

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2020-0053

WASTE DISCHARGE REQUIREMENTS
FOR
HORIZON NUT, LLC
HORIZON NUT PISTACHIO HULLER
FRESNO COUNTY

FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) hereby finds as follows:

Introduction

1. The Horizon Nut, LLC (Discharger) owns and operates the Horizon Nut Pistachio Huller plant (Facility) located at 4946-4998 N. Jerrold Avenue, Firebaugh in Fresno County (Sections 13 and 14, T13S, R13E, MDB&M). The location is depicted on Attachment A (Site Location Map), included herein. Facility details are shown on Attachment B (Site Features Map), included herein. The Facility is comprised of Fresno County Assessor's Parcel Numbers (APNs) 011-100-07, -14, -15, -16, -17, and -24.
2. The Discharger submitted a Report of Waste Discharge (RWD), dated 3 December 2014, that described Facility operations and the land application of wastewater generated from the Facility. A RWD addendum was submitted on 1 January 2020 that provided updated and additional information.
3. This Facility has not been previously regulated under Waste Discharge Requirements (WDRs). The Discharger is responsible for compliance with the WDRs prescribed in this Order.

Existing Facility and Discharge

4. The Facility was constructed in 2014 and began operation in 2015. The Facility consists of a processing plant where nut hulling is conducted, a guard shack, offices, silos to store the hulled nuts until they are shipped offsite for additional processing, and 1,000 acres of LAAs. The processing plant hulls, dries, and stores approximately 50 million pounds of pistachios per year. The amount of pistachios hulled since 2015 is shown below.

Table 1. Pistachios Processed per Year

Year	Million Pounds
2015	5
2016	20
2017	13
2018	20
2019	17

5. The pistachio harvesting season generally lasts between 30 to 45 days per year usually between August and October. While the hulling activities are limited to the harvest season, the drying, storage, and fumigation operations are conducted year around.
6. Fumigation products include phosphine and sulfuryl fluoride which are both very volatile compounds that are not likely to impact wastewater quality. No other chemicals are reportedly used at the Facility.
7. Source water for the Facility is supplied by the Westlands Water District. Source water is chlorinated prior to use and is used for processing pistachios, cleaning the Facility, and domestic use. Source water quality, prior to chlorination, is presented below.

Table 2. Source Water Quality (14 November 2019)

Parameter	Units	Result
Total Dissolved Solids	mg/L	290
Fixed Dissolved Solids	mg/L	180
Total Nitrogen	mg/L	0.44
Total Kjeldahl Nitrogen	mg/L	0.15
Biochemical Oxygen Demand	mg/L	<1.5
Hardness as CaCO ₃	mg/L	110
Chloride	mg/L	89
Total Recoverable Sodium	mg/L	64
Total Recoverable Potassium	mg/L	3.3
Total Recoverable Iron	µg/L	250
Total Recoverable Manganese	µg/L	21

8. Nut trailers arriving at the processing plant are weighed and unloaded. The nuts are sent through a dry, pre-cleaning process. Leaves, twigs, and other debris from the pre-cleaners are transferred to a temporary on-site green waste area. Pre-cleaning green waste is used as a soil supplement (mulch) for the LAAs.
9. After pre-cleaning, the pistachios are conveyed to hoppers to remove the hulls (pistachio skin). During this process, source water is introduced to facilitate the removal of the hulls and to clean the pistachios. Process wastewater is generated from pistachio hulling and cleaning. Hulls and minor amounts of shells and skins removed by the hullers and any wastewater are discharged into a concrete vault (sump), located just outside the processing building, as shown on Attachment B. The hulled pistachios are then dried and stored in silos until packaging and shipping.
10. From the sump, wastewater is pumped through parabolic screens to separate the solids from the wastewater. The screened solids are temporarily stored on a paved storage pad prior to being applied to the LAAs or shipped off-site for animal feed, compost feedstock, or fuel feedstock. The screened wastewater is then collected in another concrete vault/sump where it is pumped into the irrigation system for the LAAs. If irrigation is delayed, such as during rain events, the wastewater in the sump maybe chemically neutralized to avoid odors and protect equipment.

11. Wastewater samples are collected from the concrete sump prior to wastewater discharging to the LAAs, as shown on Attachment C (Wastewater Flow Schematic). Average concentrations for select constituents for each year are shown below.

Table 3. Wastewater Quality

Constituents	Units	2015	2016	2017	2018	2019
Total Recoverable Sodium	mg/L	96	86	36	67	33
Total Recoverable Potassium	mg/L	745	650	550	647	570
Chloride	mg/L	180	128	54	127	45
Nitrate as N	mg/L	1	1	1	1	ND
pH	standard	5	6	5	5	5
EC	µmhos/cm	2,830	2,348	1,623	2,057	1,940
TDS	mg/L	4,300	3,650	3,150	2,867	3,933
FDS	mg/L	945	1,275	1,015	777	1,200
TSS	mg/L	NA	NA	1,868	1,833	3,167
Total N	mg/L	245	222	143	230	257
TKN	mg/L	245	222	143	230	257
Nitrite as N	mg/L	ND	ND	ND	ND	ND
BOD	mg/L	6,000	2,348	3,500	3,167	3,133

NA = not analyzed

ND = not detected

12. Approximately 1,000 acres are used as LAAs. Wastewater is generally applied to 600 acres to irrigate crops, which include forage crops, and wheat/grain. The remaining 400 acres are used for solids application. The application of wastewater and solids are rotated within the LAAs as needed to limit constituent loadings in any one area within the LAAs. The LAAs are flood irrigated and bermed to keep wastewater on the LAAs.
13. Loading rates to the LAAs for BOD₅, total nitrogen, potassium, and FDS, using the maximum annual average concentration of constituents reported between 2017 to 2019 and a maximum flow of 66 million gallons per year, as presented in the 2020 RWD, are summarized below.

