

TENTATIVE
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
ORDER R5-2021-XXXX
WASTE DISCHARGE REQUIREMENTS

FOR
GLORIANN FARMS AND FC TRACY HOLDINGS, LLC/FIVE CROWNS
TRACY HOLDINGS FACILITY
SAN JOAQUIN COUNTY

FINDINGS

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

1. On 14 May 2019, GloriAnn Farms and FC Tracy Holdings, LLC/Five Crowns submitted a Report of Waste Discharge (RWD) that describes a new corn processing facility (Tracy Holdings) that will generate process wastewater and residual solids to be discharged to land in Tracy, California. Additional information was submitted on 18 November 2019, and 2 December 2020.
2. Tracy Holdings is operated by GloriAnn Farms and FC Tracy Holdings, LLC/Five Crowns owns the property. FC Tracy Holdings, LLC/Five Crowns (Discharger) is responsible for compliance with these Waste Discharge Requirements (WDRs).
3. Tracy Holdings is located at 4494 West Lehman Road in Tracy, CA (Section 18, T3S, R6E, MDB&M), approximately 10 miles southeast of the existing processing facility (GloriAnn Farms). The new facility occupies Assessor's Parcel Number (APN) 255-040-200. The facility location is shown on Attachment A, which is incorporated herein.

PLANNED FACILITY AND DISCHARGE

4. Tracy Holdings is a corn processing facility in Tracy, California that is not yet operational. For the purpose of comparison, the Discharger owns and operates a separate corn processing facility (GloriAnn Farms) located approximately 10 miles southeast of the Tracy Holdings Facility and is regulated under Order No. R5-2016-0096, which was adopted on 6 December 2016. The Tracy Holdings facility has been constructed but is not yet operating. Processing operations are scheduled to begin in Spring 2021. In some cases, information from the existing GloriAnn Farms facility was used to evaluate the Tracy Holdings treatment system and wastewater quality because the existing facility and the Tracy Holdings facility will have the same operating processes.
5. The 52.2-acre facility is located in an agricultural area surrounded by field crops and tree nut orchards. The processing plant will occupy approximately 16.2 acres and approximately 29.1 acres will be used for Land Application Areas (LAAs). The remaining acreage will be used for a treatment/storage wastewater pond and various other site features.

6. The facility will wash and package approximately 26,000 tons/year of fresh corn, and watermelons will be dry brushed and packaged seasonally during the processing season, which is generally May through October. Watermelons will be stored in cold storage, along with various other commodities during the processing season. During the corn and watermelon off-seasons, other commodities may be packed and stored, and equipment cleaned, which will produce wastewater. Finished products are trucked offsite for commercial sale.
7. The existing GloriAnn Farms uses chemicals for sanitation of fresh corn and equipment cleaning. Tracy Holdings is expected to use the same chemicals at the new facility. Chemicals used and approximate volumes for the GloriAnn Farms facility are summarized below.

Table 1. Potential Chemicals for Tracy Holdings

Product	Use	Active Ingredient	Volume Used (gal/yr)
Biotrol 150	Processing/Ice	Hydrogen Peroxide Acetic Acid	1,500
Enviro Bac #2	Cleaning	Benzalkonium Chloride Alkyl Dimethyl Ethylbenzyl Ammonium Chloride	200
Foam Chlor 50	Cleaning	Potassium Hydroxide Sodium Hypochlorite	200
Enviro Chlor	Cleaning	Sodium Hypochlorite	200
IPA	Cleaning	Isopropyl Alcohol	50
Turbo Kleen	Cleaning	Butoxyethanol	50

Table Source: 2019 RWD for Tracy Holdings.

8. Supply water for processing corn will be provided from an onsite well. The well location is shown on Attachment B, incorporated herein.
9. Wastewater from the processing facility will be generated from three main sources: corn processing; equipment cleaning; and defrost condensate.
10. Process wastewater will be directed to floor drains and collected in a basin, then piped to an underground sump. Defrost condensate and storm water collected in drains located across the facility will also be directed to the sump. The combined wastewater and storm water will then be pumped to a lined and aerated wastewater pond. The wastewater pond will be used for storage and biochemical oxygen demand (BOD) reduction.
11. The wastewater pond is approximately 2.5 acres with 2:1 bank slopes and a depth of 9.5 feet. At two feet of freeboard, the pond has a capacity of approximately 6.9 million gallons. The pond is equipped with a sensor to measure freeboard and an alarm will be triggered when the freeboard is less than 2 feet.

