced with a new upgradient well proposed near the northeast corner of the new 100-acre land application area, at which time the new well or wells will replace MW-2 as a background well/wells.

2. With the exception of nitrate and nitrogen, EC, and/or TDS, as noted in Groundwater Limitation D.1 above, contain waste constituents in concentrations in excess of the water quality objectives for constituents identified in Title 22.

3. With the exception of nitrate and nitrogen, EC, and/or TDS, as noted in Groundwater Limitation D.1 above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

E. Land Application Area Specifications

1. For the purposes of this Order, “land application areas” refers to the discharge areas described in Findings 9 and 18.

2. Application of waste constituents to the land application areas shall be at reasonable agronomic rates to preclude creation of a nuisance and unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the land application areas, including the nutritive value of organic and chemical fertilizers and of the wastewater and nutrients in applied irrigation water and available in the root zone shall not exceed the annual crop demand.

3. The discharges to the land application areas will not exceed a BOD daily cycle average loading rate of 50 lbs/ac/day at any time. Compliance with this limit

shall be determined by using the average of the last months (twice-monthly sampling frequency) effluent BOD monitoring results.

4. Crops shall be grown in the land application areas. Crops shall be selected based on nutrient uptake, consumptive use of water, volume of the wastewater to be applied, available acreage, and irrigation requirements to maximize crop uptake of waste constituents.

5. The Discharger shall ensure that water, BOD, and nitrogen are applied and distributed uniformly across each land application area field. The Discharger shall implement changes to the irrigation system and/or operational practices as needed to ensure compliance with this requirement.

6. Any irrigation runoff shall be confined to the land application areas and shall not enter any surface water drainage course or storm water drainage system.

7. The perimeter of the land application areas shall be graded to prevent ponding along public roads or other public areas and prevent runoff onto adjacent properties not owned or controlled by the Discharger.

8. The volume of wastewater applied to the land application areas on any single day shall not exceed reasonable agronomic rates based on the vegetation grown, pre-discharge soil moisture conditions, and weather conditions.

9. Hydraulic loading of wastewater and supplemental irrigation water including precipitation shall be at reasonable agronomic rates designed to:

   a. Maximize crop nutrient uptake;

   b. Maximize breakdown of organic waste constituents in the root zone; and

   c. Minimize the percolation of waste constituents below the root zone.

10. The irrigation with wastewater shall be managed to minimize erosion within the land application areas.

11. The land application areas shall be managed to prevent breeding of mosquitoes. In particular:

   a. There shall be no standing water 48 hours after irrigation ceases;

   b. Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation; and

   c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

12. No physical connection shall exist between wastewater and any domestic water supply or domestic well, or between wastewater piping and any irrigation well that does not have an air gap or reduced pressure principle device.

13. The resulting effect of the wastewater discharge on the soil pH shall not exceed the buffering capacity of the soil profile and shall not cause significant mobilization of soil constituents such as iron and manganese.

14. Discharge of storm water runoff from the land application areas to off-site land or surface water drainage courses is prohibited.

F. Solids Disposal Specifications

Sludge, as used in this document, means the solid, semisolid, and liquid organic matter removed from wastewater treatment, settling, and storage vessels or ponds. Solid waste refers to solid inorganic matter removed by screens and soil sediments from washing of equipment, etc. Except for waste solids originating from meat processing, residual solids means organic food processing byproducts such as culls, pulp, stems, leaves, and seeds that will not be subject to treatment prior to disposal or land application.

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.

2. Any handling and storage of sludge, solid waste, and residual solids shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.

3. If removed from the site, sludge, solid waste, and residual solids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

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

G. Provisions

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions), which are a part of this Order.

2. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2017-0021, 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 keep at the Plant office copies 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.

4. The Discharger must at all times properly operate and maintain its respective facilities and systems of treatment and control (and related appurtenances) that are installed or used 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 only when the operation is necessary to achieve compliance with the conditions of the Order.

5. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of a person registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work. All reports required herein are required pursuant to Water Code section 13267.

6. The Discharger 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. 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.

8. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

9. If groundwater monitoring results show that the discharge of beef processing wastewater is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, within 120 days of the request of the Executive Officer, the Discharger shall submit a BPTC Evaluation Workplan that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the Plant's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent that exceeds a Groundwater Limitation. The workplan shall contain a preliminary evaluation of each component of the waste treatment and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

10. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

11. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.

12. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date,

the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

13. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

14. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.

15. The Discharger shall submit a work plan that evaluates the existing groundwater monitoring well network. The Discharger shall monitor the presence of groundwater in the four existing (and any wells added thereafter) groundwater monitoring wells. If wells go dry, and remain dry for more than four consecutive quarters, or are otherwise rendered inoperable, they shall be augmented within six months of the last unsuccessful sampling event with in-kind wells drilled to monitor first encountered groundwater. The Discharger shall obtain written approval of the replacement well locations from the Central Valley Water Board Executive Officer. The Discharger shall implement the following schedule of Tasks:

Task	**Task Description**	**Due date**
a.	Submit a work plan for the installation of additional groundwater monitoring wells to provide groundwater monitoring both upgradient and downgradient of the Plant and the land application areas. In addition, new wells should be proposed as replacement wells for any well that has been dry for four consecutive quarters.	**25 May 2017**
b.	Install and sample the monitoring well or wells upon receipt of Executive Officer approval of the work plan required by Task a, but by no later than the due date for Task b. The well shall be sampled consistent with the requirements of Monitoring and Reporting Program R5-2017-0021.	**26 February 2018**

c.	Evaluate groundwater quality trends from each well on an intrawell basis	**Annually as required by MRP R5-2017-0021**

16. **By 24 August 2017**, the Discharger shall submit a Salinity Management Plan, with salinity source reduction goals and an implementation time schedule for Executive Officer approval. The control plan shall identify any additional methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible, include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement various elements in the salinity control plan. The Discharger shall implement the plan in accordance with the approved schedule.

17. **By 24 August 2017**, the Discharger shall submit a Nutrient Management Plan for the land application areas for Executive Officer approval. At a minimum the Plan must include procedures for monitoring the land application areas including daily records of wastewater applications and acreages, an action plan to deal with objectionable odors and/or nuisance conditions, a discussion on blending of wastewater and supplemental irrigation water, supporting data and calculations for monthly and annual water and nutrient balances, and management practices that will ensure wastewater, irrigation water, commercial fertilizers and soil amendments are applied at agronomic rates.

18. **By 26 February 2018**, the Discharger shall submit a Pond Closure Plan for the closure of the existing clay-lined West facultative pond and the unlined Middle and East evaporation percolation ponds for Executive Officer approval.

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

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

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

holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

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

or will be provided upon request.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 24 February 2017.

