CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2018-0066

WASTE DISCHARGE REQUIREMENTS
FOR
TREEHOUSE CALIFORNIA ALMONDS, LLC
EARLIMART ALMOND PLANT
TULARE COUNTY

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

1. Treehouse California Almonds, LLC, (Treehouse or Discharger) owns and operates the Earlimart Almond Plant (Plant) and is responsible for compliance with these Waste Discharge Requirements (WDRs).

2. The Plant, at 6914 Road 160 near the community of Earlimart in Tulare County, is in Section 19, Township 23 South, Range 26 East, MDB&M, and occupies Assessor's Parcel Numbers (APN) 319-060-019 and 319-060-022. The Discharger recently purchased approximately 42 acres of farmland adjacent to the Plant in 2017 for the application of wastewater (portion of APN 319-060-030). The Plant and land application area are shown on Attachment A, which is attached hereto and made part of this Order by reference.

3. The Plant is currently regulated by WDRs Order 97-243, issued to Treehouse Farms, Inc. on 5 December 1997. Order 97-243 authorizes a maximum daily discharge of 0.025 million gallons per day (mgd) to evaporation/percolation ponds.

4. On 3 March 2000, the Discharger submitted a Report of Waste Discharge (RWD) to increase average daily flows to 0.04 mgd, with a monthly maximum average of 0.06 mgd, and a daily maximum of 0.09 mgd consistent with actual operations at the Plant.

5. Order 97-243 is out of date and no longer reflects current Plant operations, or planned upgrades and future expansion. Therefore, WDRs Order 97-243 will be rescinded and replaced with this Order.

Existing Facility and Discharge

6. The Plant washes, blanches, and dry roasts almonds year round for further use by other food industries. According to the Discharger, no brines or oils are used in the roaster. Peak season is generally from September through January though the Plant discharges all year. The Plant processes approximately 80 million pounds of almonds each year. Wastewater generated at the Plant is primarily from blanching water and equipment wash water. Other waste streams generated at the Plant include boiler blow down, scalder drain water, water softener regenerant, and storm water.

7. Supply water for the Plant is provided by an on-site well. According to the well log, the supply well was constructed to 380 feet below site grade (bsg) and is screened between 275 feet and 380 feet bsg. The supply well was sampled in December 1999 and again during

an inspection of the Plant in March 2016. The supply water is of good quality. The results of the sampling are presented in Table 1 below.

Table 1. Plant Water Supply Quality

Parameters	Units	December 1999	March 2016
EC [1]	umhos/cm[3]	690	650
TDS [2]	mg/L[4]	430	430
Nitrate as Nitrogen	mg/L	---	8.7
Sodium	mg/L	64	59
Chloride	mg/L	88	46
Sulfate	mg/L	83	100
Boron	mg/L	---	<0.05
Bicarbonate (as CO_3)	mg/L	76	120

1. Electrical conductivity.
2. Total dissolved solids.
3. Micromhos per centimeter.
4. Milligrams per liter

8. Wastewater from the Plant drains to one of two sumps where it is combined and screened to remove solids then discharged to a series of five unlined ponds. The first pond is equipped with two aerators and acts as a treatment pond. From the first pond the wastewater can be discharged to the remaining evaporation/percolation ponds or to the new land application area. A flow schematic showing the path of the wastewater between the ponds and the new land application area is included as Attachment B, which is attached hereto and made a part of this Order by reference. The total storage capacity of the existing ponds is approximately three million gallons assuming two feet of freeboard.

9. In 2009 the Discharger constructed two shallow spreading areas adjacent to the evaporation/percolation ponds to increase disposal capacity. However, these were removed and backfilled upon purchase of the adjacent land application area.

10. Order 97-243 sets a daily maximum flow limit of 0.025 million gallons per day (mgd). Average daily flows at the Plant from January 2013 through June 2017 are presented below:

Table 2. Wastewater Flows

Year	**Average (mgd)**	**Minimum (mgd)**	**Maximum (mgd)**
2013	0.026	0.013	0.048
2014	0.016	0.010	0.026
2015	0.019	0.012	0.047
2016	0.012	0.002	0.025
2017	0.030	0.004	0.064

11. The March 2000 RWD proposed an annual average daily flow limit of 0.04 mgd with a maximum monthly average of up to 0.06 mgd, and a daily maximum limit of 0.09 mgd. These flows were determined using actual flows recorded at the Plant following

installation of a proper flow meter. The RWD also included a water balance for the evaporation/percolation ponds supporting an average annual design flow rate of 0.04 mgd prepared by Kim Domingo (RCE 50819) with Boyle Engineering Corporation.

12. Table 3 below presents data on average wastewater quality of the influent to the first treatment pond for pH and EC collected monthly from June 2011 through June 2017. No trends were observed.

Table 3. Plant Wastewater Quality

Parameters	Units	Average	Range	Count
pH	std.	6.9[1]	3.2 – 8.8	51
Electrical Conductivity (EC)	umhos/cm	1,597	600 – 2,200	51

1. Median pH

13. The Discharger does not routinely monitor for additional constituents. However, samples of the influent to the treatment pond and effluent to the other evaporation/percolation ponds following treatment were collected in 2011 and in 2016 to further characterize the discharge. The results of the additional sampling are provided in Table 4 below.

Table 4. Additional Wastewater Constituents

Constituent	Units	Influent (12/10/2011)	Influent (2/18/2016)	Influent (3/24/2016)	Evaporation/Percolation Ponds (Sampled 2/18/2016)		
BOD_5[1]	mg/L	---	1400	2000	160	110	140
TDS[2]	mg/L	---	1200	1400	1400	1400	1300
FDS[3]	mg/L	---	860	950	1000	1000	920
Sodium	mg/L	240	230	200	250	230	250
Chloride	mg/L	390	350	310	370	350	330
Potassium	mg/L	120	150	210	200	170	210
Total Nitrogen	mg/L	---	180	170	33	46	27
Bicarbonate	mg/L	380	320	320	---	---	---
Sulfate	mg/L	2.3	2.4	<8	---	---	---
Boron	mg/L	0.9	1.1	1.4	---	---	---

1. 5-day Biochemical Oxygen Demand
2. Total Dissolved Solids
3. Fixed Dissolved Solids

14. The sampling shows a significant reduction in biochemical oxygen demand (BOD) and nitrogen in the wastewater after leaving the treatment pond. However, the salinity of the discharge does not appear to change. Sodium and chloride concentrations after the treatment pond are relatively high at about 200 mg/L and 350 mg/L, respectively, and show a significant increase over the source water.

15. Chemicals used at the Plant are approved for use at food processing facilities, and include: chlorine, chlorinated de-greasers, scale inhibitors, sodium hydroxide, diphosphonic acid, sodium sulfate, and salt.

16. Solids generated at the Plant consist of culls, skins, and almond pieces. All solids removed from the wastewater and sorting areas are collected in transport bins and hauled off-site for use as cattle feed.

17. Domestic waste generated at the Plant is discharged to an on-site septic system regulated by Tulare County.

Proposed Changes

18. The Discharger plans to install new equipment including larger blanching tanks and a new dry roaster to meet future needs at the Plant as well as add additional storage areas. In addition, the Discharger plans to improve its wastewater treatment processes, including lining the ponds and reusing its wastewater for irrigation of crops.

19. In 2017, as part of the proposed upgrades at the Plant, the Discharger installed a new parabolic screening unit with a concrete secondary containment structure to prevent overflow and bypass of the screening unit.

20. To provide more room for storage and to improve its discharge, the Discharger recently purchased approximately 42 acres of farmland immediately adjacent to the Plant. A solar farm array was installed on approximately 4 acres to provide power for the Plant, leaving approximately 38 acres available for land application of wastewater. The Discharger plans to install an irrigation system and begin reusing wastewater to irrigate crops on the new land application area and eliminate the need for evaporation/percolation ponds.