Table 4. Loading Rates

Discharge Type	LAAs (acres)	BOD (lb/ac/year)	Total Nitrogen (lb/ac/year)	Potassium (lb/ac/year)	FDS (lb/ac/year)
Wastewater	1,000	1,928	142	356	661

14. There are two irrigation sumps within the LAAs to hold excess irrigation water (tailwater). Any water collected in the sumps evaporates.

15. A water balance for a 100-year return precipitation event was included in the 2020 RWD. Using 600 acres of LAAs, the water balance showed that crop demand exceeds the volume of process wastewater generated from the Facility. For a 100-year return precipitation event, supplemental irrigation water of approximately 53 inches/acre/year will be required to maintain crops and will be supplied by Westlands Water District. A water quality sample was collected on 14 November 2019 and the results are summarized below.

Table 5. Supplemental Irrigation Water Quality

Constituent	Result (mg/L)
BOD	510
TDS	340
FDS	190
Total Nitrogen	30
TKN	30
Nitrate as Nitrogen	not detected
Chloride	99
Total Recoverable Sodium	73
Total Recoverable Potassium	18
Total Recoverable Manganese	0.21
Total Recoverable Iron	5.9

16. There is an existing storm water pond on-site, which collects storm water only (no process wastewater). The storm water is pumped to the LAAs and used for irrigation when needed. Storm water is not discharged off-site.

17. The on-site well, shown on Attachment B, is used for dust control only.

18. Domestic wastewater discharged to an onsite septic system permitted through Fresno County.

Site-Specific Conditions

19. The processing plant and LAAs bordered by lands predominately zoned as exclusive agricultural, 20 acres minimum.

20. The nearest surface water is Lift Canal, approximately 0.5 miles south of the southern Facility boundary.

21. Annual precipitation is 7.68 inches, with a 100-year precipitation of 15.58 inches. The evapotranspiration rate is approximately 55 inches annually.

22. The Facility and LAAs are located within Federal Emergency Management Agency (FEMA) Zone X, which indicates that the area is outside of the 100-year and 500-year (1% and 0.2% annual chance, respectively) floodplain areas.
23. The project site and general vicinity slopes gently to the northeast with a slope of 10 to 15 feet per mile at elevations ranging from approximately 195 to 225 feet above mean sea level. Soils consist primarily of Tranquillity-Tranquillity complex and Calflax clay loam in the eastern portion of the site. Both are saline-sodic with 0 to 1 percent slopes. Tranquillity clay is described as alluvium derived from calcareous sedimentary rock with slow permeability. Its major uses are irrigated crops that are tolerant of saline-sodic conditions and homesite development. Calflax clay loam's permeability is described as moderately slow and slow surface runoff.
24. As discussed in the 2014 RWD, two exploratory borings were drilled by Kleinfelder at the Facility in May 2013 for a geotechnical study. The soils encountered consisted of 19.5 to 21.5 feet of fat clay with varying amounts of sand, overlying a 1.5 to 3.5-foot layer of clayey sand, approximately 17 feet of poorly graded sand and sand with gravel, and clayey sand to sandy lean sand. The clay soils were firm to hard, and the sands were medium to dense.

Groundwater Conditions

25. Groundwater beneath the Facility is not currently monitored. Based on the 2013 geotechnical study summarized in the 2014 RWD, groundwater was encountered at a depth of 19.5 feet below ground surface (bgs).
26. Hydrographs for four wells located on the property were identified in the Department of Water Resources' [DWR online well database](http://www.wdl.water.ca.gov) (<http://www.wdl.water.ca.gov>). The last recorded depths to groundwater are shown below and approximate well locations are shown on Attachment B.

Table 6. Depths to Groundwater

DWR Well ID	Test Date	Depth to Groundwater (feet bgs)
368073N1205033W001	10/23/2009	14.2
368000N1205120W001	5/27/2009	8.2
367930N1205220W001	5/27/2009	8.2
368078N1205303W001	5/20/2009	11.6

27. Based on [DWR Bulletin 118 on the San Joaquin Valley Groundwater Basin, Delta-Mendota Subbasin](https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-B118-Basin-Descriptions/B118_2003_BasinDescription_5_022_07.pdf) (https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-B118-Basin-Descriptions/B118_2003_BasinDescription_5_022_07.pdf), groundwater flow directions are historically northwest, parallel to the San Joaquin River, located approximately 6.5 miles east of the Facility. Recent data (2000) show flow directions to the north and east,

towards the San Joaquin River, indicating flow directions likely vary between northwest and northeast. Analytical data were not available.

28. Several groundwater monitoring wells located near the Facility were identified in DWR’s database. Analytical data for a few select wells located closest to the Facility are summarized below, including sample dates, and the approximate well locations are shown on Attachment B. Screen intervals and depths to groundwater for these wells, with the exception of one well, are unknown.