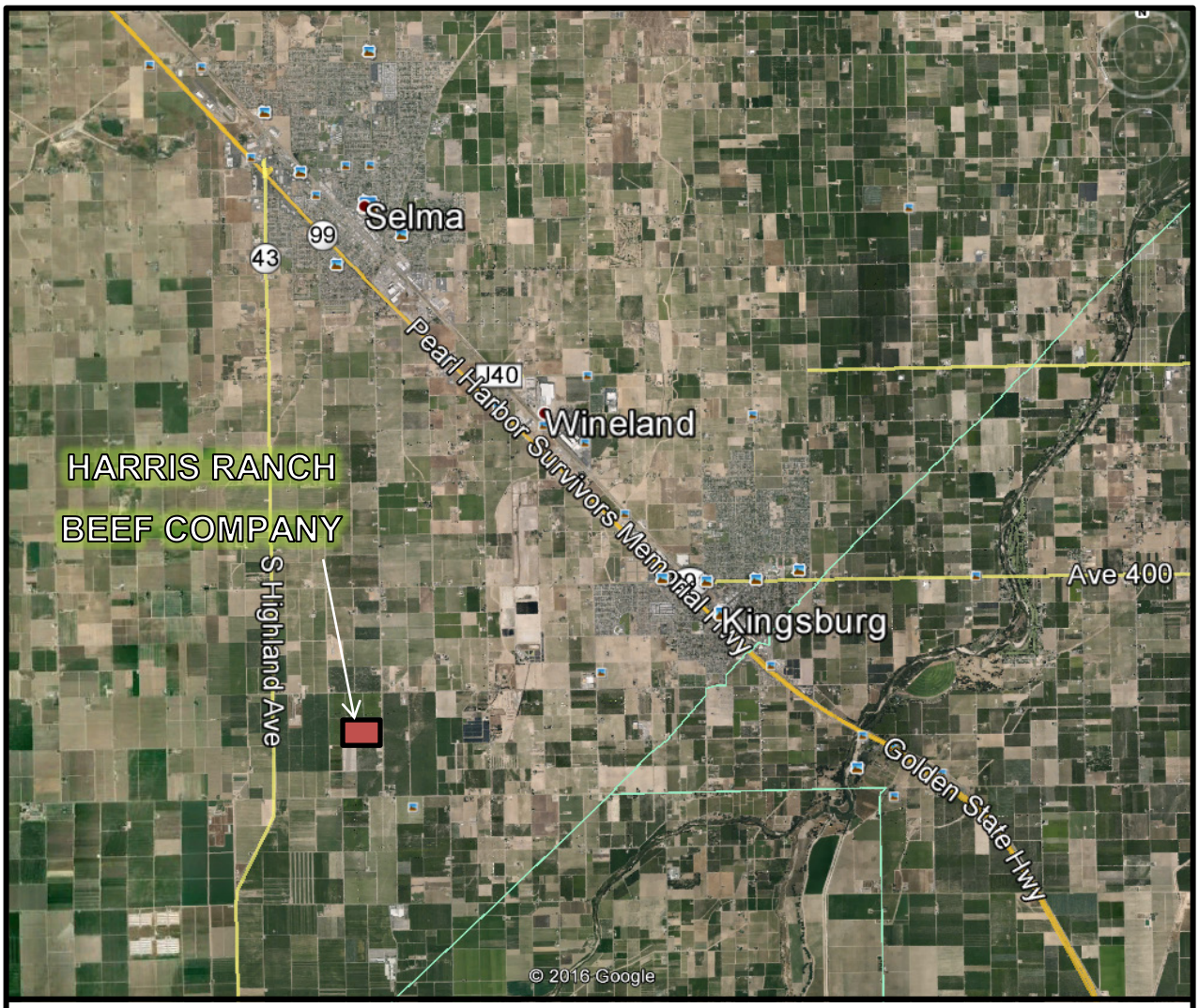
Original signed by

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A. Site Location Map
B. Facility Map
C. Existing Process Flow Diagram
D. Cleaning and Disinfection Products used by Harris Ranch

Monitoring and Reporting Program No. R5-2017-0021
Information Sheet
Standard Provisions (1March 1991)



SITE LOCATION MAP

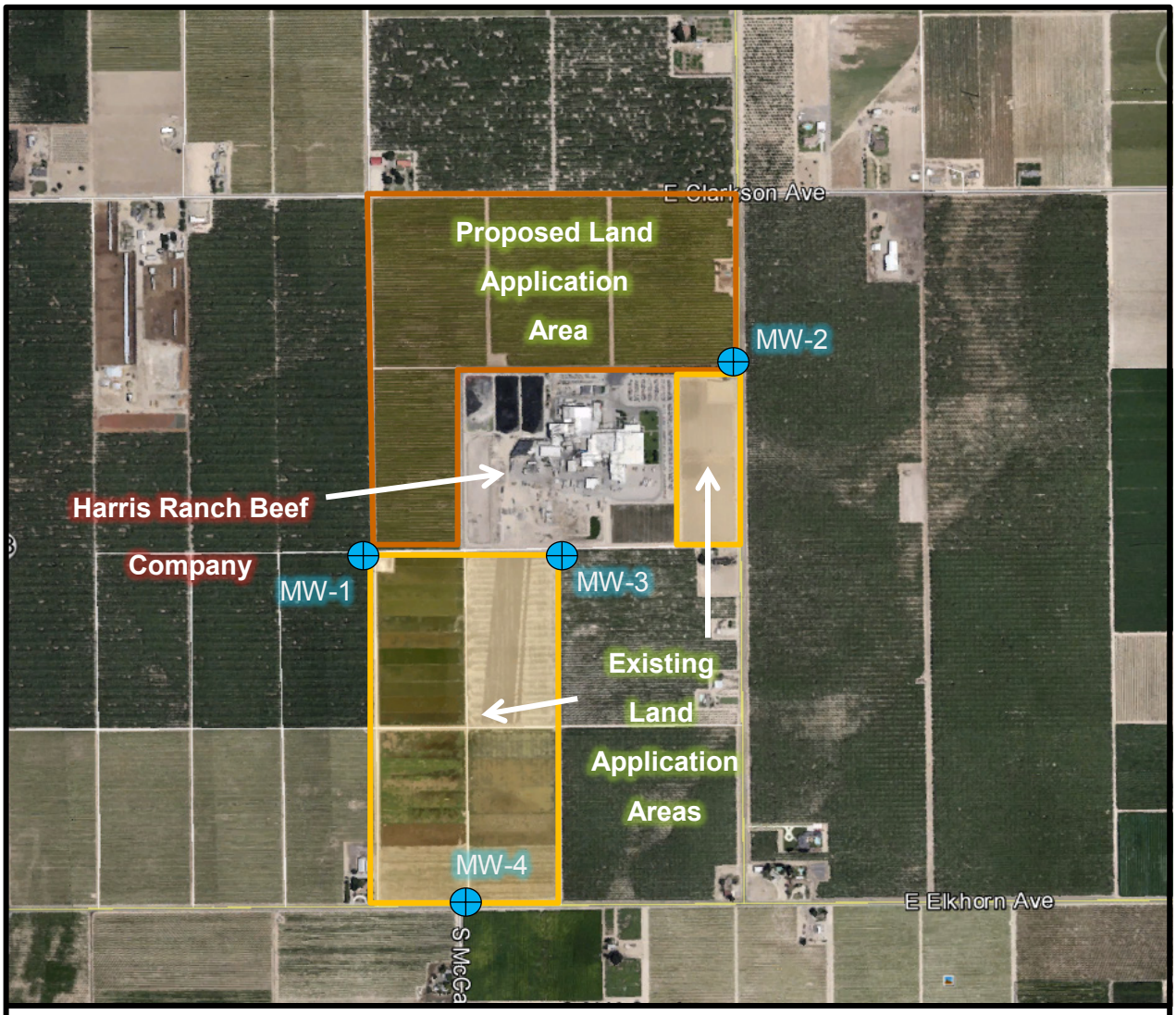
ORDER R5-2017-0021
WASTE DISCHARGE REQUIREMENTS

FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING PLANT
FRESNO COUNTY

N
W E
S

0 1 2 3
Approximate Scale in Miles

ATTACHMENT A



FACILITY MAP

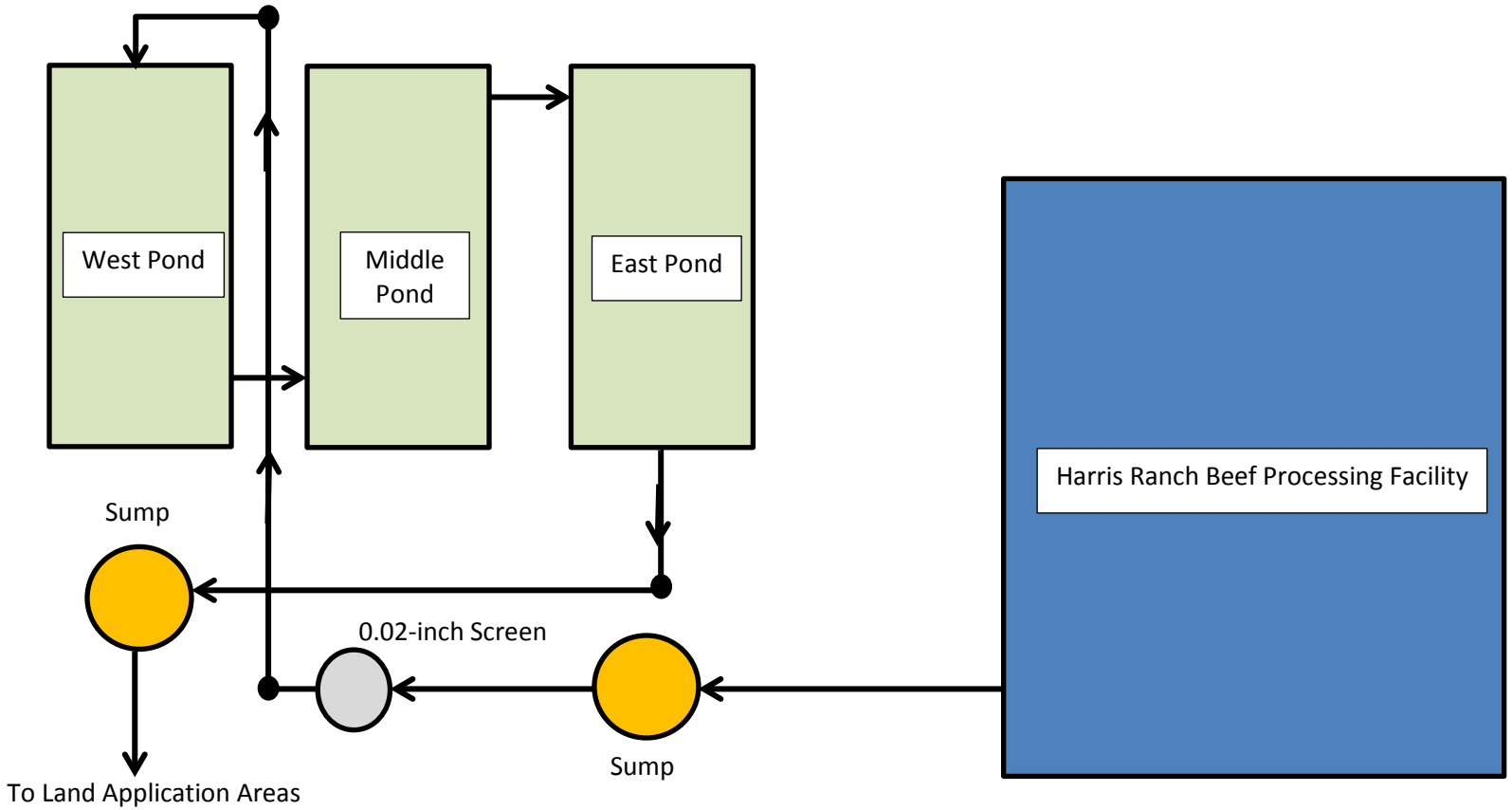
ORDER R5-2017-0021
WASTE DISCHARGE REQUIREMENTS

FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING FACILITY
FRESNO COUNTY

N
W E
S

0 1/8 1/4 3/8 1/2
Approximate Scale in Miles

ATTACHMENT B



EXISTING PROCESS FLOW DIAGRAM

ORDER R5-2017-0021
WASTE DISCHARGE REQUIREMENTS

FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING FACILITY
FRESNO COUNTY

No Scale Implied

ATTACHMENT C

NAME	CHEMICAL NAME	CAS NO.
KC-101 Pine Cleaner Plus	Isopropyl alcohol	67-63-0
	Pine oil	8002-09-3
KC-102 Window Cleaner	Hydroxyacetic acid	79-14-1
	Dipropylene glycol monomethyl ether	34590-94-8
KC-103 Bathroom Cleaner	Isopropyl alcohol	67-63-0
	Propylene glycol n-butyl ether	5131-66-8
KC-204 Foaming additive	Sodium dodecylbenzenesulfonate	25155-30-0
KC-243 Chlorinated foaming cleaner	Sodium metasilicate pentahydrate	7732-18-5
	Sodium hypochlorite	10213-79-3
	Potassium Hydroxide	1310-58-3
KC-260 Metal cleaner	Ethylene glycol monobutyl ether	111-76-2
	Potassium Hydroxide	1310-58-3
	Potassium silicate	1312-76-1
	Trisodium salt	19019-43-3
KC-400 Scale and buildup remover	Phosphoric acid	7664-38-2
	Nitric acid	7697-37-2
KC-404 Foaming acid cleanser	Phosphoric acid	7664-38-2
	Dipropylene glycol monomethyl ether	34590-94-8
	Dodecylbenzenesulfonic acid	27176-87-0
KC-545 Chlorinated alkaline cleaner	Potassium Hydroxide	1310-58-3
	Sodium hypochlorite	10213-79-3
KC-555 High alkaline cleaner	Sodium hydroxide	1310-73-2
KC-610 Antimicrobial solution	Hydrogen peroxide	7722-84-1
	Acetic acid	64-19-7
	Peroxyacetic acid	79-21-0
KC-615 Sanitizer and disinfectant	Sodium hypochlorite	10213-79-3
	Sodium chloride	7647-14-5
	Sodium hydroxide	1310-73-2
KC-631 Acid sanitizer and disinfectant	Phosphoric acid	7664-38-2
	Alkyl Dimethyl Benzyl Ammonium Chloride	68424-85-1
	Octyl Decyl Dimethyl Ammonium Chloride	32426-11-2
	Dioctyl Dimethyl Ammonium Chloride	5538-94-3
	Didecyl Dimethyl Ammonium Chloride	7173-51-5
	Ethyl Alcohol	64-17-5
KC-634 Sanitizer and disinfectant	Alkyl Dimethyl Benzyl Ammonium Chloride	32426-11-2
	Dioctyl Dimethyl Ammonium Chloride	5538-94-3
	Didecyl Dimethyl Ammonium Chloride	7173-51-5
	Ethyl Alcohol	64-17-5

CLEANING AND DISINFECTION PRODUCTS USED BY HARRIS RANCH

ORDER R5-2017-0021
WASTE DISCHARGE REQUIREMENTS

FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING PLANT
FRESNO COUNTY

ATTACHMENT D

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2017-0021
FOR
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING PLANT
FRESNO COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code (CWC) section 13267. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer, prior to changing the location.