    This Order will limit the Discharger to an average daily flow of 0.04 mgd (monthly average) and 0.09 mgd (daily maximum), as proposed in the 2000 RWD, until the Discharger completes construction on the infrastructure improvements to farm the new land application area and submits a Nutrient and Wastewater Management Plan with a revised water balance. The Discharger must submit the Nutrient and Wastewater Management Plan and begin farming the land application area before receiving the increased flow limitation of 0.06 mgd as a monthly average.

Special Considerations for High Strength Waste

21. 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 wastewater includes septage, some food processing wastes, winery wastes, and rendering plant wastes.

22. 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.

23. It is reasonable to expect some attenuation of various waste constituents that percolate below the root zone within the vadose (unsaturated) zone. Specifically, excess nitrogen can be mineralized and denitrified by soil microorganisms, organic constituents (measured as both BOD and volatile dissolved solids) can be oxidized, and the cation exchange capacity of the soil may immobilize some salinity constituents.

24. 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 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.

25. 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*. Pollution Abatement in the Fruit and Vegetable Industry*, published by the U.S. 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.

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

    a. Risk Category 1: (less than 50 lbs/acre/day; with depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.

    b. Risk Category 2: (less than 100 lbs/acre/day; depth to groundwater greater than 5 feet) Minimal risk of unreasonable groundwater degradation with good distribution more important.

    c. Risk Category 3: (greater than 100 lbs/acre/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of an 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.

27. Although it has not been subject to a scientific peer review process, the Manual of Good Practice provides science-based guidance for BOD loading rates that, if fully implemented, may be considered management practices to help prevent groundwater degradation due to reducing conditions.

28. With a BOD concentration between 150 mg/L and 200 mg/L after leaving the treatment pond, assuming an average discharge of 0.06 mgd and a minimum three day resting period the average BOD loading to the new land application area would be between 2 to 4 pounds per acre per day (lbs/acre/day).

29. In a properly managed land application area, a cycle average BOD loading rate of less than 100 lbs/acre/day should not result in objectionable odors or unreasonably threaten underlying groundwater quality. This Order contains Land Application Area Specifications E.2, E.3, E.4, and E.5, which limits the cycle average BOD loading rate to 100 lbs/acre/day and requires the Discharger to apply wastewater at agronomic rates and ensure even applications to prevent nuisance conditions.

30. With an average nitrogen concentration leaving the treatment pond of 30 to 50 mg/L, nitrogen loading to the new land application area with an annual flow limit of 22 million gallons, spread over the entire 38 acres would be between 145 to 240 pounds per acre per year.

31. This Order includes Provisions H.12, and H.13, which require the Discharger to prepare a nutrient and wastewater management plan and begin reusing its wastewater to irrigate crops within its new land application area at reasonable agronomic rates.

32. With proper management of its land application area and growing crops to take up excess nutrients and salts, it appears there is sufficient land available for reasonable nitrogen and BOD loading, with wastewater applications at the permitted flow rate of 0.06 mgd and 22 million gallons annually.

Site-Specific Conditions

33. The Plant and land application area (LAA) are in the central part of the San Joaquin Valley. Topography in the area is generally flat with an approximate elevation of 320 feet above mean sea level.

34. Federal Emergency Management Agency Flood Insurance Rate Map 06107C1950E, updated 16 June 2009, shows that the Plant and land application area are within Flood Zone A, areas with a 1 percent annual chance of flooding, though no base flood elevations have been determined.

35. According to the U.S. Department of Agriculture, National Resource Conservation Survey maps, soils within the land application area are predominantly Crosscreek-Kai Association, consisting of a series of loams and sandy loams. These soils are non-saline to moderately saline, and are moderate to well drained, with percolation rates between 0.3 and 0.03 minutes per inch. The area has a land capability classification (with irrigation) of 2s and 3s, which has moderate limitations due to low moisture holding capacity or shallow rooting depths.

36. Climate in the Central Valley is characterized by hot dry summers and mild winters. The rainy season generally extends from November through April. Occasional rains occur during the spring and fall months, but summer months are dry. According to the Western Regional Climate Center, average annual precipitation in the Delano area is about 7 inches, and the average pan evaporation rate is about 64 inches. From the California Irrigation Management Information System (CIMIS), the reference evapotranspiration for the nearby Delano substation is about 57 inches per year.

37. The Plant is in a rural area, approximately 3.5 miles northeast of Earlimart. Land use in the vicinity of the Plant and the land application area is primarily agricultural. There is a solar panel array across Road 160 to the west of the Plant and a custom almond plant directly north. Primary crops grown in the vicinity of the site include hay and grain crops, grapes, and orchards. Irrigation water is supplied primarily by groundwater.

Groundwater Conditions

38. According to Department of Water Resources (DWR) Groundwater Elevation Maps for 2012 and 2017, first encountered groundwater in the vicinity of the site occurred at about 180 feet bgs in Fall 2012, and at about 230 feet bgs in Fall 2017. Regional groundwater flow is to the east-northeast. There are no monitoring wells on-site and no site specific groundwater gradient information is available.

39. Data pertinent to characterizing first-encountered groundwater is limited due to the wide variability in the screened interval of the wells, sampling dates, and constituents monitored. A review of water quality information including the State Water Resources Control Board's Groundwater Ambient Monitoring Program (GAMA) databases identified several wells within about three miles of the site. Table 5 presents a summary of the available water quality data obtained from these wells.

Table 5. Groundwater Quality

Constituent	Units	23S25E24H001M		23S25E12J001M	23S26E20F001M
		1958	1980	1957	1958
pH	std	8.7	9.1	7.4	8.2
EC	umhos/cm	213	268	200	334
TDS	mg/L	168	166	- - -	233
Sodium	mg/L	54	55	23	59
Chloride	mg/L	11	9	5	16
Calcium	mg/L	2	2	18	4
Potassium	mg/L	0.7	0.5	1.4	1
Nitrate as Nitrogen	mg/L	<1	<1	3.8	<1
Bicarbonate	mg/L	90	96	89	103
Sulfate	mg/L	13	18	8.6	25

40. From the data it appears that groundwater quality in the vicinity of the site prior to 1968 and in 1980 was relatively good with EC, TDS, and nitrate as nitrogen below their respective Maximum Contaminant Levels (MCLs).

41. Given the good quality of underlying groundwater and use of unlined ponds this Order includes Provision H.14, which requires the Discharger to line its ponds or install and maintain a groundwater monitoring well network to monitor changes in groundwater quality associated with its discharge operations.

Basin Plan, Beneficial Uses, and Regulatory Considerations

42. The operative Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) designates beneficial uses; establishes water quality objectives (WQOs) to protect such uses; contains implementation plans and policies for protecting waters of the subject basins; and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Water Board). Pursuant to Water Code section 13263, subdivision (a), WDRs implement the Basin Plan.

43. The Plant and land application area lie within the Tule Delta Hydrologic Area (No. 558.20) of the South Valley Floor Hydrologic Unit, as depicted on interagency hydrologic maps prepared by the State Water Board and the DWR, revised August 1986. Local drainage is by sheet flow to the west toward the valley floor. The Basin Plan designates surface waters within hydrologic unit 558 as valley floor waters. Beneficial uses of valley floor waters, as stated in the Basin Plan, are agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); and groundwater recharge.

44. The Plant and land application area are in Detailed Analysis Unit (DAU) No. 243, within the Tule Basin hydrologic unit. The Basin Plan designates the beneficial uses of underlying groundwater within the DAU for municipal and domestic supply (MUN), AGR, IND, PRO, and WILD.

