CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2015-XXX

WASTE DISCHARGE REQUIREMENTS

FOR
VENTURA COASTAL, LLC
TIPTON CITRUS JUICE PLANT
TULARE COUNTY

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

1. Ventura Coastal, LLC, (hereafter "Discharger") owns and operates the Tipton Citrus Juice Plant (Plant) and the adjacent land application areas and is responsible for compliance with these Waste Discharge Requirements (WDRs).

2. The Plant is at 531 West Poplar Avenue near the community of Tipton in Tulare County, Section 6, Township 22 South, Range 25 East, MDB&M. The Plant occupies Assessor's Parcel Number (APN) 300-030-045, and the land application areas occupy parcels 300-030-001, 300-030-017, 300-030-028, and 300-030-029, as shown on Attachment A, which is attached hereto and made part of this Order by reference.

3. The Plant is currently regulated by Waste Discharge Requirements (WDRs) Order 99-040, which was issued to Sunkist Growers, Inc. (Sunkist) on 30 April 1999. A revised monitoring and reporting program (MRP) was issued to Sunkist in March of 2003. Order 99-040 authorizes a maximum daily discharge of 0.75 million gallons per day (mgd) and a monthly average discharge not to exceed 0.5 mgd. Wastewater is stored in two lined storage ponds and reused for irrigation of crops on approximately 248 acres of Discharger owned land.

4. In February 2012 Sunkist merged with Ventura Coastal, LLC. A change of ownership was adopted by the Central Valley Water Board at its meeting on 31 May 2013.

5. Order 99-040 is out of date and does not reflect the current policies of the Central Valley Water Board. Therefore, WDRs Order 99-040 will be rescinded and replaced with this Order.

Facility and Discharge

6. The Plant processes citrus fruits including oranges, lemons, and grapefruit to produce juices, concentrates, and oils. The fruit is delivered from the fields or nearby packing houses. The Plant processes approximately 250,000 to 350,000 tons of fruit each year. Operations change throughout the year depending on the type and quantity of the fruit being processed. During slower periods, when little or no fresh fruit is brought in, the Plant remains in operation refining juices and oils. Table 1 presents the mass of fruit processed at the Tipton Plant in recent years.

Table 1. Citrus Fruit Processed at the Plant by Year (in tons)

	2012	2013	2014[1]
Oranges	150,000	170,000	215,000
Grapefruit	11,000	23,000	0
Lemons	62,000	140,000	23,000

[1] The Discharger did not process fruit at the Tipton Plant from July to December 2014.

7. Supply water for the Plant is provided by an on-site well. Samples were collected from the Supply well during inspections of the Plant in May 2013 and January 2015. The supply water is of good quality low in salinity and nitrates. The results of the sampling are presented in Table 2 below.

Table 2. Plant Water Supply Quality

Parameters	Units	May 2013	January 2015
EC [1]	umhos/cm[3]	270	270
TDS [2]	mg/L[4]	170	170
Nitrate as Nitrogen	mg/L	3.6	2.3
Sodium	mg/L	42	42
Chloride	mg/L	17	15
Sulfate	mg/L	14	11
Boron	mg/L	< 0.1	0.1
Bicarbonate (as CO_3)	mg/L	120	96

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

8. Wastewater from the Plant consists of fruit rinse water, condensate, boiler blowdown, tank wash water, and equipment wash water.

9. There are two boilers on-site and two evaporative cooling towers. The boilers provide heat to the evaporators for juice concentration. The cooling towers are used to condense steam from the evaporators and provide cooling for product storage. Water lost to evaporation increases dissolved constituent concentrations, which increases scaling and reduces efficiency. To avoid these problems, the Discharger automatically drains and provides fresh water to maintain the electrical conductivity (EC) of the system at 3,000 umhos/cm.

10. All the fruit processing units feature clean-in-place (CIP) systems that use high-strength cleaning chemicals (acids, bases, and surfactants) to clean and disinfect surfaces that contact the fruit/product. The CIP systems contribute large amounts of sodium to the discharge in the form of sodium hydroxide. When the wastewater is dominated by caustic solutions from the CIP systems, the pH is very high. Otherwise, fruit juices induce a very low pH due to the high concentration of citric acid in the juice.