Table 7. Historical Groundwater Data

Parameter	13S13E10 R001M (8/1951)	13S14E07 N001M (8/1951)	13S14E18 M001M (8/1951)	13S13E13 N001M (8/1951)	13S13E14 N001N (7/1954)
Well Depth (feet bgs)	unknown	825	unknown	unknown	1,432
pH	7.6	7.4	7	7.2	8.2
EC (µmhos/cm)	2,750	1,620	4,170	2,350	5,390
Dissolved Sodium (mg/L)	460	315	750	250	1,010
Dissolved Chloride (mg/L)	448	107	1,030	225	1,380
Nitrate (mg/L)	No data	<0.1 (sample date is 1/1947)	No data	No data	2.6
Dissolved Sulfate (mg/L)	543	436	415	815	477

28. While the depths of most of the wells and screen intervals are unknown, it appears that the quality of groundwater, regardless of depth, is poor quality groundwater. Concentrations of EC, sodium, and chloride are greater than the concentrations Protective of Beneficial Use of 900 µmhos/cm (Secondary Maximum Contaminant Level [MCL], 69 mg/L (lowest agricultural water quality goal), and 500 mg/L (Secondary MCL), respectively. These concentrations indicate high salinity groundwater in this area.

Basin Plan, Beneficial Uses, and Regulatory Considerations

29. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, revised May 2018* (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 subdivision(a), must implement the Basin Plan.

30. The beneficial uses of the San Joaquin River, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; water contact recreation; non-contact water recreation; warm freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
31. 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.
32. 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.
33. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.
34. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (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.
35. The narrative toxicity water quality objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
36. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
37. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as Water Quality for Agriculture by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000 $\mu\text{mhos/cm}$ if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. The list of crops in Finding 12 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

38. 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).
39. 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.
40. This Order may be amended or modified to incorporate any newly applicable requirements.

Special Considerations for High Strength Waste

41. 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.

42. 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.
43. 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.
44. Regarding 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.
45. 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.
46. *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 conditions, 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.
47. 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. The Manual of Good Practice also states that the use of surface irrigation (border check method) makes uniform application difficult, especially for coarse textured soils.

48. 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.
49. This Order sets an irrigation cycle average BOD loading rate for the LAAs of 100 lb/ac/day for flood irrigated areas and 150 lb/ac/day for sprinkler irrigated areas consistent with Risk Category 2 in the Manual of Good Practice and requires the Discharger to ensure the even application of wastewater over the available land application areas.

Antidegradation Analysis

50. The State Water Resources Control Board's *Statement of Policy with Respect to Maintaining High Quality Waters of the State*, Resolution 68-16 (*Antidegradation Policy*) 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.
51. 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 employs approximately 96 full time employees year-

round and an additional 41 employees during the harvest season. 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.

52. Groundwater monitoring specifically related to determining potential impacts of wastewater discharges on first-encountered groundwater have not been conducted. Groundwater data from wells located near the Facility and included in DWR’s database, contain analytical data from 1951 and 1954. While these data may represent pre-1968 groundwater quality, the depths of samples and screen intervals are unknown. Direct comparisons between effluent quality to the data in DWR’s database cannot be made. However, as discussed in Finding 28, groundwater quality in this area is considered poor with respect to salinity.
53. Constituents of concern that have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride), nitrate as nitrogen, and potassium.

Effluent quality is presented as a flow-weighted average using an estimated annual flow of 66 million gallons per year between 2015 and 2019. Concentrations Protective of Beneficial Use are based on the following: Secondary Maximum Contaminant Level (MCL) for EC; Primary MCL for nitrate as nitrogen; Secondary Maximum Contaminant Upper Level for TDS; Upper Level Secondary MCL for chloride; and lowest agricultural water quality goal for sodium.

Table 8. Antidegradation Summary

Constituent	Effluent Quality	Concentration Protective of Beneficial Uses
EC	2,159 µmhos/cm	900 µmhos/cm
TDS	3,580 mg/L	1,000 mg/L
FDS	1,042 mg/L	Not established
Nitrate as N	0.8 mg/L	10 mg/L
Total N	219 mg/L	Not established
TKN	219 mg/L	Not established
Sodium	64 mg/L	69 mg/L
Chloride	107 mg/L	500 mg/L
Potassium	632 mg/L	Not established

- a. **Electrical Conductivity.** Electrical conductivity is a measure of the capacity of water to conduct electrical current and is an indicator of total salinity. EC concentrations in effluent are high when compared to the concentration protective of beneficial use for EC of 900 µmhos/cm, indicating a high salinity discharge. EC levels in shallow groundwater are unknown but in general, the quality of groundwater in this area is considered poor. If groundwater monitoring is required, this Order sets a groundwater limitation for EC.

- b. **Total Dissolved Solids.** For the purpose of evaluation, TDS is representative of overall salinity. FDS is the inorganic fraction of TDS that has the potential to percolate or leach to groundwater. Therefore, the best measure of salinity in process wastewater is FDS and in groundwater, TDS is the best measure of salinity.

TDS and FDS concentrations in effluent are relatively high (>1,000 mg/L). Concentrations of TDS in shallow groundwater are unknown. For the protection of groundwater, this Order sets an FDS effluent limit and if groundwater monitoring is required, this Order set a groundwater limitation for TDS.

- c. **Nitrate as Nitrogen.** 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 the nitrogen to nitrogen gas before it reaches the water table. Total nitrogen in the effluent consists entirely of TKN, which consists of organic nitrogen and ammonia nitrogen. TKN has the potential to mineralize and convert to nitrate (with some loss via ammonia volatilization) in the LAAs.

For the protection of groundwater, this Order requires that nutrients associated with the wastewater and other sources be applied to the LAAs at rates consistent with crop demand and requires wastewater be applied to the LAAs as evenly as possible to prevent areas of excessive nutrient loading and to ensure sufficient time for nitrification and denitrification. If groundwater monitoring is required, this Order sets a groundwater limit for total nitrogen in groundwater.