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 or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health'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 this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 13.

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

Monitoring Location Name	Monitoring Location Description
INF-001	Location where a representative sample of the **influent** to the facultative wastewater retention pond (West Pond) can be obtained prior to discharge to the West Pond.
EFF-001	Location where a representative sample of the **effluent** from the last wastewater retention pond (East Pond) can be obtained prior to discharge to the land application areas.
West, East, and Middle Ponds	West, Middle, and East wastewater ponds and any other wastewater ponds added to the disposal system.
LAA-001 and LAA-002	Land application areas where the discharge from the facility and any other supplemental water source (irrigation, source water) sources are applied.
MW-1 through MW-4	Groundwater Monitoring Wells MW-1 through MW-4, and any other wells added to the groundwater monitoring network.
SW-001	Existing source water wells and any other source water wells added to the source water well network.
IW-001	Location where a representative sample of irrigation water can be obtained.
Soil-01, Soil-02, etc. **Bkg-01, Bkg-02, etc.**	Locations where representative soil profile samples can be collected from monitoring locations within the land application areas and at least two background soil sampling locations

INFLUENT MONITORING (INF-001)

Influent samples shall be collected at a point (INF-001) prior to discharge to the West Wastewater Retention Pond (West Pond). The samples shall be representative of the volume and nature of the discharges. Time of collection of the samples shall be recorded. Influent monitoring prior to discharge to the West Pond shall include at least the following:

Frequency	Constituent/Parameter	Units[1]	Sample Type
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Monthly	Electrical Conductivity	umhos/cm	24-hour composite
Monthly	Biochemical Oxygen Demand	mg/L	24-hour composite
Monthly	Total Suspended Solids	mg/L	24-hour composite
Monthly	Total Dissolved Solids	mg/L	24-hour composite
Monthly	Fixed Dissolved Solids	mg/L	24-hour composite
Monthly	Nitrite as Nitrogen	mg/L	24-hour composite
Monthly	Nitrate as Nitrogen	mg/L	24-hour composite
Monthly	Ammonia Nitrogen	mg/L	24-hour composite
Monthly	Total Nitrogen	mg/L	24-hour composite
Monthly	Boron	mg/L	24-hour composite
Monthly	Arsenic	mg/L[2]	24-hour composite
Monthly	Manganese	mg/L[2]	24-hour composite

1. mgd = million gallons per day; umhos/cm = micromhos per centimeter; mg/L = milligrams per liter.
2. mg/L or micrograms per liter (ug/L), as appropriate.

EFFLUENT MONITORING (EFF-001)

The Discharger shall monitor its discharge of wastewater at a point (EFF-001) prior to discharge to the land application areas. The samples shall be representative of the volume and nature of the discharges. Time of collection of the samples shall be recorded. Wastewater monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units[1]	Sample Type
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	Electrical Conductivity	umhos/cm	Grab
Monthly	Total Dissolved Solids	mg/L	Grab
Monthly	Fixed Dissolved Solids	mg/L	Grab
Monthly	Biochemical Oxygen Demand	mg/L	Grab
Monthly	Total Suspended Solids	mg/L	Grab
Monthly	Nitrite as Nitrogen	mg/L	Grab
Monthly	Nitrate as Nitrogen	mg/L	Grab
Monthly	Ammonia Nitrogen	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Grab

Frequency	Constituent/Parameter	Units[1]	Sample Type
Monthly	Boron	mg/L	Grab
Monthly	Arsenic	mg/L[2]	Grab
Monthly	Manganese	mg/L[2]	Grab
Annually	General Minerals	mg/L[2]	Grab

1. mgd = million gallons per day; umhos/cm = micromhos per centimeter; mg/L = milligrams per liter.
2. mg/L or ug/L, as appropriate.

POND MONITORING (East, West and Middle Ponds)

Pond monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Weekly[1]	Dissolved Oxygen	mg/L[2]	Grab
Weekly	Freeboard	Feet[3]	Observation

1. Measured between 8:00 and 9:00 am on the day of sample collection.
2. DO sample collected from within the upper one foot of all wastewater ponds containing effluent opposite the pond inlets.
3. To nearest tenth of a foot

Permanent markers (e.g., staff gauges) shall be placed in storage ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard.

The Discharger shall inspect the condition of the storage ponds once per week and write 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 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.).

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well (MW-1 through MW-4, and any wells subsequently added) shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of the standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Network, and any additional wells installed, for the following:

Frequency	Constituent/Parameter	Units[1]	Sample Type
Quarterly	Depth to Groundwater	Feet[2]	Measured
Quarterly	Groundwater Elevation	Feet[3]	Computed
Quarterly	pH	pH Units	Grab
Quarterly	EC	umhos/cm	Grab

Frequency	Constituent/Parameter	Units[1]	Sample Type
Quarterly	Nitrite as Nitrogen	mg/L	Grab
Quarterly	Nitrate as Nitrogen	mg/L	Grab
Quarterly	Ammonia Nitrogen	mg/L	Grab
Quarterly	Total Nitrogen	mg/L	Grab
Quarterly	Total Organic Carbon	mg/L	Grab
Quarterly	Boron	mg/L	Grab
Quarterly	Arsenic	mg/L[4]	Grab
Quarterly	Manganese	mg/L[4]	Grab
Quarterly[3]	General Minerals	mg/L[4]	Grab

1. Umhos/cm = micromhos per centimeter
2. To the nearest hundredth of a foot and reported in feet below the ground surface.
3. To the nearest hundredth of a foot above Mean Sea Level.
4. mg/L or ug/L, as appropriate.

The Discharger shall maintain its groundwater monitoring well network. If a groundwater monitoring well(s) are dry for more than four consecutive sampling events, the Discharger shall submit a work plan and proposed time schedule to replace the well(s). The well(s) shall be replaced following written Executive Officer approval of the work plan and time schedule.

SOURCE WATER MONITORING (SW-001)

The Discharger shall collect samples from its source water wells (SW-001) and any wells added, and analyze them for the constituents specified in the following table. If the source water is from more than one well, the results shall also be presented as a flow weighted average of all the wells used.

Frequency	Constituent/Parameter	Units	Sample Type
Semi-Annually	EC	mg/L	Grab
Semi-Annually	TDS	mg/L	Grab
Semi-Annually	Nitrite as Nitrogen	mg/L	Grab
Semi-Annually	Nitrate as Nitrogen	mg/L	Grab
Semi-Annually	Ammonia Nitrogen	mg/L	Grab
Semi-Annually	Total Nitrogen	mg/L	Grab
Annually	General Minerals	mg/L[1]	Grab

1. mg/L or ug/L, as appropriate.

LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application areas daily throughout the processing season and while wastewater is being discharged. The volume of the effluent applied will be monitored at EFF-001. The monitoring report shall identify the source and volume of the effluent applied, the specific parcels to which it is applied, the acreage to which it is applied,

and the type of crops grown on each parcel. This information shall be submitted as part of the annual monitoring report in addition to a map, which shows the specific parcels that received Harris Ranch effluent.