45. The Basin Plan encourages the reuse of wastewater and identifies crop irrigation as a reuse option where the opportunity exists to replace an existing or proposed use of fresh water with reused water.

46. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require waters designated for use as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in California Code of Regulations, title 22 (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.

47. 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. 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 objective is required to protect specific beneficial uses, the Central Valley Water Board will adopt numerical limitations to implement the narrative objective on a case-by-case basis.

48. 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 umhos/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 umhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

49. Basin Plan WQOs do not require improvement over naturally occurring background groundwater quality. However, if background groundwater quality exceeds the numeric objectives, background water quality becomes the objective.

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

    a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum electrical conductivity (EC) in the discharge shall not exceed the EC of the source water plus 500 umhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.

    b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 umhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.

51. The Basin Plan allows an exception to the EC limitation of source water plus 500 umhos/cm where the discharge exhibits a disproportionate increase in EC over the EC of source water due to unavoidable concentrations of organic dissolved solids from the raw food product, provided water quality objectives are met and the Discharger has implemented best available technology and best management practices that control inorganic dissolved solids to the maximum extent feasible.

52. Effluent results for total and fixed dissolved solids (Finding 13, Table 4) show on average that about 30 percent of the total dissolved solids is due to concentrations of organic dissolved solids in the discharge. However, the Discharger has not demonstrated that it has implemented best management practices to control inorganic dissolved solids. Further, sodium and chloride concentrations in the discharge are at about 200 mg/L and 350 mg/L, respectively, and could potentially cause groundwater to exceed WQOs.

53. In addition, as shown in Findings 7 and 39, the site is in an area overlying good quality groundwater with EC ranging around 300 to 650 umhos/cm, chloride around 46 mg/L, and boron of < 0.5 mg/L. Therefore, this Order includes effluent limits for EC of 1,000 umhos/cm, chloride of 175 mg/L, and boron of 1.0 mg/L.

54. Based on current sampling data, the Discharger will not be able to comply with these effluent limits immediately. Therefore, this Order includes a time schedule, which requires the Discharger to prepare and implement a Salinity Control and Minimization Plan to minimize the salinity of its discharge to the extent feasible and come into compliance with the effluent limits for EC, chloride, and boron within three years.

Antidegradation Analysis

55. The State Water Board Policy with Respect to Maintaining High Quality Waters of the State, Resolution No. 68-16 (Antidegradation Policy) prohibits degradation of groundwater unless it is demonstrated that

    a. The degradation will not unreasonably affect present and anticipated beneficial uses;

    b. 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;

    c. The discharger employs best practicable treatment or control (BPTC) to minimize degradation; and

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

56. Constituents of concern in the discharge that have the potential to cause degradation of high quality waters include, in part, organics, nutrients, and salts.

    a. For organics, as discussed in Findings 21 through 27, application of organic materials (as measured by BOD) at excessive rates can cause anaerobic conditions that may result in nuisance odor conditions, dissolution, and degradation of groundwater. However, as discussed in Findings 28 and 29, the expected BOD loading rate to the new land application area will be significantly less than 100 lbs/acre/day and should not unreasonably degrade groundwater quality with constituents related to organic overloading.

    b. For nitrogen, this Order limits the application of wastewater to the new land application area to reasonable agronomic rates for both nutrient and hydraulic loading. Nitrogen loading estimates indicate the discharge would add between 145 and 240 lbs/acre/year to the 38-acre land application area.

       To ensure the discharge will be applied at reasonable agronomic rates, this Order requires the Discharger prepare and implement a nutrient and wastewater management plan. With nitrogen uptake by crops, nitrification and denitrification in ponds and soils, and depth to groundwater beneath the site, the discharge, as allowed by this Order, is not expected to contribute to groundwater degradation that would violate water quality objectives for nitrate. Furthermore, this Order requires the Discharger to line its ponds or install and maintain a groundwater monitoring well network to monitor the Facility’s impacts on underlying groundwater.

c. For salinity, the Basin Plan includes effluent limits for EC of 1,000 umhos/cm, chloride of 175 mg/L, and boron of 1.0 mg/L for discharges over good quality groundwater. As discussed in Findings 52 and 53, the discharge is over good quality groundwater; however, it cannot meet the effluent limits for EC, chloride, and boron specified in the Basin Plan. This Order includes a compliance schedule, which allows the Discharger three years to prepare and implement a Salinity Control and Minimization Plan and come into compliance with the effluent limits for EC, chloride, and boron.

57. The Discharger provides, or will provide, as required by this Order, the following treatment and control of the discharge that incorporates:

a. Pre-screening and aeration of wastewater;

b. Even application and reuse of wastewater for irrigation of crops at reasonable agronomic rates, in accordance with a Nutrient and Wastewater Management Plan;

c. Effluent limits for electrical conductivity (EC), chloride, and boron;

d. Replace the water softener with a reverse osmosis system.

e. A cycle average BOD loading limit of 100 lbs/acre/day to the land application area;

f. Preparation and implementation of a Salinity Control and Minimization Plan;

g. Proper handling and off-site disposal of solids;

h. Groundwater limitations; and

i. Line the wastewater ponds or install groundwater monitoring wells to monitor the impact of the discharge on first encountered groundwater beneath the site.

58. This Order establishes groundwater limitations that allow some degradation, but that will not unreasonably threaten present and future anticipated beneficial uses of groundwater or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

59. The treatment and control measures described above in Finding 57, in combination with the requirements of this Order, represent BPTC for the wastes in the discharge. Adoption of this Order will result in the implementation of BPTC. In addition, this Order requires monitoring of the discharge to confirm that BPTC measures are sufficiently protective of groundwater quality.

60. Degradation of groundwater by some of the typical constituents associated with 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 aids in the economic prosperity of the area through direct employment of 120 full and part-time seasonal employees, provides a tax base for local and county governments, and provides a needed service for the agricultural community in the region. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State and, therefore, sufficient reason exists to accommodate growth and limited groundwater degradation, provided the terms of the Basin Plan are met.

61. This Order is consistent with Antidegradation Policy because it: authorizes discharges that will result in only limited degradation, and not result in water quality less than WQOs, or otherwise unreasonably affect present and anticipated beneficial uses; requires the Discharger to implement BPTC of the discharged wastes to minimize any resulting degradation; and authorizes limited degradation resulting in maximum benefit to the people of the State.

Other Regulatory Considerations

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

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

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

63. This Order prescribes WDRs for an existing facility and operation. Accordingly, the adoption of this Order is exempt from the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., pursuant to section 15301 of the CEQA Guidelines (Cal. Code Regs., tit. 14, § 1500 et seq.).

64. The wastewater discharges authorized under this Order, and the associated operation of treatment ponds (as described herein), are exempt from the prescriptive requirements set forth in California Code of Regulations, title 27, section 20000 et seq. (See Cal. Code Regs., tit. 27, § 20090, subd. (b).).

65. The Facility will not be required to obtain coverage under the Statewide General Permit for Storm Water Discharges Associated with Industrial Activities, State Water Board Order 2014-0057-DWQ, NPDES Permit No. CAS000001 (Industrial General Permit).

66. Water Code section 13267, subdivision (b)(1) provides as follows:

> In conducting an investigation … the regional board may require that any person who has discharged, discharges, or … proposes to discharge … 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.

67. Technical reports required under this Order (and per the separately-issued Monitoring and Reporting Program Order R5-2018-0066) are necessary to ensure compliance with the WDRs prescribed herein. Additionally, the burden of producing such reports, as estimated by Central Valley Water Board staff, is also reasonably related to the need for such reports.