- d. **Potassium.** The discharge is high in salts, specifically potassium. A maximum contaminant level or other numeric limit for potassium has not been established. In addition, potassium is an important nutrient for crops, and if readily available, plants will generally take up potassium in excess of their needs. Further, while potassium that is not bound to soil particles is readily soluble in water, the positively charged ion impedes transport through the soil column allowing for greater retention time within the root zone. This Order requires the Discharger to prepare a Nutrient and Salt Management Plan to implement pollution prevention measures and ensure compliance with this Order. In addition, if groundwater monitoring is required, groundwater limits for TDS and EC in groundwater are set in this Order, which will be used identify increases in salt concentrations potentially associated with the discharge.
- e. **Sodium and Chloride.** Sodium and chloride are known to be key salinity constituents in food processing wastewater. While sodium and chloride concentrations in effluent are less than concentrations protective of beneficial use, this Order requires these constituents to be monitored in the effluent and groundwater as part of the overall monitoring for salinity in groundwater. If groundwater monitoring is required, this Order sets groundwater limitations for both constituents.

54. The Discharger provides treatment and control of the discharge that incorporates:

- a. limited use of chemicals.
- b. solids are screened out of the wastewater prior to use at the LAAs.
- c. application of wastewater on the LAAs at agronomic rates.
- d. crop selection based on nutrient uptake rates.
- e. BOD cycle average loading rate have been less than 100 lbs/acre/year.
- f. Preparation and implementation of a Nutrient and Salt Management Plan.
- g. Compliance with the Salt and Nitrate Control Programs.

55. The Discharger's implementation of the above-listed BPTC measures will minimize the extent of the water quality degradation resulting from the Facility's continued operation.

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

Other Regulatory Considerations

57. 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 for adequate for human consumption, cooking, and sanitary purposes. Although this order is not subject to section 106.3, it nevertheless promotes that policy requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

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

- a. Category 2 threat to water quality: "*Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.*"
- b. Category B complexity, defined as : "*Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with substantial disposal) or any Class 2 or 3 waste management units.*"

59. 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).

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 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 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 **R5-2020-0053** 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 deconstruction 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. All wastewater management systems at the facility have already been installed and are currently in use. This Order places additional requirements on the continued operation of the facility to ensure the protection of waters of the state. The issuance of this Order is therefore exempt from the provisions of CEQA in accordance with California Code of Regulations, title 14, (Title 14), Article 19 §15301, which exempts from environmental review the “operation, repair, maintenance, [and] permitting ... of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or not expansion or exiting or former use”. This Order is further exempt from CEQA procedural requirements insofar as it is adopted for protection of the environment and does not authorize construction activities or the relaxation of standards allowing for environmental degradation, in accordance with Title 14 Article 19 §15308.

64. 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

65. 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.
66. The Discharger, interested agencies, and other interested 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.
67. All comments pertaining to the discharge were heard and considered in a public hearing.
68. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDER that Horizon Nut, LLC, 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 (Title 22), section 66261.1 et seq., is prohibited.
3. Discharge of waste classified as 'designated', as defined in Water Code 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* (SPRRs or Standard Provisions), which is incorporated herein.
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.
8. Discharge of domestic wastewater to the process wastewater treatment system, land application areas, or any surface waters is prohibited.
9. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.

B. Flow Limitations

1. Wastewater flows to the LAAs shall not exceed the following limits:

Flow Measurement	Flow Limit
Total Annual Flow	67 MG (as determined by the total flow for the calendar year)
Monthly Average Daily Flow	3.5 MG (as determined by the total flow during the calendar month divided by the number of days in that month)

C. Effluent Limitations

1. The total volume of treated wastewater applied to the LAAs shall not exceed **an FDS annual flow-weighted average concentration of 1,400 mg/L**. The FDS flow weighted average is based on total flow and annual average concentration of wastewater discharged to the LAAs.

D. Mass Loading Limitations

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

Constituent	Units	Irrigation Cycle Average	Annual Maximum
BOD Mass Loading (cycle average for flood irrigated fields)	lb/ac/day	100	--
BOD Mass Loading (cycle average for sprinkler irrigated fields)	lb/ac/day	150	--
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 designated, 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. All open containment structures shall be managed to prevent breeding of mosquitos. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of open containment structures.
 - 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.
8. Storage of residual solids, including pomace and/or diatomaceous earth 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.

Constituent	Maximum Allowable Concentration
EC	900 µmhos/cm (Secondary MCL) or Current Concentrations, whichever is higher
TDS	1,000 mg/L (Secondary Maximum Contaminant Upper Level) or Current Concentrations, whichever is higher
Total Nitrogen	10 mg/L (Primary MCL) or Current Concentrations, whichever is higher
Sodium	69 mg/L (lowest agricultural water quality goal) or Current Concentrations, whichever is higher
Chloride	500 mg/L (Secondary MCL) or Current Concentrations, whichever is higher

Note: current groundwater quality will be defined using appropriate statistical methods described in an approved Groundwater Limitation Compliance Assessment Plan, if required (see Provision I.4.b).