In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the land application areas. If supplemental irrigation water is used, samples shall be collected from its source. The data shall be collected and presented in both a graphical (map) and tabular format and shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Daily[1]	Application area	Acres	n/a
Daily[1]	Wastewater flow	Gallons	Metered
Daily[1]	Wastewater loading	Inches/day	Metered
Daily[1]	Supplemental irrigation	Inches/day	Metered
Daily[1]	Precipitation	Inches	Rain gage[2]
Monthly	Total Hydraulic loading[3]	Inches/acre-month	Calculated
BOD Loading[4]			
Daily[1]	Day of application	lbs/ac/day	Calculated
Cycle	Cycle average[5]	lbs/ac/day	Calculated
Nitrogen loading[4]			
Annual	From wastewater	lbs/ac/yr	Calculated
Annual	From fertilizers	lbs/ac/yr	Calculated
Annual	From supplemental irrigation water	lbs/ac/yr	Calculated
Salt loading[4]			
Annual	From wastewater	lbs/ac/yr	Calculated
Annual	From irrigation water	lbs/ac/yr	Calculated

1. When wastewater is applied to the land application areas.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. The BOD, salt, and nitrogen loading rate shall be calculated using the applied volume of wastewater, applied acreage, and average of the three most recent BOD, FDS, and total nitrogen analytical results.
5. A cycle average is the calculated by taking the pounds of BOD applied to the land application area in a given period, divided by the sum of the total days wastewater was applied plus the number of days of rest (no application of wastewater). For example, a 3-day cycle average would be calculated as follows. Effluent is discharged on the first day at a rate of 300 pounds per acre. No discharge occurs on days 2 and 3 (2 days rest). The BOD cycle average is the pounds per acre applied by the discharge (300 pounds) divided by the total number of days (three). The BOD cycle average loading would be 100 lbs per acre.

In addition, the Discharger shall inspect the application areas on a daily basis when wastewater is being applied. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in field logs and kept on site.

SOIL MONITORING (Soil-01)

The Discharger shall establish, with the concurrence of Central Valley Water Board staff, representative soil profile monitoring locations within the land application areas and at least

two representative background location(s) (i.e., that historically have not received process wastewater). The Discharger shall submit a map to the Central Valley Water Board with the identified sample locations no fewer than **60 days** prior to the first soil sampling event following adoption of this Order. The samples shall be collected and analyzed for the constituents and frequencies specified in the following table:

Frequency	Constituent/Parameter	Units	Sample Type
Annually	Soil pH	pH units	6 feet[1]
Annually	Buffer pH	mg/kg as $CaCO_3$	6 feet[1]
Annually	Sodium	mg/kg	6 feet[1]
Annually	Chloride	mg/kg	6 feet[1]
Annually	Nitrate as nitrogen	mg/kg	6 feet[1]
Annually	Total Kjeldahl Nitrogen	mg/kg	6 feet[1]

1. Samples to be analyzed shall be collected at depths of 6-inches, 2, 4, and 6 feet below the ground surface (bgs)

REPORTING

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

First Quarter Monitoring Report: **1 May**

Second Quarter Monitoring Report: **1 August**

Third Quarter Monitoring Report: **1 November**

Fourth Quarter Monitoring Report: **1 February**.

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

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

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office:

Program: Non-15, WDID: 5D102019001, Facility Name: Harris Ranch Beef Processing Plant, Order: R5-2017-0021.

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements, 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. 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 Dischargers to electronically submit and upload monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site http://www.waterboards.ca.gov/ciwqs/index.html or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater Reporting:

1. The results of influent and effluent monitoring specified on pages 3 and 4.

2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flows from each the wastewater streams.

3. A summary of daily BOD loading rates.

Pond Monitoring Reporting

1. The results of the monitoring specified on page 4.

Groundwater Reporting:

1. The results of groundwater monitoring specified on pages 4 and 5.

2. For each monitoring well, a table showing constituent concentrations for at least the last five quarters, up through the current quarter.

3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow under/around the facility and/or effluent disposal area(s). The map shall also include the locations of monitoring wells and wastewater storage and discharge areas.

Source Water Reporting

1. For each quarter, the results of the source water monitoring specified on page 5. Results must include supporting calculations.

Land Application Area Reporting

1. The results of the monitoring and reporting and loading calculations specified on pages 5 and 6.

2. For each month that wastewater is applied to the land application areas, calculation of the monthly hydraulic load for wastewater and supplemental irrigation water in millions of gallons and/or acre-feet to each discrete irrigation area.

3. A summary of the notations made in the land application areas log during each quarter. The entire contents of the log do not need to be submitted.

4. For each month, calculation of the daily BOD cycle average using the BOD results for the past three months.

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

Facility Information:

1. The names 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 Plant for emergency and routine situations.

3. A statement certifying when the flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).

4. A statement whether the current operation and maintenance manual, sampling plan, nutrient management plan, and contingency plan, reflect the Plant as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

5. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

6. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.

Groundwater Reporting

1. Cumulative data tables containing the water quality analytical results and depth to groundwater data.

2. Copies of the laboratory analytical data reports shall be maintained by the Discharger and provided upon request by the Regional Water Board.

3. An evaluation of the groundwater quality beneath the site and determination of compliance or noncompliance with the Groundwater Limitations of WDR Order R5-2017-0021 based on an intra-well statistical analysis for each constituent monitored for each monitoring well. Include all calculations and data input/analysis tables derived from use of statistical software, as applicable. The Discharger shall achieve compliance with this limit in accordance with Provision Task 3.c of CDO R5-2017-0021.

Solids Reporting

1. Annual production of totals solids (excluding trash and recyclables) in dry tons or cubic yards.

2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.

    a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.

    b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.

    c. For 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.

e. For animal feed, include: the location of the site, and the Order number of any WDRs that regulate it.

Soils Reporting

1. The results of soil monitoring specified on page 7. The analytical results should be presented in tabular form and include depth of sample. If no sample is collected at a specified depth it should be noted in the table along with the reason no sample was collected.

2. A site map showing the location of each sampling point. The map shall also include the locations of all monitoring wells and wastewater storage and/or discharge areas.

Land Application Area Reporting

1. The type of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptake (determined by representative plant tissue analysis is preferred). Include any soil and/or tissue sampling results.

2 The monthly and annual discharge volumes of beef processing wastewater and irrigation water during the reporting year expressed as million gallons and inches.

3. A monthly balance for the reporting year that includes:

   a. Monthly average ET_0 (observed evapotranspiration) – Information sources include California Irrigation Management Information System (CIMIS) http://www.cimis.water.ca.gov/

   b. Monthly crop uptake

      i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.

      ii. Irrigation efficiency – Frequently, engineers include a factor for irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.

   c. Monthly average precipitation – this data is available at http://www.cimis.water.ca.gov/ or http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmlprcp.html.

   d. Monthly average and annual average discharge flow rate.

4. A summary of daily and cycle average BOD loading rates.

5. The total pounds of nitrogen applied to the land application areas from all sources (wastewaters, fertilizers, and irrigation waters) as calculated from the sum of the monthly loading to the land application areas in lbs/ac/yr.