12. The anticipated wastewater quality for the facility is based on information and data collected from the lined and aerated wastewater pond at the existing GloriAnn Farms facility. Monthly grab samples are collected, and yearly averages are summarized below.

Table 2. Wastewater Quality (mg/L)

Constituent	2016	2017	2018	2019
BOD	240	57	54	81
Total N	16	16	12	16
FDS	530	379	320	301
TDS	780	579	487	486
Sodium	99	65	67	51
Chloride	119	82	80	59

13. Wastewater flow rates from the existing GloriAnn Farms facility are summarized below.

Table 3. Flow Rates

Flow Rates	2017	2018	2019
Maximum (gpd)	317,379	199,747	177,915
Average (gpd)	18,103	19,739	25,181
Total (MG)	6.73	7.34	9.37

14. A pump station will be used to pump and pressurize water out of the pond and into the sprinkler conveyance system where it will be used to irrigate 29.1 acres of bermed LAAs cropped with almond trees.

15. Water balances were included in the 2019 RWD; one for an average rainfall year and one for a 100-year rainfall event. Based on the water balances, the total crop demand will be greater than the volume of wastewater available for irrigation; therefore, supplemental irrigation will be needed in spring and summer months to maintain crops.

16. When supplemental irrigation water is needed to meet crop demands, irrigation water will be supplied by the on-site supply well. If needed, additional water could be obtained from the Banta Carbona Irrigation District (BCID). Average BCID water quality from 2018 is shown below.

Table 4. BCID Water Quality (mg/L)

Constituent	Result
pH	7.3
EC	492 μ mhos/cm
TDS	315
Total Alkalinity as CaCO ₃	75
Nitrate	6.4
Chloride	65
Sulfate	52

Constituent	Result
Total Hardness (CaCO ₃)	110
Boron	0.24
Calcium	23.8
Magnesium	12.2
Sodium	52.3

17. Loading rates for BOD, nitrogen, and FDS for the GloriAnn facility, which has 46.3 acres of LAAs cropped with almond trees, are summarized below.

Table 5. BOD Loading

Year	Maximum Loading Rate to LAA (lb/ac/day)	Maximum Cycle Average (lb/ac/day)	Flow Volume (gal/ac/day)
2017	15	2	12,471
2018	46	7	72,716
2019	37	90	79,130

Table 6. Nitrogen and FDS Loading

Yearly Loading Rates to LAA			
Year	Nitrogen (lb/ac/year)	FDS (lb/ac/year)	Hydraulic Loading (Mgal/year)
2017	20	716	10.3 ¹
2018	39	2,141	43.3 ²
2019	20	609	17.6 ²

Table Notes

¹ No supplemental irrigation water was used in 2017.

² Total includes wastewater and supplemental irrigation water.

18. Solid waste will be removed from the processing area by belt and auger conveyance. Solids, consisting of corn husks, kernels, and stalks, will be dry and not commingled with process wastewater. All solids are transported off site. No on-site land application of solids is planned.

19. The processing facility and LAAs are graded such that all storm water runoff will be directed to onsite storm drains. If wastewater has been applied within 30 days of a storm event, runoff from the LAAs will be contained by berms on the low end of the field and allowed to percolate. No orchard runoff will be allowed to leave the LAA within 30 days of wastewater application.

20. Domestic wastewater will be discharged to an on-site septic system and leachfield regulated by the San Joaquin County Environmental Health Department. Domestic

wastewater will not be discharged into the process wastewater collection and treatment system.