68. Absent promulgation of stricter standards pursuant to Water Code section 13801, Department of Water Resources' standards for the construction and destruction of groundwater wells, per Bulletins 74-90 (June 1991) and 94-81 (Dec. 1981), shall apply to all wells installed or monitored in connection to this Order.

69. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state 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 necessarily subject to Water Code section 106.3 because it does not revise, adopt or establish a policy, regulation or grant criterion (see § 106.3, subd. (b)), it nevertheless promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.

70. The ability to discharge waste to the waters of the State of California is not a right but a privilege. (see Wat. Code, § 13263, subd. (g).) Accordingly, the adoption of this Order shall not be construed as creating a vested right to continue in any discharges otherwise authorized herein.

CV-SALTS Reopener

71. 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. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. 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 could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would 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. This Order may be amended or modified to incorporate any newly-applicable requirements.

72. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

Public Notice

73. 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.

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

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

IT IS HEREBY ORDERED that Order 97-243 is rescinded; and that, pursuant to Water Code sections 13263 and 13267, Treehouse California Almonds, LLC (Discharger), their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations promulgated thereunder, 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 23, section 2510 et seq., is prohibited.

3. Bypass of untreated or partially treated waste is prohibited, except as allowed by Section E.2 of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements dated 1 March 1991 (SPRRS or Standard Provisions).

4. Discharge of waste at a location or in a manner different from that described in the Findings herein, is prohibited.

5. Application of solids to the land application areas is prohibited.

6. Discharge of domestic wastewater to the treatment pond, evaporation/percolation ponds, land application areas, or any surface waters is prohibited.

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

B. Flow Limitations

1. The discharge to the aerated treatment pond shall not exceed a monthly average daily flow limit of 0.04 mgd, or a daily maximum flow limit of 0.09 mgd until Provisions H.12 and H.13 are satisfied. [**Monitored prior to the discharge to the ponds at INF-001**]

2. Upon completion of Provisions H.12 and H.13, the discharge to the aerated treatment pond shall not exceed a monthly average daily flow limit of 0.06 mgd, or an annual flow limit of 22 million gallons. **[Monitored prior to the discharge to the ponds at INF-001]**

C. Effluent Limitations

1. The 12-month rolling average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 umhos/cm or an EC of 1,000 umhos/cm, whichever is more stringent, subject to the compliance schedule provided in Provision H.15. **[Monitored prior to the discharge to the ponds at INF-001]**

2. The discharge shall not exceed a chloride of 175 mg/L or a boron of 1.0 mg/L, calculated as an annual average, subject to the compliance schedule provided in Provision H.15. **[Monitored prior to the discharge to the ponds at INF-001]**

D. Discharge Specifications

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

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

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

4. The Discharger shall operate all treatment 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, as a result of the Plant's operation and discharge, shall not be perceivable beyond the limits of the property where the waste is generated, treated, stored, and/or discharged at an intensity that creates or threatens to create nuisance conditions.

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

8. The Discharger shall operate and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow).

9. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration to ensure compliance with this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

10. The pH of the discharge to the ponds shall not be less than 5.0 or greater than 9.0 standard units. **[Monitored prior to the discharge to the ponds at INF-001]**

11. Irrigation pipelines, sprinklers, and/or drip irrigation lines used to convey wastewater to the land application area shall be flushed with fresh water, as needed, to ensure compliance with Discharge Specification D.6.

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

13. 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.

14. All wastewater treatment, disposal, and application areas shall be inspected as frequently as necessary to ensure compliance with the requirements of this Order.

E. Land Application Area Specifications

1. In accordance with Provisions H.12 and H.13, the Discharger shall grow crops within the land application area. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake of water and nutrients.

2. The cycle average BOD loading rate to the land application area shall not exceed 100 lbs/acre/day over the course of any discharge cycle (i.e., the time between successive applications).

3. Wastewater shall be distributed uniformly on adequate acreage within the land application area to preclude the creation of nuisance conditions or unreasonable degradation of groundwater.

4. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates.

5. Application of waste constituents, including nitrogen, to the land application areas shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading to the land application areas,

including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand.

6. The resulting effect of the discharge on soil pH shall not exceed the buffering capacity of the soil.

7. Land application of wastewater shall be managed to minimize erosion.

8. The Discharger shall not discharge process wastewater to the land application areas when soils are saturated.

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

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

11. The land application areas shall be managed to prevent breeding of mosquitos. More specifically:

    a. All applied wastewater and irrigation water must infiltrate completely within 48-hours after irrigation ceases;

    b. Ditches not serving as wildlife habitat shall be maintained free of emergent, marginal, and floating vegetation; and

    c. Low-pressure and unpressurized pipeline and ditches accessible to mosquitos shall not be used to store wastewater and irrigation water.

F. Solids Disposal Specifications

Solids as used in this document includes: culls, skins, almond pieces, and any residual solids removed from the wastewater including the ponds and screening unit.

1. Solids shall be removed from processing equipment, drains, sumps, and ponds as needed to ensure optimal operation and compliance with this Order.

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

3. Solids generated at the Plant shall be hauled off-site for use as cattle feed or disposed of at an appropriately permitted facility.

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

G. Groundwater Limitations

Release of waste constituents associated with the discharge shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:

a. Nitrate as nitrogen of 10 mg/L, and

b. For constituents identified in Title 22 of the California Code of Regulations, the MCLs specified therein.

H. Provisions

1. The Discharger shall comply with the separately-issued Monitoring and Reporting Program Order R5-2018-0066 (incorporated herein), and any Executive Officer revisions thereto. Self-monitoring reports shall be submitted no later than the applicable submittal date specified in the MRP.

2. Except as otherwise provided herein, the Discharger shall comply with the attached SPRRs (incorporated herein)

3. 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.

4. A copy of this Order (including Information Sheet, Attachments and SPRRs) and the MRP Order, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with their contents.

5. 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 only when the operation is necessary to achieve compliance with the conditions of this Order.

6. In the event of any change in control or ownership of the Plant, 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.

7. 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.

8. 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.

9. 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.

10. In accordance with 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 work plans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

11. **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. **By 2 August 2019**, the Discharger shall submit a Nutrient and Wastewater Management Plan for Executive Officer approval. At a minimum, the Plan must include: (a) procedures for monitoring Plant operations and discharge; (b) measures to ensure even application of wastewater; (c) an action plan to deal with objectionable odors and/or nuisance conditions; and (d) a water balance signed by a registered engineer for the ponds and new land application area for the proposed flow limit of 0.06 mgd. The Plan shall also include supporting data including crop type, calculations for monthly and annual water and nutrient balances, and management practices that will ensure wastewater, irrigation water, and fertilizers are applied at agronomic rates to the land application area.

13. **By 3 February 2020**, the Discharger shall complete needed infrastructure improvements and begin discharging to the new land application area for irrigation of crops in accordance with the specifications in this Order and the approved Nutrient and Wastewater Management Plan.

14. The Discharger shall eliminate the discharge to unlined ponds or install and maintain a groundwater monitoring well network to monitor changes in groundwater quality associated with its discharge.