6. The total pounds of FDS that have been applied to the land application areas, as calculated from the sum of the monthly loadings to the land application areas in lbs/ac/yr.

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

Ordered by: *Original signed by*

PAMELA C. CREEDON, Executive Officer

(Date)

GLOSSARY

BOD_5	Five-day biochemical oxygen demand
CBOD	Carbonaceous BOD
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
General Minerals	Analysis for General Minerals shall include at least the following:

Alkalinity	Chloride	Sodium
Bicarbonate	Hardness	Sulfate
Calcium	Magnesium	TDS
Carbonate	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance.

INFORMATION SHEET

INFORMATION SHEET - ORDER NO. R5-2017-0021
HARRIS RANCH BEEF COMPANY
SELMA BEEF PROCESSING PLANT
FRESNO COUNTY

BACKGROUND

The Harris Ranch Beef Company (Harris Ranch or Discharger) owns and operates its Selma Beef Processing Plant at 16277 South McCall Avenue just south of the community of Selma in Fresno County. The property has a long history of use as a beef processing facility with meat processing activities conducted at the site since the early 1900's. The discharge from the Plant is regulated by Waste Discharge Requirements Order 90-183.

Wastewater

The average results of weekly wastewater monitoring events from January 2013 through June 2016 are presented in Table 1. The first value presented is the average and the range of detections is shown below in parentheses.

Table 1 - Harris Ranch Effluent Results

Electrical Conductivity	Total Dissolved Solids	Fixed Dissolved Solids	Biochemical Oxygen Demand	Total Nitrogen	Ammonia
umhos/cm [1]	mg/L [2]	mg/L [2]	mg/L [2]	mg/L [2]	mg/L [2]
2,143	720	547	75	184	171
(1,647 – 2,567)	(510 – 960)	(260 – 780)	(33 – 220)	(120 – 250)	(87 – 260)

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

The results shown in Table 2 are from quarterly monitoring events dating from January 2013 to April 2016. The average is shown first with the range of detections shown in the parentheses below.

Table 2 - Harris Ranch Effluent Results

Alkalinity	Bicarbonate	Sodium	Chloride	Magnesium	Potassium
mg/L [1]	mg/L [1]	mg/L [1]	mg/L [1]	mg/L [1]	mg/L [1]
899	872	164	113	7.7	56
(660 – 1,200)	(610 – 1,200)	(110 – 250)	(88 – 170)	(5.8 – 9.9)	(36 – 85)

1. mg/L = milligrams per liter.

Source Water

Harris Ranch obtains its source water from two onsite wells and samples the wells annually. The averages from 2012 to 2014 (three samples) are shown in Table 3.

Table 3 - Source Water Results

Electrical Conductivity	Total Dissolved Solids	Nitrate as Nitrogen	Chloride	Sodium	Alkalinity	Hardness
umhos/cm [1]	mg/L [2]	mg/L [2]	mg/L [2]	mg/L [2]	mg/L [2]	mg/L [2]
254	140	9.1	9.9	21	69	54

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

DISPOSAL METHODS

Solids

Solids from the screening processes are contained in dumpsters and sent to a Harris Ranch owned composting operation for disposal.

Wastewater

Wastewater is generated from the beef processing and cleaning of the processing equipment. Wastewater is screened prior to discharge into a 1.38 acre clay-lined facultative pond and then into two unlined 1.38-acre wastewater retention ponds. Wastewater is then discharged via flood irrigation to two land application areas (86 and 12 acres) adjacent the processing facility.

GROUNDWATER CONSIDERATIONS

The Plant and land application areas are in the Consolidated Hydrologic Area (No. 551.70) of the South Valley Floor Hydrologic Unit, as depicted on hydrologic maps prepared by State Water Resources Control Board in August 1986. The depth to water is currently about 80 to 85 feet below the ground surface, and the direction of groundwater flow is typically to the southwest.

Harris Ranch monitors a four well groundwater monitoring network (MW-1 through MW-4) with MW-2 serving as the upgradient well. The averages of the quarterly sampling from October 2009 through June 2016 are presented below.

Table 4 – Quarterly Groundwater Results

Well	Electrical Conductivity umhos/cm[1]	Nitrate as Nitrogen mg/L[2]	Chloride mg/L[2]	Sodium mg/L[2]	Total Dissolved Solids mg/L[2]
MW-1	1,633 (1400 – 2100)	60.7 (32.0 – 73.0)	82 (69 – 113)	107 (88 – 130)	1,140 (1000 – 1500)
MW-2	1,454 (1300 – 1600)	24.5 (20.0 – 29.0)	73 (60 – 92)	137 (110 – 198)	986 (780 – 1100)
MW-3	1,001 (690 – 1600)	30.9 (13.9 – 53.6)	35 (18 – 81)	75 (59 – 98)	680 (450 – 1100)
MW-4	1,776 (1500 – 2000)	67.9 (32.4 – 97.0)	99 (68 – 160)	145 (97 – 167)	1,195 (930 – 1600)
MCLs[3]	900/1600/2200	10	250/500/600	---	500/1000/1500

1. umhos/cm = micromhos per centimeter.
2. mg/L = milligrams per liter.
3. MCLs = maximum contaminant level. The MCL for nitrate as nitrogen is a Primary MCL and it has one numerical limit. The MCLs for electrical conductivity, chloride, and total dissolved solids are Secondary MCLs or "Consumer Acceptance Contaminant Level Ranges" and three different values are shown as the limits. The first number is the "Recommended" MCL, while the second number is the "Upper" MCL, and the third number is the "Short term" MCL.

The results indicate poor water quality in all wells, with the highest electrical conductivity and nitrate as nitrogen results observed in downgradient wells MW-1 and MW-4.

Limited published groundwater quality data from the United States Geological Survey (USGS) shows nearby regional wells contain nitrate as nitrogen just below and above the maximum contaminant level (MCL) of 10 milligrams per liter (mg/L) ranging from 9.8 to 29 mg/L. The USGS data shows electrical conductivity results both above and below the recommended Secondary MCL of 900 micromhos per centimeter (umhos/cm) ranging from 612 to 1,570 umhos/cm.

REGULATORY CONSIDERATIONS

Basin Plan, Beneficial Uses, and Water Quality Objectives

The Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2015 (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 processing plant and land application areas are in Detailed Analysis Unit (DAU) No. 236, within the Kings Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in the DAU as municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, require waters designated as municipal supply to meet the State drinking water 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.

The Basin Plan allows for an exception to the electrical conductivity limit for industrial wastewaters when the discharger technically demonstrates that allowing a greater net incremental increase in electrical conductivity will result in lower mass emissions of salt and in conservation of water, provided that beneficial uses are protected. The Harris Ranch discharge qualifies for the Basin Plan exception to the electrical conductivity limit for industrial wastewaters. This Order contains Provision G.16 that requires Harris Ranch to submit a

Salinity Management Plan that requires Harris Ranch to evaluate salinity sources in its discharge and provide recommendations for alternatives that will add less salt to the discharge

Antidegradation Analysis

State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) 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.

Historic discharges of beef processing wastewater to the land application areas has contributed to and/or caused degradation/pollution of the underlying groundwater. However, Harris Ranch will add acreage to the land application areas and construct a treatment system to reduce nitrogen concentrations in the discharge. With application of wastewater at agronomic rates and with proposed cropping patterns aimed at the uptake of salts and nutrients, the resulting percolate will not continue to contribute to an exceedance of the water quality objectives.