SITE-SPECIFIC CONDITIONS

- 21. The land for the proposed facility and LAA is relatively flat, sloping slightly from west to east. Soils in the area are made up of clay, loam, and fine sandy loam and are considered prime farmland if irrigated.
- 22. The site is located in FEMA Zone X: Area of Minimal Flood Hazard.
- 23. The nearest surface water is the San Joaquin River, approximately four miles east. The LAA and the San Joaquin River are not expected to come into contact with surface water through surface water drainage or flooding.
- 24. The climate in the San Joaquin Valley region is characterized by hot dry summers and cool moist winters. Annual rainfall for an average year is 10.1 inches and the normalized 100-year rainfall is approximately 26.06 inches, as shown below. Average monthly ETo data is from the California Irrigation Management Information System (CIMIS) Station #71 in Modesto, CA. Monthly rainfall data are from Western Regional Climate Center in Tracy, CA for 1935-1987 and from CIMIS Station #71 for 1988-2017.

Table 7. Precipitation

Month	Average ETo (inches)	Average Precipitation (inches)	100-Year Precipitation (inches)
Jan	1.11	2.0	3.37
Feb	1.92	1.7	4.54
Mar	3.62	1.5	3.12
Apr	5.26	0.8	1.34
May	6.98	0.4	2.30
Jun	7.89	0.1	0.58
Jul	7.97	0.0	0.26
Aug	6.92	0.0	0.58
Sep	5.12	0.2	1.23
Oct	3.42	0.6	3.12
Nov	1.72	1.1	2.19
Dec	1.12	1.6	3.43
TOTALS	53.05	10.1	26.06

GROUNDWATER CONDITIONS

- 25. Three groundwater monitoring wells (MW-1 to MW-3) were installed at the facility in August 2020, prior to construction of the Facility. Well construction details and depths to groundwater are summarized below and monitoring well locations are shown on Attachment B.

Table 8. Monitoring Well Construction Details

Well ID	Well Depth (feet bgs)	Screen Interval (feet bgs)	Depth to Groundwater ¹ (feet bgs)
MW-1	35	20 to 35	10
MW-2	35	20 to 35	17
MW-3	35	20 to 35	15

¹ Depth measured in August 2020.

26. Analytical data collected from the monitoring wells in August 2020 are summarized below. Concentrations in bold exceed their respective Concentrations Protective of Beneficial Use (CPBU).

Table 9. Groundwater Quality

Constituent (mg/L)	MW-1	MW-2	MW-3	CPBU (source)
pH	7.3	7.2	11.9	NE
EC (µmhos/cm)	1,999	2,414	5,448	900 µmhos/cm (Secondary MCL)
Chloride	195	246	65	250 mg/L (Secondary MCL)
Nitrate as N	11.6	10.2	0.7	10 mg/L (Primary MCL)
TDS	1,280	1,590	1,320	1,000 mg/L (Secondary Maximum Contaminant Upper Levels)
Sulfate	368	508	20.6	250 mg/L (Secondary MCL)
Boron	1.9	2.4	ND	5 (USEPA Health Advisory)
Iron	13.6	5.72	4.51	0.30 (Secondary MCL)
Manganese	0.29	0.12	0.10	0.05 (Secondary MCL)
Sodium	230	242	98	69 (lowest agricultural water quality goal)

27. Shallow groundwater at the facility is considered poor quality with respect to metals (iron and manganese) and salinity, which includes TDS, EC, sulfate, sodium, and chloride. Generally, concentrations are higher in MW-1 and MW-2 when compared to MW-3. It appears that groundwater in the vicinity of MW-3 may likely be influenced from the infiltration of better quality water in the unlined BCID canal, located near the well.

ANTIDegradation Policy and Analysis

28. 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 is consistent with the maximum benefit to the people of the state.
 - b. The degradation will not unreasonably affect present and anticipated future beneficial uses.
 - c. 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, and
 - d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.
29. Degradation of groundwater by some of the typical waste constituents associated with discharges from food processors, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The Discharger’s operation will provide approximately 209 jobs. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.
30. On-site groundwater monitoring wells were installed in 2020 as part of the overall facility construction. Therefore, it is not possible to determine pre-1968 groundwater quality. Determination of compliance with Resolution 68-16 for this facility must be based on existing groundwater quality.
31. Constituents of concern in wastewater that have the potential to degrade groundwater include salts (primarily FDS, sodium, and chloride), and nitrate as nitrogen, based on processing and cleaning activities conducted at the existing GloriAnn Farms facility and the quality of wastewater generated at that Facility. Flow weighted averages from 2016-2019 for GloriAnn Farms are show below.