2. Groundwater monitoring wells, if required, shall not contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22.

G. Land Application Area Specifications

1. Crops or other vegetation (which may include pasture grasses, Sudan grass, winter forage, native grasses and trees, and/or ornamental landscaping) shall be grown in the LAAs.
2. Wastewater shall be distributed uniformly on adequate acreage within the LAAs to preclude the creation of nuisance conditions or unreasonable degradation of groundwater.
3. The Discharger shall maximize the use of the available LAAs to minimize waste constituent loading.
4. Nutrient loading from wastewater and irrigation water shall be at reasonable agronomic rates.
5. Irrigation of LAAs with wastewater shall not be initiated during saturated conditions on the LAAs.
6. Land application of wastewater shall be managed to minimize erosion.
7. The LAAs, including tailwater ditches, shall be managed to prevent breeding of mosquitoes or other vectors.
8. 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 Discharger shall temporarily stop discharging immediately and implement corrective actions to ensure compliance with this Order.

9. Any irrigation runoff (tailwater) shall be confined to the LAAs or returned to the irrigation sumps 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. Residual solids mean 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 Discharger shall comply the Standard Provisions, dated 1 March 1991, which are a part of the Order.
2. The Discharger shall comply with the separately issued **Monitoring and Reporting Program (MRP) R5-2020-0053**, 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.
3. A copy of this Order, including Information Sheet, Attachments, and Standard Provisions, and the MRP, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with their contents.

4. The following reports shall be submitted pursuant to Water Code section 13267:
- a. **By 1 May 2021**, the Discharger shall submit a *Nutrient and Salt Management Plan* that identifies known sources of salinity, evaluates the nutrient load to each land application area, and develops and implements pollution prevention management practices to restrict nutrient loading for the specified crop and ensures compliance with this Order.
 - b. **By 1 August 2021**, the Discharger shall submit a *Groundwater Evaluation Plan* to determine if groundwater monitoring is required at this facility. If it can be demonstrated that impacts to groundwater from wastewater discharges to the LAAs will not likely degrade groundwater quality, the Discharger shall document those findings in a report to be submitted to the Central Valley Water Board. If Central Valley Water Board staff concur with the determination in the report and upon approval by the Central Valley Water Board Executive Officer, groundwater monitoring will not be required. However, if at any time it can be shown that discharges are impacting groundwater, groundwater monitoring may be required.

If groundwater monitoring is warranted, the Discharger shall work with Central Valley Water Board staff to submit the following documents:

- i. *Groundwater Monitoring Well Installation Workplan* that proposes an adequate number of groundwater monitoring wells to ensure sufficient monitoring of groundwater quality beneath the LAAs.
 - ii. *Groundwater Monitoring Well Installation Completion Report* that describes the installation and development of all new monitoring wells and explains any deviations from the approved workplan.
 - iii. *Groundwater Limitations Compliance Assessment Plan* that proposes and justifies the methods to be used to determine compliance with the Groundwater Limitations in this Order, using the methods set forth in the U.S. EPA's Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Unified Guidance).
- c. **By 1 August 2021**, the Discharger shall submit a *Solids Handling and Management Plan*. The plan shall describe how dry solids (from dry cleaning the pistachios) and wet solids (screened from the wastewater) are handled and stored at the Facility. The plan shall describe the concrete pad where wet solids are stored, including how leachate is minimized, controlled, and contained in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order. If changes to the storage pad are required to meet these conditions, a report will be submitted to the Central Valley Water Board describing the changes and upgrades to be made and how these changes will meet the requirements in this Order.

- d. **By 1 May 2021**, the Discharger shall submit a *Flow Meter Installation Completion Report* that documents the type of meter installed, the location of the meter, and describes the operations and maintenance requirements for the meter.
5. 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.
6. 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.
7. 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.
8. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
9. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.

10. Per the SPRRs, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
11. 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.
12. In the event of any change in control or ownership of the Facility or LAA, 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 Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
14. 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 Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing

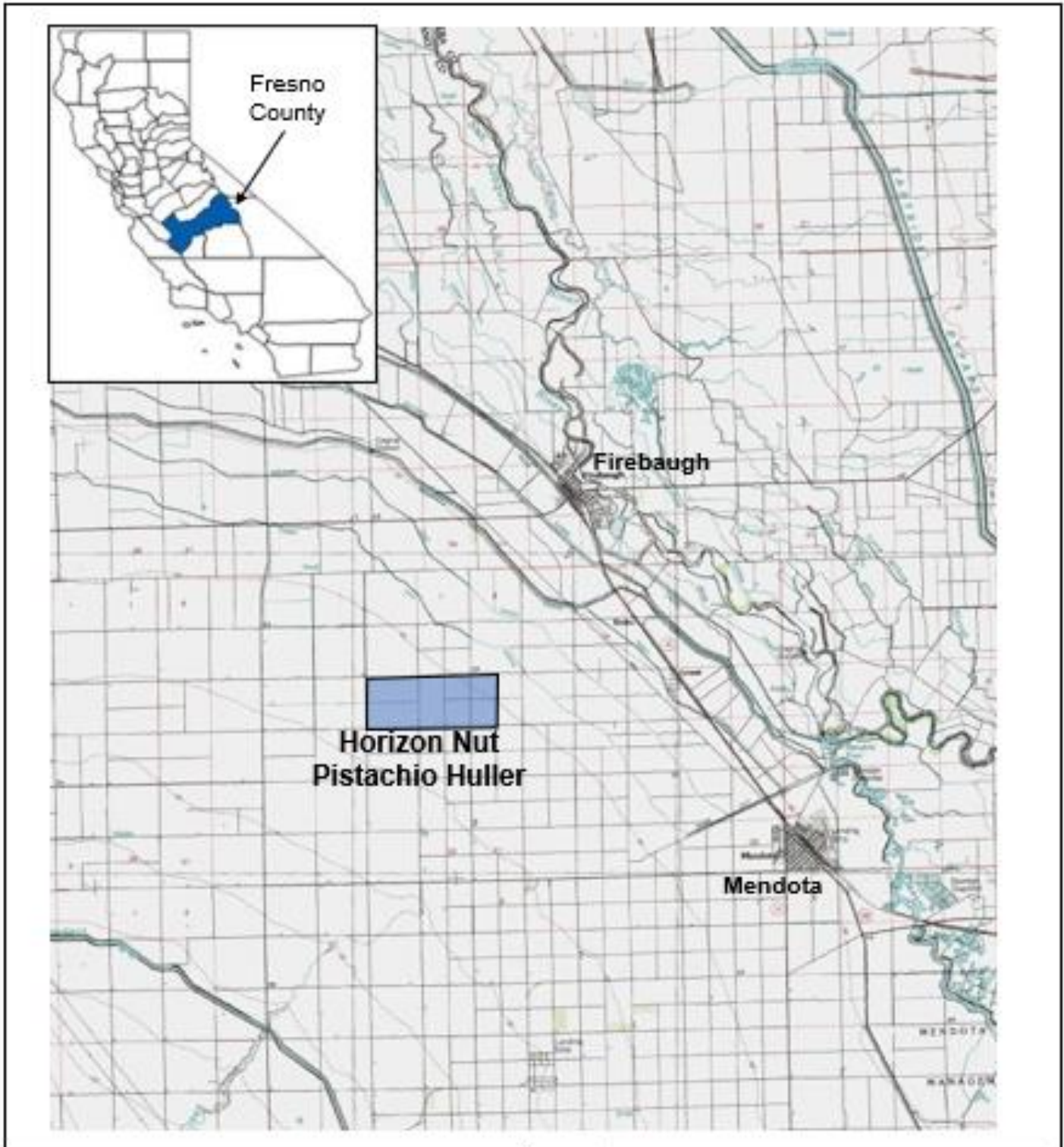
WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-0053
HORIZON NUT, LLC
HORIZON NUT PISTACHIO HULLER
FRESNO COUNTY

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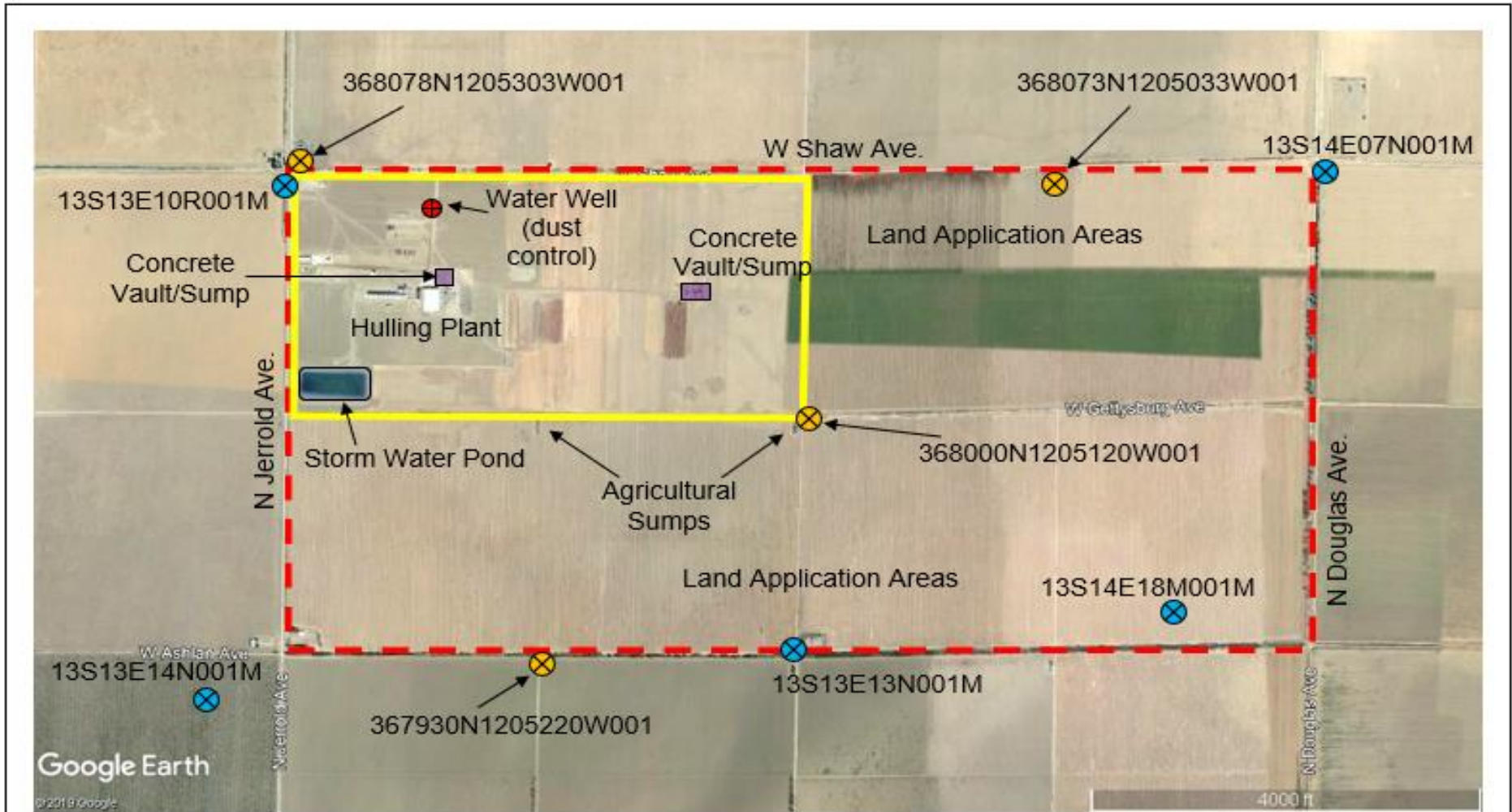
petitions (http://www.waterboards.ca.gov/public_notices/petitions/water_quality) are available on the Internet and will be provided upon request

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region on 16 October 2020.