11. Chemicals in use at the Plant are approved for use at food processing facilities, and include; Ultra 1030, Caustic soda (liquid), Sodium Hydroxide, Phosphoric Acid, Hydrogen Peroxide, Active Chlor 125, Fruit Wash, Citric Acid, Pro Oxine, Super Foam Chlor 900, Grease-X, Multi-Quat, Perasan A, Relief, and Nitra Sheen.

12. In 2002, Sunkist installed an Aseptic Tank Farm at the Plant consisting of six one-million gallon storage tanks to store not-from-concentrate fruit juices. According to the Discharger, the tanks are flushed every four years with a sanitizing solution (Bac-flush Iodine). The pH of sanitizing solution is neutralized with sodium thiosulfate pentahydrate prior to being discharged to the wastewater collection system. Samples of the waste stream from sanitization of the Aseptic Tank Farm collected in 2002 reported a pH of 2.8, EC of 1,240 umhos/cm, TDS of 720 mg/L, sodium of 10 mg/L, and iodide of 56 mg/L.

13. Table 3 presents data on average wastewater quality for effluent samples collected from January 2012 through July 2014 prior to discharge to the land application areas.

Table 3. Plant Wastewater Quality

Parameters	Units	Average	Range	Count
pH	std.	7.1[1]	3.5 – 12.7	130
BOD_5 [2]	mg/L	2,800	19 – 14,000	130
EC	umhos/cm	1,800	257 – 8,570	130
Total Dissolved Solids (TDS)	mg/L	2,100	330 – 3,970	9
Fixed Dissolved Solids (FDS)	mg/L	1,100	410 – 1,940	9
Total Nitrogen	mg/L	34	5.4 - 122	24
Sodium	mg/L	430	60 – 1,100	5
Calcium	mg/L	23	9.7 – 36	5
Magnesium	mg/L	5.9	2 – 12	5
Potassium	mg/L	88	11 - 208	5
Chloride	mg/L	23	16 – 32	5
Sulfate	mg/L	20	16 – 34	5
Boron	mg/L	< 0.2	< 0.1 – 0.3	5
Alkalinity (as $CaCO_3$)	mg/L	450	< 1 – 1,200	5

[1] Median pH

[2] Five-day biochemical oxygen demand.

14. The pH of the discharge, prior to the storage ponds, fluctuates dramatically from as low as 3.5 to greater than 12.5. As discussed in Finding 10, the discharge is typically either acidic due to the citric acid in the fruit juice, or basic due to caustic CIP cleaning solutions (i.e., sodium hydroxide). Only 16 of the 130 samples collected from January 2012 through July 2014 were in the neutral range from 6.5 to 8.5. Of the 130 samples 65 had a pH below 6.5 and 49 had a pH above 8.5.

15. Prior to July 2014, the Discharger regularly discharged in excess of both the monthly average and daily maximum flow limits of 0.5 mgd and 0.75 mgd, respectively. From January 2012 through July 2014, the Plant discharged in excess of the monthly average flow limit of 0.5 mgd a total of 11 times over the 30 month period, and violated the maximum daily flow limit of 0.75 mgd 139 times, with daily flows as high as 2.3 mgd (more than three times the maximum daily limit). However, the Discharger recently replaced its receiving area with a dry conveyor system starting in July of 2014. Since the new dry conveyor system was installed, discharge flows have stayed within the current permitted limits, ranging from a monthly average flow of about 0.015 to 0.41 mgd with maximum daily flows as high as 0.51 mgd.

    This Order will carry over the existing monthly average and maximum daily flow limits of 0.5 mgd and 0.75 mgd, respectively.

16. The wastewater drains into a central collection sump and is pumped out through a hydrosieve to remove solids before being discharged to the wastewater storage ponds. A process flow diagram is provided as Attachment B, which is attached hereto and made a part of this Order by reference. The wastewater storage ponds are lined with a 60-mil high-density polyethylene (HDPE) liner, and are approximately 125 feet long by 125 feet wide and 9 to 12 feet deep with a combined storage capacity of about 2 million gallons.

17. The general retention time of the wastewater in the storage ponds is approximately 24 hours. From the ponds, the wastewater is directed into ditches and used to irrigate the land application areas.

18. Land owned by the Discharger is divided into four plots. Plot 1 includes the Plant and open space around the Plant. Plots 2 through 4 make up the land application areas. The Plots are divided into three fields ranging in size from approximately 81.6 acres (Plot 2), 94 acres (Plot 3), and 72.4 acres (Plot 4). Plots 2, 3, and 4 are further divided in half for a total of six fields ranging from 30 to 40 acres each.