Concentrations protective of beneficial use are based on the following: Secondary Maximum Contaminant Upper Level for TDS; Primary Maximum Contaminant Level for nitrate as nitrogen; Lowest agricultural water quality goal for sodium; Secondary Maximum Contaminant Upper Level for chloride; and Secondary MCL for electrical conductivity.

Table 10. Antidegradation Summary

Constituent	Effluent ¹ (mg/L)	Downgradient Groundwater Quality (MW-1 and MW-2) ²	Concentrations Protective of Beneficial Use (mg/L)
TDS	555.1	1,345	1,000
EC (µmhos/cm)	882.4	2,206	900
FDS	361.5	NA	NE
Total Nitrogen	11.8	11 (nitrate as nitrogen)	10
Sodium	66.4	236	69
Chloride	80.1	221	250

Table Notes:

¹ To calculate flow weighted averages, effluent quality data are from the pond at GloriAnn Farms, and flow volumes are the projected flows for Tracy Holdings.

² Groundwater quality data are from monitoring wells located at the Tracy Holdings Facility.

NA = not analyzed

NE = not established

- a. **Electrical Conductivity.** Electrical conductivity is a measure of the capacity of water to conduct electrical current and is an indicator of salinity. EC concentrations in effluent from GloriAnn Farms are slightly lower than the Concentration Protective of Beneficial Use of 900 µmhos/cm and lower than groundwater concentrations at Tracy Holdings. The quality of groundwater at Tracy Holdings is considered poor with respect to salts. For the protection of groundwater, this Order establishes a groundwater limit for EC.
- b. **Total Dissolved Solids.** For the purposes of evaluation, TDS is representative of overall salinity. The best measure for total salinity in groundwater is TDS. FDS is the inorganic fraction of TDS that have the potential to percolate or leach into shallow groundwater. Therefore, the best measure for salinity of process wastewater is FDS. To calculate flow weighted averages, effluent quality data from the GloriAnn Farms facility and the projected flow volumes for the Tracy Holdings facility were used. The average flow weighted FDS concentration of 361.5 mg/L using analytical data from the existing GloriAnn Farms. Based on the 2019 RWD, the projected annual FDS flow weighted concentration for Tracy Holdings is 430 mg/L.

TDS in groundwater at the Tracy Holdings Facility exceeds the Concentration Protective of Beneficial Use of 1,000 mg/L, indicating poor quality groundwater in the area. Long-term agricultural activities in the area are likely responsible for the degradation in groundwater since the Holdings Facility is not yet operating. For the protection of groundwater, this Order establishes a performance-based FDS effluent limit as a flow-weighted annual average and sets a groundwater limit for TDS.

- c. **Nitrate.** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality; crop uptake, and the ability of the vadose zone below the LAAs to support nitrification and denitrification to convert nitrogen to nitrogen gas before it reaches the water table. Therefore, this Order requires that nutrients associated with the wastewater and other sources be applied to the LAAs at rates consistent with crop demand, and a groundwater limit for the protection of groundwater.
- d. **Sodium and Chloride.** Sodium and chloride are known to be key salinity constituents in food processor wastewater. Average concentrations of sodium in groundwater at Tracy Holdings are higher than the lowest agricultural water quality goal. Chloride concentrations are slightly less than Secondary Maximum Contaminant Upper Level. Because TDS and EC represent overall salinity in groundwater, TDS and EC groundwater limits are established in this Order. However, sodium and chloride will be monitored in the effluent and groundwater.

32. This Order establishes effluent and groundwater limitations for the facility that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan as follows:

33. The Discharger will provide treatment and control of the discharge that incorporates:

- a. the capture, segregation, and off-site disposal of solids.;
- b. the use of a lined wastewater pond equipped with aerators to reduce BOD and nitrogen concentrations in wastewater.
- c. the use of sprinkler irrigation to promote even application of wastewater.

The Discharger's implementation of these practices is considered BPTC for the wastes in the discharge. This Order requires the Discharger to maintain these practices consistent with the State Antidegradation Policy.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

34. In accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., on 1 November 2019, the San Joaquin County Community Development Department adopted a Mitigated Negative Declaration (MND) for the facility.