To ensure that the trends of nitrate as nitrogen and salts in all wells are closely monitored and evaluated, Task 3a and 3b of the accompanying Cease and Desist Order (CDO) requires the Discharger to assess the horizontal and vertical extent of the impact from the discharge of beef processing wastewater to the land application areas and to submit a technical report that describes the findings. Task 3c of the CDO requires the submittal of an annual report documenting the progress towards complying with the Groundwater Limitations of this Order. Should the monitoring indicate it will take longer than 10 years from the adoption of this Order for the groundwater to meet the Groundwater Limitations of this Order, Task 3d of the CDO requires the Discharger to submit a work plan with a compliance schedule for implementing additional measures to meet the Groundwater Limitations of this Order.

To evaluate the trends in groundwater concentrations, this Order will require quarterly sampling and an intra-well analysis of the data to determine if the discharge is complying with the Groundwater Limitations this Order.

Title 27

Title 27 of the California Code of Regulations, section 20005 et seq (Title 27) contains regulations to address certain discharges to land.

Unless exempt, release of designated waste is subject to full containment pursuant to Title 27 requirements. Title 27 Section 20090(b) exempts discharges of wastewater to land as follows:

"(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 board has issued waste discharge requirements, or waived such issuance;
(2) The discharge is in compliance with the applicable basin plan; and
(3) The waste is not hazardous waste and need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste."

Discharge of Harris Ranch wastewaters to the land application areas authorized herein complies with Title 27 section 20090(b). The discharge of beef processing wastewater to the 86-acre land application area may meet the requirements of Title 27 section 20090(b)(1) and section 20090(b)(3), but as the two effluent storage and retention are unlined, wastewater has the potential to percolate to the underlying groundwater. Because of the threat to underlying groundwater and the ponds not being lined, the storage ponds may not meet Title 27 requirement 20090(b)(2). However, the Discharger is proposing to build a treatment facility that will have lined components and lined effluent storage ponds. Task 2 of the accompanying Cease and Desist Order (CDO) R5-2017-0021 includes a time schedule for the discharge to be compliant with the terms of this Order in no more than 5 years from adoption of this Order. Order R5-2017-0021 also contains Provision G.18 requiring the Discharger to submit a Pond Closure Plan for the closure of the existing clay-lined West facultative pond and the unlined Middle and East evaporation percolation ponds for Executive Officer approval.

CEQA

The County of Fresno adopted a Negative Declaration for the Plant and the existing land application areas on 18 December 1986 in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.) and State CEQA guidelines. The Plant has been in use as a beef processing facility continuously since and prior to 1986. As a result, the existing discharge is exempt from the requirements of CEQA in accordance with California Code of Regulations, title 14, section 15301. The proposed treatment facilities and expanded land application areas will require a CEQA update as proposed in Task 2 of the accompanying CDO R5-2017-0021.

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

The Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.

PROPOSED MODIFICATIONS

Harris Ranch has purchased another 100 acres (directly north of the Plant) to add to the 86 acre land application area. Even with the additional acreage, nitrogen loading will continue to exceed the potential uptake of the crops grown. Harris Ranch is proposing pretreatment of the wastewater to remove nitrogen (denitrification) from the effluent using a three phased approach:

- Phase 1 - Construction of a pretreatment system that will use coagulants and a dissolved air flotation (DAF) unit to remove/recover marketable grease and proteins.
- Phase 2 - Construction of an anaerobic biological treatment system consisting of a lined anaerobic lagoon that will be covered to collect the biogas produced by the lagoon. Construction of secondary and tertiary treatment systems to treat effluent prior to discharge to the land application areas. The system will include in part an anoxic (denitrification) and aerobic treatment in tanks and solids separation, processing, and offsite disposal.
- Phase 3 - Construction of a lined effluent storage lagoon.

Table 5 - Anticipated Treatment Results

Constituent	Units	Raw Wastewater	Treated Wastewater
Biochemical Oxygen Demand	mg/L[1]	2,400	10 – 60
Electrical Conductivity	umhos/cm [2]	1,450	1,450
Total Nitrogen	mg/L[1]	250	30

1. mg/L = milligrams per liter
2. µmhos/cm = micromhos per centimeter.

The estimated BOD loading after completion of the treatment system is less than two lbs/ac/day. Salt loading will add about 2,200 lbs/ac/yr, and this Order requires the Discharger to prepare a Salinity Management Plan to further ensure the salt in the discharge is continuing to be evaluated. The estimated nitrogen loading to the expanded land application area will be about 240 lbs/ac/yr and the proposed cropping requirements for the crops grown in the land application areas will exceed the nitrogen content of the wastewater. This Order requires that nitrogen loading to the land application areas be at reasonable agronomic rates, and requires the Discharger to prepare a Nutrient and Wastewater Management Plan.

PROPOSED ORDERS TERMS AND CONDITIONS

Discharge Prohibitions, Effluent Limitations, Groundwater Limitations, and Provisions

The proposed Order prohibits the discharge of wastes to surface waters or surface water drainage courses.

The proposed Order prohibits the discharge of wastewater in a manner or location other than that described in the report of waste discharge and herein.

The proposed Order restricts the monthly average daily discharge, measured at EFF-001, to equal to or less than 1.0 million gallons.

The proposed Order requires the nitrogen in the discharge to be at agronomic rates based on the crops grown and the acreage used. The Discharger shall achieve compliance with this limit in accordance with Task 2 of CDO R5-2017-0021.

The proposed Order limits the average TDS of the discharge, measured at EFF-001, to not exceed an average TDS of 1,000 mg/L

The proposed Order requires the discharge to not cause or contribute to groundwater to contain nitrate as nitrogen, EC, and TDS in concentrations statistically greater than the upgradient groundwater quality as measured in the Harris Ranch upgradient groundwater monitoring well MW-2 as shown in Tables 6 and 7 of this Order (data through June 2016). Excluding nitrate as nitrogen, EC, and TDS, the discharge shall not cause groundwater to contain constituents in excess of the water quality objectives for constituent's identified in Title 22. MW-2 will be replaced with a new upgradient well proposed near the northeast corner of the new 100-acre land application area, at which time the new well or wells will replace MW 2 as background well/wells. The Discharger shall achieve compliance with this requirement in accordance with Task 3 of CDO R5-2017-0021.