19. Historically, wastewater was applied to the three plots as pre-irrigation water prior to planting. The rest of the time, wastewater was applied to only one or two of the plots on rotation, while the other plot(s) were actively farmed and irrigated with fresh water. No crops were reportedly grown within the plot(s) receiving wastewater. Based on the Discharger's self-monitoring reports, from 2013 through 2014 wastewater was discharged predominantly to Plot 4 (72.4 acres) with occasional applications to Plot 2. Conversely, the field log for January 2013 to July 2015 provided by Cox Farming, which began managing

the land application area in 2012, specifies that wastewater was applied to all plots and subplots on rotation. Future management plans and self-monitoring reports will reflect these shifts in cropping and wastewater application practices.

20. The wastewater is applied to the checks or furrows within the land application areas via flood irrigation. According to a report in 2008, the plots were divided into long checks approximately 110 feet wide by 2,600 feet long. Concentration of the Plant's wastewater and uneven application resulting from oversized checks and poorly sloped fields may have caused overloading of the soil and lead to groundwater degradation and/or pollution. However, in March 2012 the land application areas were leased to a third party, Cox Farming. Cox Farming has reportedly laser leveled the fields and shortened the irrigation checks to increased flood irrigation distribution and uniformity.

21. With an average BOD concentration of about 2,600 mg/L, average BOD loading at 0.5 mgd would be about 130 pounds per acre per day (lbs/acre/day) for Plot 2, 120 lbs/acre/day for Plot 3, and 150 lbs/acre/day for Plot 4, given an average irrigation cycle of about seven days. However, given the potentially uneven distribution discussed in Finding 20 and the discharge of flows in excess of the permitted limits the actual BOD loading to Plot 4 in 2013 and 2014 could have been significantly higher.

22. Utilizing the entire 248-acre land application area, the average BOD concentration of 2,600 mg/L, with a minimum seven to 10 day resting period between applications, the cycle average BOD loading rate at the maximum daily flow of 0.75 mgd would be about 70 lbs/acre/day.

23. With an average nitrogen concentration of 32 mg/L, nutrient loading to Plot 4 in 2013 and 2014, based on reported applications with annual flows of about 136 million gallons and 67 million gallons could have been as high as 532 lbs/acre/year and 243 lbs/acre/year, respectively. With no crops to take up excess nitrogen in the soil, these loading rates could cause groundwater degradation or pollution by nitrates.

24. This Order requires the Discharger to grow crops in the land application areas to aide in the removal of nutrients from soil before they can migrate to groundwater and conduct soil sampling to monitor the effectiveness of the crops at nutrient removal.

25. With proper management of the land application areas to spread the wastewater evenly over the entire acreage 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 0.5 mgd (monthly average).

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

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

Site-Specific Conditions

28. The Plant and land application areas are in the central part of the San Joaquin Valley. Topography in the area is generally flat with an approximate elevation of 270 feet above mean sea level.

29. Federal Emergency Management Agency Flood Insurance Rate Map 06107C1600E, updated 16 June 2009, shows that the Plant and land application areas are within Flood Zone X, areas outside of the 500-year flood plain with less than a 0.2 percent chance of annual flooding.

30. According to the Unites States Department of Agriculture, National Resource Conservation Survey maps, soils within the land application area are predominantly Colpien loam and Tagus loam. These soils are non-saline to slightly saline, are moderate to well drained soils with permeabilities between 0.2 to 2 inches per hour. The area is prime farmland with a land capability classification (with irrigation) of 1, which has no restrictions on cultivation.

31. 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 Tipton area is about 7.23 inches, with a 100-year return period wet year of about 17 inches. From the California Irrigation Management Information System (CIMIS), the reference evapotranspiration for the nearby Delano substation is about 57 inches per year.

32. The Plant is in a rural area, approximately one half mile south of the Community of Tipton. Land use in the vicinity of the Plant and land application areas is primarily agricultural. There is a truck and welding supply company northeast of the Plant across Highway 99, and a warehouse for Fruit Growers Supply Company immediately north of the Plant. Primary crops grown in the vicinity of the site include hay and grain crops, cotton, corn, wheat, grapes, and pistachios. In addition, there are several dairies within about five miles of the site. Irrigation water is supplied primarily by groundwater.