BASIN PLAN, BENEFICIAL USES, AND REGULATORY CONSIDERATIONS

35. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition*, rev. May 2018 (Basin Plan) designates beneficial uses, establishes water quality objectives (WQOs), 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, subdivision (a), WDRs are required to implement the Basin Plan.

36. The facility is within the San Joaquin Delta Hydrologic Area. The beneficial uses, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; navigation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
37. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
38. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.
39. The Basin Plan's numeric WQO for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.
40. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require MUN-designated waters to meet the MCLs in Title 22 of the California Code of Regulations (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.
41. The narrative toxicity WQO requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
42. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative WQO is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative WQO.
43. 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 of Agriculture by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) of less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with groundwater EC up to 3,000 $\mu\text{mhos/cm}$, if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. The list of crops in Finding XX 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.

SALT AND NITRATE CONTROL PROGRAMS REOPENER

44. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. The Basin Plan amendments were conditionally approved by the State Water Board on 16 October 2019 (Resolution 2019-0057) and by the Office of Administrative Law on 15 January 2020 (OAL Matter No. 2019-1203-03).
- a. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers may comply with the new nitrate program either individually or collectively with other dischargers. For the Nitrate Control Program, the Facility falls within Groundwater Basin 5-022.03 (San Joaquin Valley Turlock Sub-basin), a Priority 1 Basin. Notices to Comply for Priority 1 Basins were issued May 2020.
 - b. For salinity, dischargers that are unable to comply with stringent salinity requirements will instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. Dischargers will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of 17 January 2020, the effective date of the amendments. Upon receipt of the Notice to Comply, the discharger had no more than six months to inform the Central Valley Water Board of their choice between Option 1 (Conservative Option for Salt Permitting) or Option 2 (Alternative Option for Salt Permitting).
45. As these strategies are implemented, the Central Valley Water Board may find it necessary to modify the requirements of these WDRs to ensure the goals of the Salt and Nitrate Control Programs are met. This order may be amended or modified to incorporate newly applicable requirements.

SPECIAL CONSIDERATIONS FOR HIGH STRENGTH WASTE

46. For the purpose of this Order, high strength waste is defined as wastewater that contains concentrations of readily degradable organic matter that exceed typical concentrations for domestic sewage. Such wastes contain greater than 500 mg/L BOD and often contain commensurately high levels of total Kjeldahl nitrogen (TKN), which is a measure of organic nitrogen and ammonia nitrogen. Typical high strength wastewaters include septage, some food processing wastes, winery wastes, and rendering plant wastes.
47. Excessive application of high organic strength wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of

underlying groundwater with nitrogen species and metals, as discussed below. Such groundwater degradation can be prevented or minimized through implementation of best management practices which include planting crops to take up plant nutrients and maximizing oxidation of BOD to prevent nuisance conditions.

48. Unless groundwater is very shallow, groundwater degradation with nitrogen species such as ammonia and nitrate can be prevented by minimizing percolation below the root zone of the crops and ensuring that the total nitrogen load does not exceed crop needs over the course of a typical year. Where there is sufficient unsaturated soil in the vadose zone, excess nitrogen can be mineralized and denitrified by soil microorganisms.
49. With regard to BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.
50. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.
51. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency, cites BOD loading rates in the range of 36 to 600 lb/acre-day to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.
52. The California League of Food Processors' *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 lb/ac/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.

- b. Risk Category 2: (less than 100 lb/ac/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 lb/ac/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 but recommends that additional safety factors be used for sites with heavy and/or compacted soils.

53. 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, are considered a best management practice to prevent groundwater degradation due to reduced metals.

54. This Order sets an irrigation cycle average BOD loading rate for the LAAs of 100 lb/acre/day consistent with Risk Category 3 in the *Manual of Good Practice* for discharges using sprinkler application to land with well drained soils.

OTHER REGULATORY MATTERS

55. 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. Although this Order is not subject to section 106.2, it nevertheless promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

56. This Order implements the Central Valley Water Board's Basin Plan, which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses.¹ (Wat. Code, § 13241 et seq.)