The proposed Cease and Desist Order includes Task 2 that provides a time schedule for the Discharger to comply with WDRs Order R5-2017-0021, Effluent Limitations B.1, B.2, and B.3, Discharge Specifications C.1 and C.2, and Land Application Area Specification E.2 in accordance with the following compliance schedule:

Task	**Task Description**	**Due date**
a.	Prepare and submit a new Conditional Use Permit to Fresno County.	**24 August 2017**
b.	Conduct CEQA evaluation. Approval of CEQA Process.	**24 August 2018**
c.	Begin irrigation of new 100-acre land application area (along with existing 86 acre land application area).	**26 February 2018**
d.	Complete Phase I (DAF - Pretreatment) construction.	**25 February 2019**
e.	Complete Phase II (Anaerobic lagoon, activated sludge, and biogas reuse) construction.	**24 February 2021**
f.	Complete Phase III (Storage lagoon).	**24 February 2022**

3. The proposed Cease and Desist Order includes Task 3 that provides a time schedule for the Discharger to comply with WDRs Order R5-2017-0021, Groundwater Limitations D.1 and, D.2 in accordance with the following compliance schedule:

Task	Task Description	Due date
a.	Submit a work plan and time schedule that identifies the methods proposed for assessing the horizontal and vertical extent of elevated EC, TDS, and nitrate as nitrogen concentrations in groundwater beneath and downgradient of the Harris Ranch Land Application Areas.	**26 February 2018**
b.	Submit a technical report that describes the horizontal and vertical extent of elevated EC, TDS, and nitrate as nitrogen degradation/pollution in groundwater beneath and downgradient of the Harris Ranch Land Application Areas and proposes an appropriate course of action. The report is subject to Executive Officer approval.	**In accordance with the approved schedule, but by no later than 24 February 2021**
c.	Annually, submit a technical report analyzing groundwater quality and progress towards complying with the Groundwater Limitations of this Order.	**Annual progress report by 1 February of each year**
d.	If the periodic monitoring required in Subsection c, above, indicates that it will take longer than 10 years from the adoption of this Order for groundwater to meet the Groundwater Limitations of this Order, the Discharger shall submit a work plan with a compliance schedule for implementing additional measures to meet the Groundwater Limitations of this Order. The proposed work plan and compliance schedule shall be subject to Executive Officer approval and may be incorporated into future Board Orders.	**As required by the Executive Officer**

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 and irrigation water monitoring, land application area monitoring, and soil monitoring. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations prescribed by the Order and the time schedules of the CDO.

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The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and

plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

2. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.

3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   a. Violation of any term or condition contained in this Order;

   b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;

   c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;

   d. A material change in the character, location, or volume of discharge.

4. Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board. A material change includes, but is not limited to, the following:

   a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements.

   b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.

   c. The addition of a major industrial, municipal or domestic waste discharge facility.

   d. The addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

6. The discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

7. The discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

8. The discharger shall permit representatives of the Regional Board (hereafter Board) and the State Water Resources Control Board, upon presentations of credentials, to:

   a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,

   b. Copy any records required to be kept under terms and conditions of this Order,

   c. Inspect at reasonable hours, monitoring equipment required by this Order, and

   d. Sample, photograph and video tape any discharge, waste, waste management unit, or monitoring device.

9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

10. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be a defense for the discharger's violations of the Order.

11. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the California Water Code, Section 13050.

12. The discharge shall remain within the designated disposal area at all times.

B. General Reporting Requirements:

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

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

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

   This plan shall:

   a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.

   b. Evaluate the effectiveness of present waste management/treatment units and operational procedures, and identify needed changes of contingency plans.

   c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

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

3. All reports shall be signed by persons identified below:

   a. <u>For a corporation</u>: by a principal executive officer of at least the level of senior vice-president.

   b. <u>For a partnership or sole proprietorship</u>: by a general partner or the proprietor.

   c. <u>For a municipality, state, federal or other public agency</u>: by either a principal executive officer or ranking elected or appointed official.

   d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;

      (1) the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;

      (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

      (3) the written authorization is submitted to the Board

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

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

4. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the discharger.

5. The discharger shall mail a copy of each monitoring report and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114
Note: Current addresses for all three Regional Board offices may be found on the internet at http://www.swrcb.ca.gov/rwqcb5/contact_us.
or the current address if the office relocates.

C. Provisions for Monitoring:

1. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).

2. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

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

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

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

Record of monitoring information shall include:

a. the date, exact place, and time of sampling or measurements,
b. the individual(s) who performed the sampling of the measurements,
c. the date(s) analyses were performed,
d. the individual(s) who performed the analyses,
e. the laboratory which performed the analysis,
f. the analytical techniques or methods used, and
g. the results of such analyses.

4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated at least yearly to ensure their continued accuracy.

5. The discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling plan.

6. The discharger shall construct all monitoring wells to meet or exceed the standards stated in the State Department of Water Resources *Bulletin 74-81* and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.22

D. Standard Conditions for Facilities Subject to California Code of Regulations, Title 23, Division3, Chapter 15 (Chapter 15)

1. All classified waste management units shall be designed under the direct supervision of a California registered civil engineer or a California certified engineering geologist. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:

   a. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board.

   b. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.

2. Prior to the discharge of waste to any classified waste management unit, a California registered civil engineer or a California certified engineering geologist must certify that the waste management unit meets the construction or prescriptive standards and performance goals in Chapter 15, unless an engineered alternative has been approved by the Board. In the case of an engineered alternative, the registered civil engineer or a certified engineering geologist must

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

3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.

4. Closure of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or a California certified engineering geologist.

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

1. If the discharger's wastewater treatment plant is publicly owned or regulated by the Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to California Code of Regulations, Title 23, Division 4, Chapter 14.

2. By-pass (the intentional diversion of waste streams from any portion of a treatment facility, except diversions designed to meet variable effluent limits) is prohibited. The Board may take enforcement action against the discharger for by-pass unless:

   a. (1) By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production); and

      (2) There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a by-pass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or

   b. (1) by-pass is required for essential maintenance to assure efficient operation; and

      (2) neither effluent nor receiving water limitations are exceeded; and

      (3) the discharger notifies the Board ten days in advance.

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

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

a. an upset occurred and the cause(s) can be identified;

b. the permitted facility was being properly operated at the time of the upset;

c. the discharger submitted notice of the upset as required in paragraph B.1. above; and

d. the discharger complied with any remedial measures required by waste discharge requirements.

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

4. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Board by **31 January**.

5. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to disposal. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

6. Definitions

   a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.

   b. The monthly average discharge is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number is to be reported in gallons per day or million gallons per day.

      Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges by the number of days during the month when the measurements were made.

   c. The monthly average concentration is the arithmetic mean of measurements made during the month.

   d. The "daily maximum" **discharge** is the total discharge by volume during any day.

e. The "daily maximum" **concentration** is the highest measurement made on any single discrete sample or composite sample.

f. A "grab" sample is any sample collected in less than 15 minutes.

g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period;

(1) at equal time intervals, with a maximum interval of one hour

(2) at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow.

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

7. Annual Pretreatment Report Requirements:

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

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

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

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

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

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

c. The cumulative number of industrial users that the discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.

d. An updated list of the discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The discharger shall provide a brief explanation for each deletion. The list shall identify the inddustrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent that the federal categorical standards. The discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:

(1) Complied with baseline monitoring report requirements (where applicable);

(2) Consistently achieved compliance;

(3) Inconsistently achieved compliance;

(4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);

(5) Complied with schedule to achieve compliance (include the date final compliance is required);

(6) Did not achieve compliance and not on a compliance schedule;

(7) Compliance status unknown.

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

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

f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:

(1) Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;

(2) Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;

(3) Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;

(4) Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.

(5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;

(6) Restriction of flow to the treatment plant; or

(7) Disconnection from discharge to the treatment plant.

g. A description of any significant changes in operating the pretreatment program which differ from the discharger's approved Pretreatment Program, including, but not limited to, changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels.

h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

i. A summary of public participation activities to involve and inform the public.

j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

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

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

and

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

Revised January 2004 to update addresses and phone numbers