    The Discharger shall comply with the following time schedule in implementing the work required by this Provision:

Task	Task Description	Due Date
a.	Submit a Work Plan and time schedule for Executive Officer approval to line the wastewater ponds. The Work Plan shall be prepared by a registered engineer and include details on the proposed liner, design criteria, and a construction quality assurance plan describing the testing and observations that will be conducted to ensure proper installation in conformance with the design criteria. or If Treehouse elects not to line its wastewater ponds, it shall submit a Work Plan for Executive Officer approval to install a groundwater monitoring well network. At a minimum, the Discharger shall install one monitoring well up-gradient of the unlined ponds to establish background groundwater quality and two down-gradient monitoring wells. The Work Plan shall satisfy the information needs specified in the Monitoring Well Installation Work Plan Section (Section 1) of Attachment C, *Standard Monitoring Well Provisions for Waste Discharge Requirements*, and shall comply with appropriate standards as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 74-81* (December 1981), and any more stringent standards adopted by local agencies pursuant to Water Code section 13801.	**2 May 2019**
b.	In accordance with the approved Work Plan submitted as required by Task 14.a., complete installation of the pond liner(s) or install the proposed groundwater monitoring well network and commence groundwater monitoring as specified in Monitoring and Reporting Program R5-2018-0066.	**In accordance with the approved time schedule, but no later than 3 August 2020**

c.	Submit a post-construction report detailing installation of the approved pond liners including as-built drawings, documentation of the results of the quality assurance testing and observation, and an operations and maintenance plan. or Submit a technical report detailing installation of the monitoring well network and results of the initial sampling event. The technical report shall meet the requirements of the Monitoring Well Installation Report Section (Section 2) of Attachment C.	**90 days following completion of Task 14.b.**

This provision will be considered complete following written acceptance from the Executive Officer.

15. **Salinity Control:** The Discharger shall evaluate and implement salinity control measures and come into compliance with Effluent Limitations C.1 and C.2 in accordance with the following time schedule:

Task	Task Description	Due Date
a.	Submit a Salinity Control and Minimization Plan, with salinity reduction goals and an implementation schedule. The control plan shall identify existing salinity control measures, and propose additional measures to further reduce the salinity of the discharge, specifically sodium, chloride, and boron, to the maximum extent feasible and ensure compliance with Effluent Limitations C.1 and C.2. The control plan shall include an estimate of the load reductions to be obtained and provide a description of the tasks, cost, and time required to investigate and implement the various elements in the Salinity Control and Minimization Plan. The work plan and implementation schedule shall be subject to the approval of the Executive Officer.	**2 August 2019**
b.	Begin implementation of the approved work plan and provide updates as part of the quarterly Self-Monitoring Reports.	**In accordance with the approved task schedule but, no later than 3 February 2020**
c.	Submit a technical report demonstrating complete implementation of the Salinity Control and Minimization Plan and compliance with Effluent Limitations C.1 and C.2. Upon receipt of written concurrence by the Executive Officer, this task shall be considered complete.	**In accordance with the approved Task 15.a schedule, but no later than 2 August 2021**

16. If the Central Valley Water Board determines that the discharge has a reasonable potential to cause or contribute to an exceedance of a water quality objective, or to create a condition of nuisance or pollution, this Order may be reopened for consideration of additional requirements.

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

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

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet (at the link below), or will be provided upon request.

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

I, PATRICK PULUPA, Executive Officer, 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 2 August 2018.

ORIGINAL SIGNED BY

PATRICK PULUPA, Executive Officer

Order Attachments:

- Attachment A—Site Location Map
- Attachment B—Flow Schematic
- Attachment C—Standard Monitoring Well Provisions for Waste Discharge Requirements
- Monitoring and Reporting Program (MRP) Order No. R5-2018-0066
- Information Sheet
- Standard Provisions and Reporting Requirements dated 1 March 1991

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2018-0066

FOR

TREEHOUSE CALIFORNIA ALMONDS, LLC
EARLIMART ALMOND PLANT
TULARE COUNTY

This Monitoring and Reporting Program (MRP) Order is issued pursuant to Water Code section 13267, and establishes monitoring and reporting requirements for Treehouse California Almonds, LLC (Treehouse or Discharger) regarding the operation of the Earlimart Almond Plant (Plant or Facility) described in Waste Discharge Requirements (WDRs) Order R5-2018-0066. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

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

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

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

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

A glossary of terms used within this MRP is included on page 12.

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

Monitoring Location Name	Monitoring Location Description
INF-001	Location where a representative sample of the discharge can be taken prior to discharge to the aerated treatment pond (as shown in Attachment B).
EFF-001	Location where a representative sample of the discharge can be obtained prior to discharge to the land application area or evaporation/percolation ponds (as shown in Attachment B).
SPL-001	Location where a representative sample of the water supply entering the Plant can be obtained.
IW-001	Location where a representative sample of the supplemental irrigation water can be obtained.
PND-001 through PND-005	Pond Monitoring.
LAA-001	Land Application Area Monitoring.
GW-01 through GW-0X	Groundwater Monitoring (if required).

INFLUENT MONITORING

The Discharger shall monitor the influent to the treatment pond at **INF-001** for the constituents listed below. Samples shall be representative of the volume and nature of the discharge. Time of collection of the samples shall be recorded. Effluent monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	umhos/cm	Grab
Monthly	Biochemical Oxygen Demand (BOD)	mg/L	Composite
Monthly	Sodium	mg/L	Composite
Monthly	Chloride	mg/L	Composite
Monthly	Boron	mg/L	Composite
Quarterly[1]	Total Dissolved Solids (TDS)	mg/L	Composite
Quarterly[1]	Fixed Dissolved Solids (FDS)	mg/L	Composite
Quarterly[1]	Nitrate as nitrogen	mg/L	Composite

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly[1]	Nitrite as nitrogen	mg/L	Composite
Quarterly[1]	Ammonia as nitrogen	mg/L	Composite
Quarterly[1]	Total Kjeldahl Nitrogen	mg/L	Composite
Quarterly[1]	Total Nitrogen	mg/L	Computed

1. Samples to be collected quarterly in January, April, July, and October.

EFFLUENT MONITORING

The Discharger shall monitor effluent from the treatment pond at **EFF-001** for the constituents listed below. Samples shall be representative of the volume and nature of the discharge. Time of collection of the samples shall be recorded. Effluent monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	umhos/cm	Grab
Monthly	Biochemical Oxygen Demand (BOD)	mg/L	Grab
Monthly	Total Dissolved Solids (TDS)	mg/L	Grab
Monthly	Fixed Dissolved Solids (FDS)	mg/L	Grab
Monthly	Nitrate as nitrogen	mg/L	Grab
Monthly	Nitrite as nitrogen	mg/L	Grab
Monthly	Ammonia as nitrogen	mg/L	Grab
Monthly	Total Kjeldahl Nitrogen	mg/L	Grab
Monthly	Total Nitrogen	mg/L	Computed
Annually[1]	General Minerals[2]	various	Grab

1. Samples to be collected annually in October.

2. General mineral analysis shall include, alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate ($CaCO_3$), chloride, hardness, iron, magnesium, manganese, nitrate as nitrogen, potassium, sodium, sulfate, and TDS. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

SOURCE WATER MONITORING

The Discharger shall collect samples of the source water for the Plant at SPL-001 and irrigation water IW-001, and analyze them for the constituents specified below. If the source water is from more than one source, the results shall be presented as a flow-weighted average of all sources.

Frequency	Constituent/Parameter	Units	Sample Type
Supply Water (SPL-001)			
Monthly	EC	umhos/cm	Grab
Annually[1]	General Minerals[2]	mg/L	Grab
Irrigation Water (IW-001)			
Monthly	Volume	gallons	Meter
Annually[1]	EC	umhos/cm	Grab
Annually[1]	Nitrate as nitrogen	mg/L	Grab
Annually[1]	TDS and FDS	mg/L	Grab

1. Sample to be collected annually in October.
2. General mineral analysis shall include, alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate ($CaCO_3$), chloride, hardness, iron, magnesium, manganese, nitrate as nitrogen, potassium, sodium, sulfate, and TDS. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

POND MONITORING

The Discharger shall monitor the ponds PND-001 and PND-005, while wastewater is in the ponds, monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Weekly	Freeboard	0.1 feet	Observation
Weekly	Odors	---	Observation
Weekly	Berm Condition	---	Observation
Monthly	Liner Condition[3]	---	Observation
Monthly[1]	Dissolved Oxygen (DO) [2]	mg/L	Grab

1. DO shall be monitored between 8:00 am and 10:00 am and shall be taken opposite the pond inlet at a depth of approximately one foot below the pond surface. If there is less than one foot of water in the pond no sample shall be collected and the reason shall be noted in the applicable monitoring report.
2. If the DO in the upper one foot of any pond used to contain wastewater is below 1.0 mg/L for more than three consecutive sampling events, the Discharger shall report the findings to the Central Valley Water Board in writing within 10 days and include a specific plan to resolve the issue.
3. If a liner is installed.