57. Based on the threat and complexity of the discharge, the facility is determined to be classified as 3C as defined below:

¹ Designated beneficial uses surface water and groundwater are discussed in Findings **Error! Reference source not found.** XX and **Error! Reference source not found.**, respectively.

- a. Category “3” – Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2.
- b. Category “C” – Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.

58. As authorized under this Order, discharges of wastewater and decomposable food processing residual solids to land are exempt from the prescriptive requirements of California Code of Regulation, title 27 (Title 27). See Title 27, §20090, subds. (b)-(d).
59. Statistical data analysis methods set forth in the USEPA’s Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Unified Guidance) are appropriate for determining whether the discharge complies with Groundwater Limitation of this Order.
60. The State Water Board adopted Order 2014-0057-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities and requiring submittal of a Notice of Intent by all affected industrial dischargers. All storm water at the Facility is collected in the storm water basin or commingled with process wastewater and discharged to the LAAs. Storm water is not discharged offsite or discharged to waters of the U.S. Coverage under the NPDES General Permit CAS000001 is not required at this time.
61. Water Code section 13267, subdivision (b)(1) states:
- “[T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste 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.”
- The technical reports required by this Order and the attached Monitoring and Reporting Program **R5-2021-XXXX** 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.
62. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (DWR Well Standards), as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (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.

63. Pursuant to Water Code section 13263, subdivision (g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

PROCEDURAL MATTERS

64. All local agencies with regulatory jurisdiction over land-use, solid waste disposal, air pollution and public health protection have approved the use of the Facility's site for the discharge of waste to land as provided for herein.

65. The Discharger, interested agencies, and interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (Wat. Code, § 13167.5; Title 27, § 21730.)

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

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

REQUIREMENTS

IT IS HEREBY ORDERED that pursuant to Water Code sections 13263 and 13267, the Dischargers, their 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. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.

5. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
6. Discharge of toxic substances into any wastewater treatment system or land application area such that biological treatment mechanisms are disrupted is prohibited.
7. Application of residual solids to the land application areas is prohibited.
8. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.
9. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.
10. Discharge of domestic wastewater to the process wastewater ponds, land application area or any surface waters is prohibited.

B. Flow Limitations

1. Effluent flows from the wastewater treatment pond to the LAAs shall not exceed the following limits:

Table 11. Flow Limits

Flow Measurement	Flow Limit
Total Annual Flow (As determined by the total flow for the calendar year)	49 MG
Maximum Average Monthly Flow	6.3 MG/month

C. Effluent Limitations

1. The total volume of treated wastewater, storm water, and supplemental irrigation water applied to the LAA shall not exceed an **FDS annual average concentration of 700 mg/L**. The FDS flow weighted average is based on total flow and concentration of wastewater discharged.

D. Mass Loading Limitations

1. The blend of treated wastewater, storm water, and supplemental irrigation water applied to the LAAs shall not exceed the following effluent and mass loading limits:

Constituent	Units	Irrigation Cycle Average	Annual Maximum
BOD Mass Loading	lb/ac/day	100	--

Constituent	Units	Irrigation Cycle Average	Annual Maximum
Total Nitrogen Mass Loading	lb/ac/year	--	Crop Demand

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program

E. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and 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. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than **two** feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
8. 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.

9. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.8 and E.9.
10. 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.
11. 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.
12. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every five years beginning in **2026**, and shall periodically remove sludge as necessary to maintain adequate storage capacity.
13. Storage of residual solids on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

F. Groundwater Limitations

Release of waste constituents from any portion of the facility shall not cause groundwater to:

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the Monitoring and Reporting Program.

Constituent	Maximum Allowable Concentration
TDS	Current groundwater quality or 1,000 mg/L, whichever is greater
EC	Current groundwater quality or 900 µmhos/cm, whichever is greater
Nitrate as Nitrogen	Current groundwater quality or 10 mg/L, whichever is greater

2. For all compliance monitoring wells, except as specified in F.1 above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.
3. For all compliance monitoring wells, except as specified in F.1 above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.
4. Compliance with these limitations shall be determined annually as specified in the Monitoring and Reporting Program using approved statistical methods.