Groundwater Conditions

33. According to the Department of Water Resources Groundwater Elevation Maps for 2000 and 2010, first encountered groundwater in the vicinity of the site occurred at about 100 feet below ground surface (bgs) in Spring 2000 and at about 130 feet bgs in Spring 2010. Regional groundwater flow is to the southwest. There are no monitoring wells on-site and no site specific groundwater gradient information is available.

34. Data that is 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 Water Quality Portal published by the Department of Water Resources (DWR), and United States Geological Survey (USGS) and the State Water Board's Groundwater Ambient Monitoring Program (GAMA) databases identified several wells within about five miles of the site. Table 4 presents a summary of the available water quality data obtained from these wells as well as the most recent data from the on-site Supply well:

TABLE 4. Groundwater Quality

Constituent	Units	Supply Well	22S025E 32A001M	22S025E 10B001M	22S024E 02A001M	21S024E 36N002M	21S025E 31G002M
Date	Year	2015	1958	1986	1986	1995	1986
Depth	feet bgs	600	400	285	310	280	480
pH	std. units	- - -	8.0	7.8	7.9	8.2	9.0
EC[1]	umhos/cm	270	246	338	526	349	260
TDS[2]	mg/L	170	104	102	163	141	76
Nitrate as Nitrogen[3]	mg/L	2.3	1.6	2.9	4.7	3.3	1.3
Bicarbonate	mg/L	96	110	139	187	83	95
Calcium	mg/L	12	14	36	41	17	7.3
Magnesium	mg/L	0.8	0.1	4.4	2.7	0.8	0.1
Sodium	mg/L	42	40	28	67	55	49
Potassium	mg/L	0.5	0.7	1.9	0.6	0.4	0.3
Chloride	mg/L	15	13	14	41	31	11
Sulfate	mg/L	11	3	13	35	27	13

1. Secondary Maximum Contaminant Level (MCL): 900 umhos/cm recommended, 1,600 umhos/cm upper.
2. Secondary MCL: 500 mg/L recommended, 1,000 mg/L upper.
3. Primary MCL: 10 mg/L.

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

36. As discussed previously, improper management of the wastewater and land application area may have caused groundwater degradation or pollution.

This Order includes Land Application Area Specifications E.1 through E.7 to ensure proper management of the land applications areas, and requires application of waste constituents to be at reasonable agronomic rates to preclude the creation of nuisance conditions or unreasonable degradation of groundwater. In addition, this Order requires the Discharger to install a groundwater monitoring well network to evaluate groundwater quality beneath the land application areas.

Basin Plan, Beneficial Uses, and Regulatory Considerations

37. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

38. The Plant and land application areas 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 Resources Control Board and the Department of Water Resources, revised August 1986. Local drainage is by sheet flow to the west toward the valley floor. Beneficial uses of valley floor waters, as stated in the Basin Plan, are agricultural supply; industrial service supply; industrial process supply; water contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; rare, threatened, or endangered species; and groundwater recharge.

39. The Plant and land application areas are in Detailed Analysis Unit (DAU) No. 243, within the Tule Basin hydrologic unit. The Basin Plan identifies beneficial uses of underlying groundwater within the DAU as municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, and wildlife habitat.

40. 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.

41. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater.

42. The Basin Plan's narrative water quality objectives for chemical constituents requires, at a minimum, waters designated as domestic or municipal supply to meet the MCLs specified in Title 22 of the California Code of Regulations (hereafter 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.

43. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses.

44. Quantifying a narrative water quality objective requires a site specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect

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

45. In the absence of specific numerical water quality limitations, 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.

46. The list of crops in Finding 32 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.

47. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until a 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.

48. 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.

49. As shown in Finding 13, sampling for total and fixed dissolved solids shows on average about a 55 percent increase in the total dissolved solids of the discharge due to concentrations of organic dissolved solids. However, the Discharger has not demonstrated that it has implemented best management practices to control inorganic dissolved solids. Further, with an average fixed dissolved solids (FDS) concentration of

about 1,100 mg/L, and with sodium concentrations as high as 400 mg/L the discharge could potentially cause groundwater to exceed water quality objectives.

To address this issue, this Order requires the Discharger to meet a monthly average effluent limit for FDS of 700 mg/L at the discharge to the ponds [monitoring point EFF-001].