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

LAND APPLICATION AREA MONITORING

The Discharger shall inspect the condition of the land application area at least once per week and write visual observations in a bound logbook. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in the logs and included as part of the quarterly monitoring report.

In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the land application area. The data shall be collected and presented in tabular format and shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Daily[1]	Application Area	acres	n/a
Daily[1]	Wastewater flow	gallons	Metered
Daily[1]	Wastewater loading	inches/day	Calculated
Daily[1]	Precipitation	inches	Rain gage[2]
Monthly[1]	Irrigation water	gallons	Estimated
Monthly[1]	Total hydraulic loading[3]	inches/acre-month	Calculated
BOD Loading[4]			
Daily	Day of application	lbs/acre-day	Calculated
Average	Cycle average[5]	lbs/acre-day	Calculated
Nitrogen Loading[4]			
Monthly[1]	From wastewater	lbs/acre-month	Calculated
Monthly[1]	From fertilizers and irrigation water	lbs/acre-month	Calculated
Salt Loading[4]			
Monthly[1]	From wastewater	lbs/acre-month	Calculated

1. When discharging and while wastewater and irrigation water is applied to the land application area.
2. National Weather Service or CIMIS data from the nearest weather station is acceptable.
3. Combined loading from wastewater, irrigation water, and precipitation.
4. Loading rates shall be calculated using the applied volume of wastewater, applied acreage, and average effluent concentrations for BOD, total nitrogen, and FDS, as specified in the Reporting Section (pages 7-10).
5. The BOD loading rate shall be divided by the number of days between applications for each individual irrigation section to determine the cycle average loading rate (see pages 7 and 8).

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 well casing volumes, until pH, EC, and turbidity have stabilized.

Upon installation of its monitoring well network (if required), the Discharger shall monitor the wells in its monitoring well network GW-001 through GW-00X and any subsequent additional monitoring wells as follows:

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly[3]	Depth-to-Water	Feet[1]	Measured
Quarterly[3]	Groundwater Elevation	Feet[1,2]	Calculated
Quarterly[3]	pH	pH units	Grab
Quarterly[3]	EC	umhos/cm	Grab
Quarterly[3]	General Minerals[4]	various	Grab
Quarterly[3]	Total Organic Carbon	mg/L	Grab

1. To the nearest hundredth foot.
2. Groundwater elev. shall be calculated based on depth-to-water measurements from a surveyed measuring point.
3. Samples to be collected quarterly in January, April, July, and October.
4. General mineral analysis shall include, alkalinity (as $CaCO_3$), bicarbonate (as $CaCO_3$), boron, calcium, carbonate ($CaCO_3$), chloride, hardness, iron, magnesium, manganese, nitrate as nitrogen, potassium, sodium, sulfate, and TDS. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

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

REPORTING

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

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

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

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any email used to transmit documents to this office: Program: Non-15, WDID: 5D541089001, Facility Name: Treehouse California Almonds Earlimart Almond Plant, Order: R5-2018-0066

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

waste discharge requirements. In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated. Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3. All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. For a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

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

A. All Quarterly Monitoring Reports shall include the following:

Influent and Effluent Monitoring Reporting:

1. Tabulated results of influent and effluent monitoring specified on pages 2 and 3.
2. For each month of the quarter, calculation of the monthly flow and the monthly average daily flow.

Source Water Reporting

1. The results of monitoring of the Plant's source water and irrigation water as specified on pages 3 and 4. If multiple sources are used to provide source water for the Plant the Discharger, shall calculate the flow-weighted average concentrations for the specified constituents. Results must include supporting calculations, if required.

Pond Monitoring Reporting

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

Land Application Area Reporting:

1. The results of monitoring and loading calculations specified on pages 4 and 5.
2. Calculation of the hydraulic load for wastewater and fresh irrigation water to the land application area in gallons and/or acre-inches.
3. A summary of the notations made in the log book during each quarter. The entire contents of the log do not need to be submitted.
4. Calculate daily and cycle average BOD_5 loading rates for the Land Application Area;

a. The mass of BOD_5 applied to the land application area on a daily basis shall be calculated using the following formula:

$$M = \frac{8.345\ (CV)}{A}$$

Where: M = Mass of BOD applied to a LAA in lbs/ac/day
C = Concentration of BOD_5 in mg/L based on most recent monitoring result
V = Volume of wastewater applied to LAA in millions of gallons per day
A = Area of LAA irrigated in acres
8.345 = Unit conversion factor

b. The mass of BOD_5 applied to the land application area on a cycle average basis shall be calculated using the following formula:

$$M = \frac{8.345\ (CV)}{AT}$$

Where: M = Mass of BOD applied to a LAA in lbs/ac/day
C = Conc. of BOD_5 in mg/L based on most recent monitoring result collected
V = Volume of wastewater applied to LAA in millions of gallons per day
A = Area of LAA irrigated in acres
T = Irr. cycle length in days (From 1st day water applied to last day of drying)
8.345 = Unit conversion factor

Groundwater Reporting (If required):

1. The result of groundwater monitoring specified on page 5. If there is insufficient water in the well(s) for sampling, the monitoring well(s) shall be reported as dry for that quarter.

2. For each monitoring well, a table showing groundwater depth, elevation, and constituent concentrations for the five previous years, up through the present quarter.

3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow. The map shall also include locations of all monitoring wells and wastewater storage and application areas.

B. Annual Reports, shall be submitted with the Fourth Quarter Monitoring report on **1 February of each year**, and shall include the following:

Facility Information:

1. The names and telephone numbers of persons to contact regarding the discharge for emergency and routine situations.
2. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (SPRR section C.4).

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

4. Calculation of the total annual flow, and average monthly flows for each month of the ear, compared to the total annual and monthly average flows limitations in the WDRs.

Solids Reporting

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

Land Application Area Reporting:

1. The type of crop(s) grown, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes including potassium (as estimated by technical references or, preferably, determined by representative plant tissue analysis).

2. The monthly and annual discharge volumes of wastewater and irrigation water applied to the land application area during the reporting year expressed as million gallons or acre-inches.

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

    a. Monthly average ET_o (observed evapotranspiration) – Information sources include California Irrigation Management Information System (CIMIS) http://www.cimis.water.ca.gov/
    b. Monthly crop uptake
        i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.