G. Land Application Area Specifications

1. The Discharger shall ensure that all water is applied and distributed with reasonable uniformity across each LAA field, consistent with good agricultural irrigation practices.
2. Crops or other vegetation (which may include, but is not limited to pasture grasses, native grasses, orchard trees, and/or ornamental landscaping) shall be grown in the LAAs.
3. Land application of wastewater shall be managed to minimize erosion.
4. The LAAs shall be managed to prevent breeding of mosquitoes or other vectors.
5. LAAs shall be designed, maintained, and operated to comply with the following setback requirements:

Setback Definition	Minimum Irrigation Setback (feet)
Edge of LAA to property boundary	25
Edge of LAA to manmade or natural surface water drainage course	25
Edge of LAA to domestic water supply well	100

6. LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Dischargers shall temporarily stop discharging immediately in the area of concern and implement corrective actions to ensure compliance with this Order.
7. Sprinkler heads shall be designed, operated, and maintained to create a minimum amount of mist.
8. Discharge to the LAAs shall not be initiated when the ground is saturated.

9. Any irrigation runoff (tailwater) shall be confined to the LAAs or returned to the treatment system and shall not enter any surface water drainage course or storm water drainage system.

H. 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 unprocessed fruit or vegetables. 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.

I. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision H.5XX:
 - a. By **1 September 2021**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The Plan shall propose and justify the values to be used to determine “current groundwater quality” for each of the compliance wells listed in the Monitoring and Reporting Program (MRP). Compliance shall be determined using appropriate statistical methods that have been selected based on site-specific information and the U.S. EPA Unified Guidance document cited in Finding XX of this Order. The report shall explain and justify the selection of the appropriate statistical methods.

- b. **By 1 September 2021**, the Discharger shall submit an *Operation and Maintenance (O&M) Plan*, which shall include all aspects of managing the discharge to the wastewater treatment system. The *O&M Plan* shall provide the following:
- i. A description of the wastewater treatment equipment; operational controls; treatment requirements/effluent limitations; flow diagrams including valve/gate locations; operation of the treatment systems during start-up, normal operation, by-pass, shut-down, and draining procedures; potential operational problems including a troubleshooting guide.
 - ii. Maintenance procedures, equipment record system, scheduling and use of the maintenance record system, inventory system, special tools, warranty provisions and expiration dates, maintenance cost and budgeting system, maintenance schedule of all equipment, operation to comply with the terms and conditions of this order and how to make field adjustments as necessary to preclude nuisance conditions.

A copy of the *O&M Plan* shall be kept at the facility for reference by operating personnel and they shall be familiar with its contents.

- c. **By 1 September 2021**, the Discharger shall submit a *Salt and Nutrient Management Plan* that describes all BPTCs implemented to ensure compliance with this Order and reduce or minimize effluent salt concentrations.
- d. At least **180 days** prior to any sludge removal and disposal, the Discharger shall submit a *Sludge Cleanout Plan*. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried sludge will be land applied to the LAAs or removed from the site prior to the onset of the rainy season (**1 October**).
1. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order based on intrawell evaluation, within 120 days of the request of the Executive Officer, the Discharger shall submit a BPTC Evaluation Workplan. The Workplan shall set forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility'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 wastewater treatment, storage and 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. Alternatively, if it can be shown that the increase is the result of activities

outside the Discharger's control, a technical report shall be submitted that justifies and supports that determination.

2. 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.
3. The Dischargers 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.
4. The Discharger shall comply with Monitoring and Reporting Program Order **R5-2021-XXXX**, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
5. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991, which are attached hereto and made part of this Order by reference.
6. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
7. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of

back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

8. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
9. 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.
10. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.
11. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
12. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
13. 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.
14. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
15. 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 for administrative review in accordance with Water Code section 13320, and California Code of Regulations, title 23, section 2050 et seq. To be timely, the State Water Board must receive the petition by 5pm on the 30th day after the date of this Order, except that if the 30th day falls on a Saturday, Sunday or State Holiday, the petition must be received by the State Water Board by 5pm on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet on the [Water Boards Public Notice web page](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality).

I, PATRICK PULUPA, 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 XX April 2021.

PATRICK PULUPA, Executive Officer