PATRICK PULUPA, Executive Officer



SITE LOCATION MAP
HORIZON NUT, L.P.
HORIZON NUT PISTACHIO HULLER
FRESNO COUNTY



LEGEND

- ⊗ DWR Well, depth to groundwater data
- ⊗ DWR Well, analytical data
- Concrete Sumps

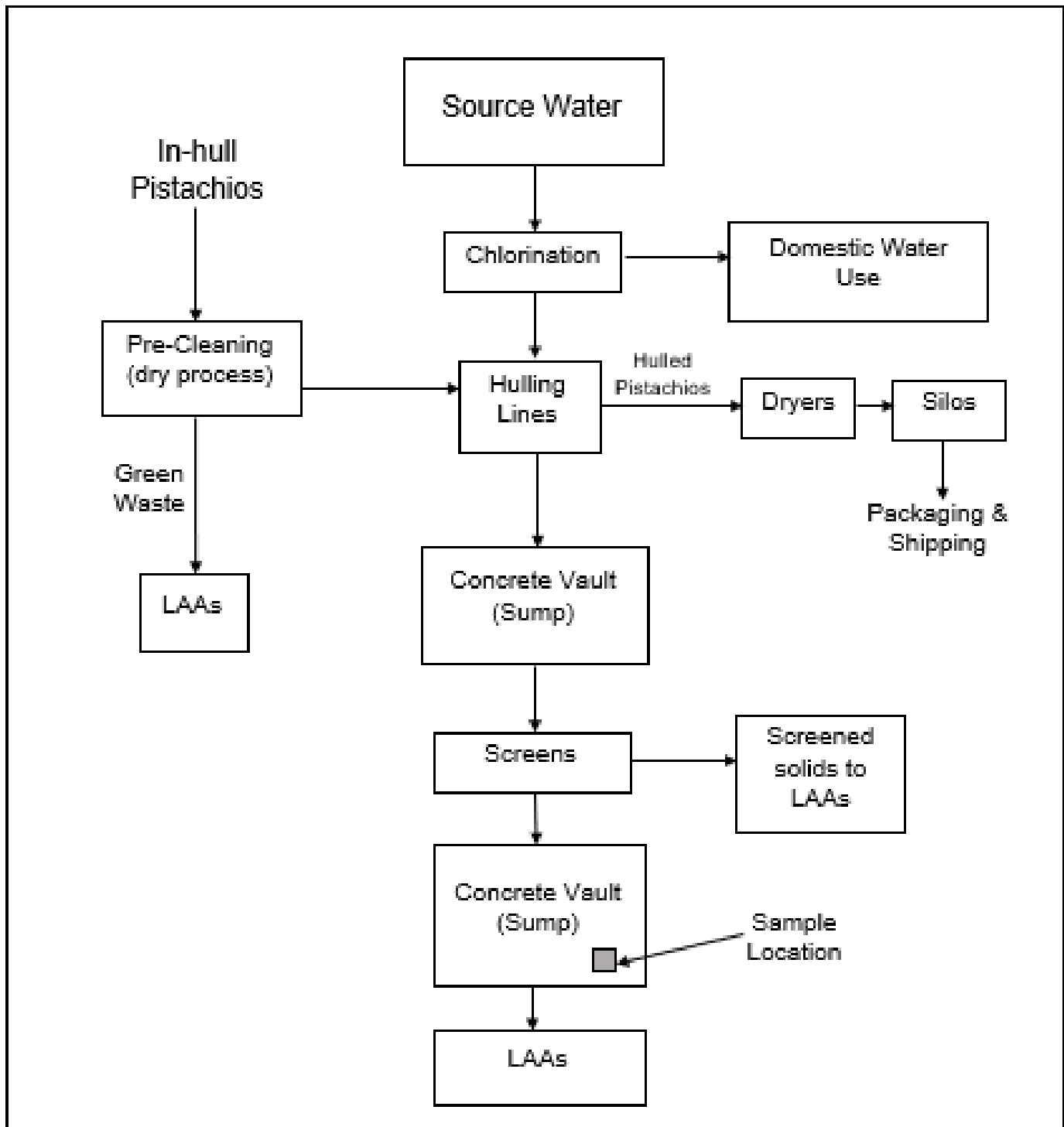
Note: Site features are approximately located.



~ 2,000 feet

SITE FEATURES MAP

HORIZON NUT, LLC
 HORIZON NUT PISTACHIO HULLER
 FRESNO COUNTY



LEGEND

■ Sample Location

Flow Meter Location – to be determined

Note: Figure not to scale

WASTEWATER PROCESS FLOW SCHEMATIC

HORIZON NUT, LLC
 HORIZON NUT PISTACHIO HULLER
 FRESNO COUNTY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

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

Waste Discharge to Land

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

B. General Reporting Requirements:

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

Waste Discharge to Land

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

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

This plan shall:

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

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

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

Waste Discharge to Land

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 Central Valley Waterboard website (http://www.waterboards.ca.gov/centralvalley/about_us/contact_us) or the current address if the office relocates.