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

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

d. Monthly average and annual average discharge flow rate.

e. Monthly estimates of the amount of wastewater percolating below the root zone (i.e., amount of wastewater applied in excess of crop requirements)

4. The total pounds of nitrogen applied to the land application area on an annual basis in lbs/acre-year, shall be calculated using the following formula:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

Where: M = Mass of nitrogen applied to a LAA in lbs/ac/year
C_i = Average concentration of total nitrogen for the month in mg/L
V_i = Volume of wastewater applied to LAA for the month in millions of gallons
A = Area of LAA irrigated in acres
i = Number of the month (e.g., January = 1, February = 2, etc)
Mx = Nitrogen mass from other sources (e.g., fertilizer, irrigation water, etc)
8.345 = Unit conversion factor

5. The flow-weighted annual average fixed dissolved solids (FDS) concentration applied to the land application area on an annual basis shall be calculated using the following formula:

$$C_a = \frac{\sum_{1}^{12} [(C_{Pi} \times V_{Pi}) + (C_{Si} \times V_{Si})]}{\sum_{1}^{12} (V_{Pi} + V_{Si})}$$

Where: C_a = Flow-weighted average annual FDS concentration in mg/L
i = The number of the month (e.g., January = 1, February = 2, etc.)
C_{Pi} = Monthly average process wastewater FDS concentration for calendar month *i* in mg/L)
C_{Si} = Monthly average supplemental irrigation water FDS concentration for calendar month *i* in mg/L (considering each supplemental source separately)

V_{Pi} = Volume of process wastewater applied to LAA during calendar month *i* in million gallons

V_{Si} = Volume of supplemental irrigation water applied to LAA during calendar month *i* in million gallons (considering each supplemental source separately)

I PATRICK PULUPA, Executive Officer, do hereby certify the forgoing is a full, true and correct copy of a Monitoring and Reporting Program issued by the California Regional Water Quality Control Board, Central Valley Region, on 2 August 2018.

ORIGINAL SIGNED BY

PATRICK PULUPA, Executive Officer

GLOSSARY

BOD_5	Five-day biochemical oxygen demand
$CaCO_3$	Calcium carbonate
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Unless otherwise specified or approved, samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in March and September.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	Milliliters [of solids] per liter
ug/L	Micrograms per liter
umhos/cm	Micromhos per centimeter
mgd	Million gallons per day

WASTE DISCHARGE REQUIREMENTS ORDER R5-2018-0066
TREEHOUSE CALIFORNIA ALMONDS, LLC
EARLIMART ALMOND PLANT
TULARE COUNTY

INFORMATION SHEET

BACKGROUND

Treehouse California Almonds, LLC, (Treehouse or Discharger) owns and operates the Earlimart Almond Plant (Plant), at 6914 Road 160 near the community of Earlimart in Tulare County. The Plant is currently regulated by Waste Discharge Requirements (WDRs) Order 97-243, issued to Treehouse Farms, Inc. on 5 December 1997. Order 97-243 authorizes a maximum daily discharge of 0.025 million gallons per day (mgd) to evaporation/percolation ponds.

On 3 March 2000, the Discharger submitted a Report of Waste Discharge (RWD) to increase flows to be consistent with actual flows from operations at the Plant following installation of a flow meter. In August 2017 the Discharger submitted plans to upgrade its equipment and expand its disposal capacity, including reuse of wastewater for irrigation of crops on approximately 38 acres of farmland adjacent to the Plant recently purchased by the Discharger.

Wastewater Generation and Disposal

The Plant washes, blanches, and dry roasts almonds year-round for further use by other food industries. According to the Discharger no brines or oils are used in the roaster. Peak season is generally from September through January. The majority of wastewater generated at the Plant includes blanching water, and equipment wash water. Other waste streams include boiler blow down, scalder drain water, water softener regenerant, and storm water.

Wastewater from the Plant drains to one of two sumps where it is screened to remove solids and pumped into a series of five unlined ponds. The first pond is equipped with aerators and acts as a treatment pond. From the treatment pond the wastewater can be discharged to the remaining four evaporation/percolation ponds or to the new land application area. The total storage capacity of the existing ponds is approximately three million gallons assuming two feet of freeboard.

The Discharger plans to install new equipment including larger blanching tanks and a new dry roaster to meet future needs at the Plant as well as provide additional storage area. In addition, the Discharger plans to improve its wastewater treatment processes including lining its ponds and reusing wastewater for irrigation. In 2017, as part of its plans to upgrade the Plant, the Discharger installed a new parabolic screening unit with a concrete secondary containment structure to prevent overflow and bypass of the screening unit. In addition, the Discharger purchased approximately 42 acres of farmland immediately adjacent to the Plant. The Discharger plans to install an irrigation system and begin reusing wastewater to irrigate crops on a portion of this land and eliminate the need for the evaporation/percolation ponds.

On average the discharge to the treatment pond has a median pH of 6.9 s.u. and an average EC of about 1,600 umhos/cm. The Discharger does not routinely monitor for additional constituents. However, samples of the discharge to the ponds were collected in 2011 and in 2016 to further characterize the discharge. The results of the additional sampling show elevated concentrations of sodium and chloride at concentrations of 200 mg/L and 350 mg/L, respectively.

Source Water
Source water for the Plant is provided by an on-site water supply well, constructed to about 380 feet below surface grade (bsg). Based on a sample collected during an inspection of the site on 24 March 2016, the water is of good quality with an EC of 650 umhos/cm, total dissolved solids of 430 mg/L, sodium of 59 mg/L, chloride of 46 mg/L, nitrate as nitrogen of 8.7 mg/L, and boron of <0.05 mg/L.

Solids
Solids generated at the Plant consist of culls, skins, and almond pieces. All solids removed from the wastewater and sorting areas are collected in transport bins and hauled off-site for use as cattle feed.

GROUNDWATER CONDITIONS

According to the Department of Water Resources Groundwater Elevation Maps for 2017 and 2012, first encountered groundwater in the vicinity of the site occurred at about 230 feet below ground surface (bgs) in Fall 2017, and at about 180 feet bgs in Fall 2012. Regional groundwater flow is to the east-northeast. There are no monitoring wells on-site and no site specific groundwater gradient information is available.

Data pertinent to characterizing first-encountered groundwater is limited due to the wide variability in the screened interval of the wells, sampling dates, and constituents monitored. A review of water quality information including the State Water Board's Groundwater Ambient Monitoring Program (GAMA) databases identified several wells within about three miles of the site. Samples from these wells collected from 1958 through 1980 shows that the area is underlain by good quality groundwater with an EC between 200 and 334 umhos/cm, total dissolved solids between 166 and 233 mg/L, and nitrate as nitrogen between <1 and 3.8 mg/L.

PROPOSED ORDER TERMS AND CONDITIONS

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions
The proposed Order prohibits discharge to surface waters and drainage courses.

The proposed Order sets the following flow and effluent limitations and specifications for the Plant:

1. The discharge to the aerated treatment pond shall not exceed a monthly average daily flow limit of 0.04 mgd, or a maximum daily flow limit of 0.09 mgd. Upon completion of the improvements to the land application area and submittal of an approved Nutrient and Wastewater Management Plan and water balance, the discharge shall not exceed a monthly average daily flow limit of 0.06 mgd, or an annual flow limit of 22 million gallons.

2. The discharge to the ponds shall not have a pH of less than 5.0 or greater than 9.0 standard units.

3. The 12-month rolling average EC of the discharge to the ponds shall not exceed the 12-month flow-weighted average EC of the source water plus 500 umhos/cm or an EC of 1,000

umhos/cm, whichever is more stringent. In addition, the discharge to the ponds shall not exceed a chloride of 175 mg/L, or a boron of 1.0 mg/L, calculated as an annual average.

4. The BOD loading to the land application area shall not exceed 100 lbs/acre/day, calculated as a cycle average.

Consistent compliance with the effluent limitations for EC, chloride, and boron are not immediately practicable. Therefore, the proposed Order includes a compliance schedule requiring the Discharger to prepare and implement a Salinity Control and Minimization Plan and come into compliance with these effluent limits within three years. In addition, the proposed Order requires the Discharger to line its wastewater ponds or install groundwater monitoring wells to monitor groundwater quality beneath the ponds.

Monitoring Requirements

Water Code section 13267 authorizes the Central Valley Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. Water Code section 13268 authorizes the assessment of administrative civil liability for failure to submit required monitoring and technical reports.