50. Based on current sampling data, the Discharger will not be able to comply with the effluent limit for FDS on a consistent basis. On 6 November 2015, the Discharger submitted a Salinity Control Plan, with a schedule to evaluate and implement salinity control measures to ensure compliance with the effluent limit for FDS. This Order includes a Provision with a time schedule for the Discharger to select and implement the necessary salinity control measures specified in its Salinity Control Plan and come into compliance with the effluent limit for FDS of 700 mg/L.

Other Considerations

51. 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.

52. 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.

53. With regard to BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade 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.

54. 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 United States Environmental Protection Agency, cites BOD

loading rates in the range of 36 to 600 lb/acre-day to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.

55. 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.

56. 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.

57. In a properly managed land application area, a cycle average BOD loading rate for the discharge of less than 100 lbs/acre/day should not unreasonably threaten underlying groundwater quality. This Order contains Land Application Area Specifications E.2, E.4, and E.5, which limits the cycle average BOD loading rate to 100 lbs/acre/day, and requires the Discharger to ensure the even application of wastewater over the entire 248-acre land application area.

58. As discussed in Finding 14, the pH of the discharge varies considerably depending on the nature of the waste stream, though the median value of 7.1 is within the acceptable range. Discharges of wastewater with a pH below 5.0 can lead to acidic soils and mobilization of metals, which can percolate through the soil column and degrade

groundwater. Co-mingling of the wastewater from the various waste streams within the lined storage ponds and spreading over the entire land application area in combination with supplemental irrigation water should prevent the pH fluctuations in the discharge from exceeding the buffering capacity of the soil and mobilizing metals.

This Order sets a pH limit on the discharge, such that the discharge to the land application areas shall not have a pH of less than 5.0 or greater than 9.0 standard units.

Antidegradation Analysis

59. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:

    a. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

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

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

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

60. Constituents of concern 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 20 and 21, the uneven distribution of high strength wastewater on only a portion of the available land application area has the potential to cause organic overloading of the soil, resulting in reducing conditions, which could leach metals from the soil and degrade groundwater quality. Reducing conditions are reversible, if the organic overloading ceases and oxygen is reintroduced into soil and groundwater allowing the metals to precipitate out of solution. This can be accomplished by the implementation of best management practices to promote the even distribution of organic materials at rates that do not overwhelm the treatment capacity of the soils.

    This Order sets a cycle average BOD loading rate not to exceed 100 lbs/acre/day, which is expected to prevent odor and nuisance conditions, and minimize the potential for anoxic and reducing conditions in soil. This Order also requires the Discharger to implement measures to ensure the even application of wastewater over the entire land application area, cease discharging to the land application areas in the event the soils become saturated, and conduct groundwater monitoring to confirm that water percolating to groundwater will not unreasonably degrade groundwater quality with constituents related to organic overloading.

b. For nitrogen, most of the nitrogen in the effluent is present as TKN, which can mineralize and be converted to nitrate (with some loss via ammonia volatilization).

This Order contains Land Application Area Specifications E.1, E.5, and E.6, which requires the Discharger to grow crops within the land application area, maximize the available land application areas to minimize waste constituent loading, and ensure the annual nutritive loading and hydraulic loading rates, including the nutritive value of organic and chemical fertilizers, manure from non-commercial livestock, and of the wastewater, not to exceed the annual crop demand. With nitrogen uptake by crops, nitrification and denitrification in 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.

c. For salinity, as discussed in Finding 49, a large portion of the TDS of the discharge is in volatile form, which can be broken down and biologically treated by soil microorganisms. In addition, a portion of the fixed dissolved solids (primarily calcium, magnesium, nitrates, phosphorous, and potassium), will bind to soil and can be reduced by nutrient uptake from crops grown within the land application areas.

This Order requires the Discharger to operate all treatment systems and equipment to optimize the quality of the discharge, and sets an effluent limit for fixed dissolved solids not to exceed 700 mg/L (monthly average). With these conditions as well as a cycle average BOD loading limit of 100 lbs/acre/day to reduce the organic loading on the land application areas, the requirement for the discharge to be at agronomic rates for nutrient and hydraulic loading, and growing crops to take up excess nutrients and salts, the discharge, as allowed by this Order, is not expected to further degrade groundwater for salinity.