C. Provisions for Monitoring:

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

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

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

Waste Discharge to Land

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

Record of monitoring information shall include:

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

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

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

Waste Discharge to Land

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:

Waste Discharge to Land

- 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.

Waste Discharge to Land

- 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

Waste Discharge to Land

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

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

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

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

Waste Discharge to Land

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

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

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

and

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

Revised January 2004 to update addresses and phone numbers

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-0053
FOR
HORIZON NUT, LLC
HORIZON NUT PISTACHIO HULLER
FRESNO COUNTY

INFORMATION SHEET

Background

Horizon Nut, LLC (Discharger) owns and operates the Horizon Nut Pistachio Huller plant (Facility), located in Firebaugh in Fresno County. The Facility was constructed in 2014 and began operations in 2015. The Facility hulls, dries, and stores approximately 50 million pounds of pistachios per year. Process wastewater is generated from hulling pistachios and cleaning activities. The pistachio harvesting season generally lasts between 30 to 45 days per year usually between August and October.

The Facility has not been previously regulated by Waste Discharge Requirements (WDRs). The Discharger submitted a Report of Waste Discharge (RWD), dated 3 December 2014, which described Facility operations and the land application of wastewater. A RWD addendum was submitted on 1 January 2020 that provided updated and additional information.

Wastewater Generation and Disposal

The Facility consists of a processing plant where nut hulling is conducted, a guard shack, offices, silos to store the hulled nuts until they are shipped offsite for additional processing, and 1,000 acres of LAAs.

Process wastewater is collected in drains and discharged to a sump located just outside the processing plant. Wastewater is then gravity fed to another sump located near the irrigation distribution point where it is screened to remove solids. The Facility generates up to 66 million gallons of wastewater per year.

The wastewater is used to irrigate up to 1,000 acres of cropped LAAs. Generally, approximately 400 acres of the 1,000 acres is used for solids disposal. The application of wastewater and solids is rotated within the LAAs as needed to limit constituent loadings in any one area within the LAAs. The LAAs are flood irrigated and bermed to keep wastewater on the LAAs. Solids are used as mulch and soil amendments or shipped off-site.

Groundwater Considerations

Groundwater conditions are discussed in Findings 25 through 28 of the Order. Based on water wells near the Facility, groundwater is considered poor quality with respect to salinity. Provision I.4.b of the Order requires the Discharger to conduct a groundwater

evaluation to determine if groundwater monitoring is necessary to determine if the discharge may impact groundwater.

Antidegradation

Antidegradation analysis is discussed in Findings 50 through 56 of the Order. The discharge is considered to be high in salts, including FDS, sodium, and chloride, with high EC levels. However, the groundwater is considered poor in the area and the Discharger is required to conduct a groundwater evaluation to determine if the discharge would impact groundwater. If groundwater monitoring is determined to be appropriate, groundwater limitations have been set in the Order. In addition, effluent concentration limits and BOD and nitrogen mass loading limits are included in the Order.

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The Order limits the maximum daily average and annual flow to 3.5 mgd and 67 million gallons, respectively. The Order sets an FDS annual average effluent limit concentration of 1,400 mg/L and a cycle average BOD loading limit of 100 lbs/ac/day for flood irrigated fields and 150 lb/ac/day for sprinkler irrigated field. In addition, this Order requires wastewater and supplemental irrigation water be applied to the LAAs at agronomic rates.

This Order requires the Discharger to submit the following reports:

- *Nutrient and Salt Management Plan*
- *Groundwater Evaluation Plan*
- *Solids Handling and Management Plan*
- *Flow Meter Installation Completion Report.*

Monitoring Requirements

Section 13267 of the California Water Code authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of waste discharges on waters of the State. Water Code Section 13268 authorizes assessment of civil administrative liability where appropriate. The Order includes effluent, LAA, solids, groundwater, and water supply monitoring requirements. This monitoring is necessary to characterize the discharge and evaluate compliance with the requirements and specifications in the Order.

Salt and Nitrate Control Programs Regulatory Considerations

As part of the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative, the Central Valley Water Board adopted Basin Plan amendments (Resolution R5-2018-0034) incorporating new programs for addressing ongoing salt and nitrate accumulation in the waters and soils of the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted Resolution No. 2019-0057 conditionally approving the Central Valley Water

Board Basin Plan amendments and directing the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. The Office of Administrative Law (OAL) approved the Basin Plan amendments on 15 January 2020. (OAL Matter No. 2019-1203-03).

Pursuant to the Basin Plan amendments, dischargers will receive a Notice to Comply with instructions and obligations for the Salt Control Program within one year of the effective date of the amendments (17 January 2020). Upon receipt of the Notice to Comply, the Discharger will have 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). The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. For the Nitrate Control Program, the Facility falls within Groundwater Sub-Basin 5-22.07 (San Joaquin Valley Delta Mendota Basin), a priority 2 Basin. Notices to Comply for Priority 2 Basins will be issued within two to four years after the effective date of the Nitrate Control Program. The CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs regionwide, including the WDRs that regulate discharges from the Facility. [More information regarding the CV-SALTS regulatory planning process](#) can be found at the following link:
https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/

Reopener

The conditions of discharge in the Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The Order sets limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

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

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