The Order includes influent, effluent, source/irrigation water, and pond monitoring requirements, and requires loading calculations for wastewater, irrigation water, organics, nutrients, and salts to the land application area. This monitoring is necessary to characterize the discharge, and evaluate compliance with the effluent limitations and discharge specifications prescribed in the Order.

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

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

CV-SALTS Regulatory Considerations

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. These programs once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers that do not meet stringent salinity numeric values (700 umhos/cm EC as a monthly average to protect the AGR beneficial use and 900 umhos/cm as an annual average to protect the MUN beneficial use) to performance-based salinity requirements , and would require these dischargers to participate in a Basin-wide Prioritization and Optimization Study to develop a long-term strategy for addressing salinity accumulation in the Central Valley.

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. The Central Valley Water Board anticipates that the CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that

regulate discharges from Treehouse California Almonds, LLC, Earlimart Almond Plant. More information regarding this 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 proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is provided or if applicable laws and regulations change.

Drawing Reference:
Google Earth Map Data © 2018 Google

SITE LOCATION MAP

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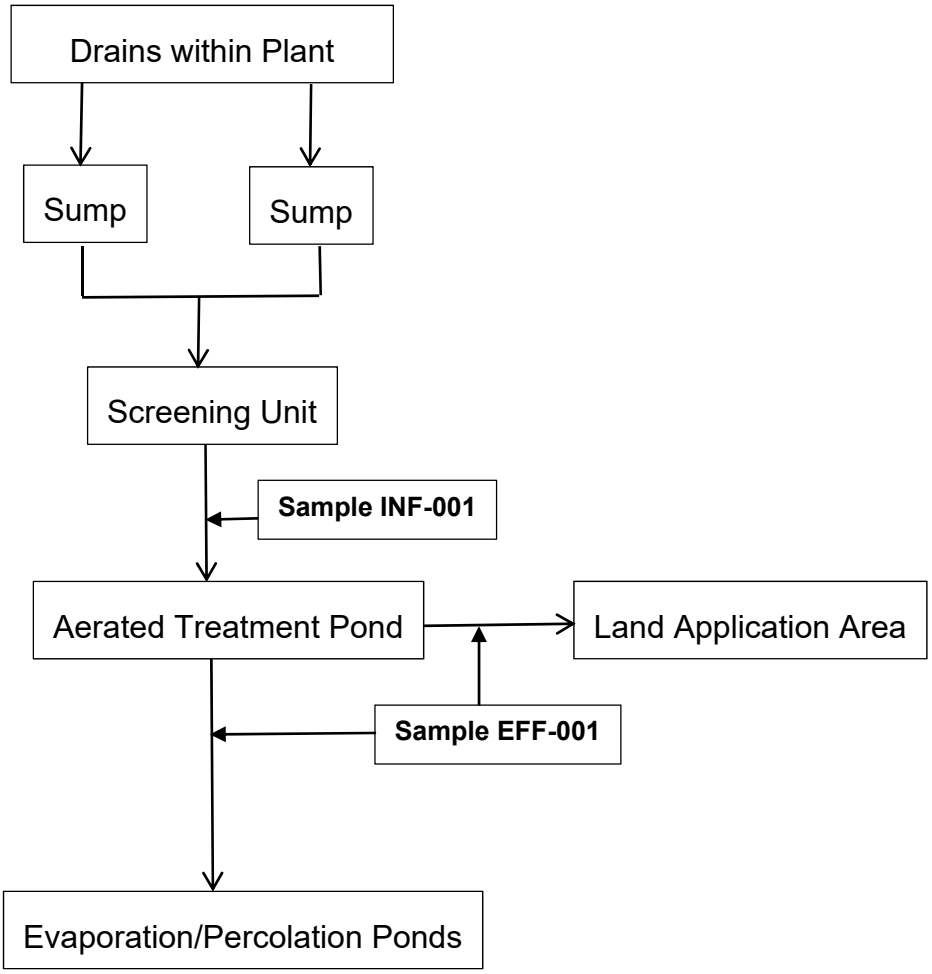
WASTE DISCHARGE REQUIREMENTS ORDER R5-2018-0066
FOR
TREEHOUSE CALIFORNIA ALMONDS, LLC
EARLIMART ALMOND PLANT
TULARE COUNTY

Scale 1" ≈ 1,000 feet

ATTACHMENT A



FLOW SCHEMATIC

WASTE DISCHARGE REQUIREMENTS ORDER R5-2018-0066
FOR
TREEHOUSE CALIFORNIA ALMONDS, LLC
EARLIMART ALMOND PLANT
TULARE COUNTY

ATTACHMENT B

ORDER R5-2018-0066
ATTACHMENT C
STANDARD MONITORING WELL PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approves the work plan. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section 2, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or civil engineer.

SECTION 1 - Monitoring Well Installation Work Plan and Groundwater Sampling and Analysis Plan

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information:
   Purpose of the well installation project
   Brief description of local geologic and hydrogeologic conditions
   Proposed monitoring well locations and rationale for well locations
   Topographic map showing facility location, roads, and surface water bodies
   Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:
   On-site supervision of drilling and well installation activities
   Description of drilling equipment and techniques
   Equipment decontamination procedures
   Cuttings disposal methods
   Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods

C. Monitoring Well Design (in graphic form with rationale provided in narrative form):
   Diagram of proposed well construction details
   - Borehole diameter
   - Casing and screen material, diameter, and centralizer spacing (if needed)
   - Type of well caps (bottom cap either screw on or secured with stainless steel screws)
   - Anticipated depth of well, length of well casing, and length and position of perforated interval
   - Thickness, position and composition of surface seal, sanitary seal, and sand pack
   - Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):
Method of development to be used (i.e., surge, bail, pump, etc.)
Parameters to be monitored during development and record keeping technique
Method of determining when development is complete
Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):
Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
Datum for survey measurements
List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)
The Groundwater SAP, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedures for:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - General sampling techniques
  - Record keeping during sampling (include copies of record keeping logs to be used)
  - QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information:
   Purpose of the well installation project
   Number of monitoring wells installed and identifying label(s) for each
   Brief description of geologic and hydrogeologic conditions encountered during well installation
   Topographic map showing facility location, roads, surface water bodies
   Large-scaled site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):
   On-site supervision of drilling and well installation activities
   Drilling contractor and driller's name
   Description of drilling equipment and techniques
   Equipment decontamination procedures
   Well boring log (provide for each well)
   - Well boring number and date drilled
   - Borehole diameter and total depth
   - Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs)
   - Depth to first encountered groundwater and stabilized groundwater depth
   - Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (provide for each well):
   Well construction diagram including:
   - Monitoring well number and date constructed
   - Casing and screen material, diameter, and centralizer spacing (if needed)
   - Length of well casing
   - Length and position of slotted casing and size of perforations
   - Thickness, position and composition of surface seal, sanitary seal, and sand pack
   - Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development (provide for each well):
- Date(s) and method of development
- How well development completion was determined
- Volume of water purged from well and method of development water disposal

F. Well Survey (provide for each well):
- Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot)
- Ground surface elevation (feet above mean sea level to within 0.01 foot)
- Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale)
- Present the well survey report data in a table

G. Water Sampling:

- Date(s) of sampling
- How well was purged
- How many well volumes purged
- Levels of temperature, EC, and pH at stabilization
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Water level elevation(s)
- Groundwater contour map

H. Soil Sampling (if applicable):
- Date(s) of sampling
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Present soil sampling data in a table

I. Well Completion Report(s) (as defined in California Water Code §13751). Blank forms are available from California Department of Water Resources' website **www.water.ca.gov**. Submit this section under separate cover.

J. Appendix - include, at a minimum, copies of the following:
- County-issued well construction permits
- Registered engineer or licensed surveyor's report and field notes
- Field notes from well development