Treatment and Control Practices

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

a. Even application and reuse of wastewater for irrigation of crops at agronomic rates;
b. Effluent limits for FDS, chloride, boron, and pH;
c. A cycle average BOD loading limitation of 100 lbs/acre/day;
d. Hydraulic loading rates that preclude standing water in the land application areas;
e. Proper handling and off-site disposal of solids;
f. Groundwater limitations; and
g. Groundwater monitoring to monitor the impact of the discharge on first encountered groundwater.

Antidegradation Conclusions

62. 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.

63. The treatment and control measures described above in Finding 61, in combination with the requirements of this Order, represent BPTC. Adoption of this Order will result in the implementation of BPTC. In addition, this Order requires monitoring to evaluate potential groundwater impacts from the discharge and confirm that BPTC measures are sufficiently protective of groundwater quality.

64. The Discharger aids in the economic prosperity of the region by direct employment and provides a tax base for local and county governments. Provided the discharge complies with State and Central Valley Water Board plans and policies, authorized degradation due to the continued operation of the Plant is to the maximum benefit to the people of the State. In addition, the use of process wastewater for irrigation in place of higher quality groundwater is of further benefit to the people of the State.

65. The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger have implemented BPTC to minimize degradation, and (c) the limited degradation is of maximum benefit to the people of the State.

Other Regulatory Considerations

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

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

    b. Category B complexity, defined as: “Any discharger not included 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.”

67. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt wastewater. Title 27, section 20090 states in part:

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

***

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

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

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

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

***

68. The discharge authorized herein, and the treatment and storage facilities associated with the discharge, are exempt from the requirements of Title 27 as follows:

    a. The discharges to the lined storage ponds and land application areas are exempt pursuant to Title 27, section 20090(b) because they are discharge of wastewater to land and:

        i. The Central Valley Water Board is issuing WDRs.

        ii. The discharge is in compliance with the Basin Plan, and;

        iii. The effluent discharged to the ponds and land application areas does not need to be managed as hazardous waste.

69. On 1 April 2014, the State Water Board adopted Order 2014-0057-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities. Order 2014-0057-DWQ supersedes State Water Board Order 97-03-DWQ (NPDES General Permit CAS000001) and became effective on 1 July 2015. Order 2014-0057-DWQ requires all applicable industrial dischargers to apply for coverage under the new General Order by the effective date. However, all storm water at the Plant is captured and contained in an on-site storm water basin or co-mingled with process wastewater before being discharged to the land application areas in accordance with these WDRs, which prohibits the discharge from leaving the land application areas and entering waters of the United States. Therefore, the Discharger is not required to obtain coverage under the new NPDES General Permit.

70. Water Code section 13267(b) states:

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

The technical reports required by this Order and the attached Monitoring and Reporting Program R5-2015-XXXX are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

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

72. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

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

California Environmental Quality Act

74. This is an existing facility, which is currently regulated by Waste Discharge Requirements Order 99-040. This Order places additional requirements on the continued operation of the Plant and does not allow for increased effluent flow rates or expansion of the land application areas. Therefore, the action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.

Public Notice

75. 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.

76. 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.

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

IT IS HEREBY ORDERED that Order No. 99-040 is rescinded, and, pursuant to Water Code sections 13263 and 13267, Ventura Coastal, LLC, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of 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 Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.

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 or culled fruit to the land application areas is prohibited.

6. Discharge of domestic wastewater to the land application areas or any surface waters is prohibited.

B. Flow Limitations

1. The discharge to the storage ponds shall not exceed a monthly average daily flow rate of 0.5 mgd or a daily maximum flow of 0.75 mgd. [**Monitored at EFF-001**]

C. Effluent Limitations

1. Upon completion of the tasks in Provision H.15, the monthly average Fixed Dissolved Solids (FDS) of the discharge shall not exceed 700 mg/L, compliance to be determined monthly. **[Monitored at EFF-001]**

2. The discharge shall not exceed a maximum chloride or boron concentration of 175 mg/L or 1.0 mg/L, respectively. **[Monitored at EFF-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 Plants operation, 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. 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.

8. 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.

E. Land Application Area Specifications

1. The Discharger shall grow crops within the land application areas. 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 areas shall not exceed 100 lbs/acre/day over the course of any discharge cycle (i.e., the time between successive applications).

3. The pH of the discharge to the land application areas shall not be less than 5.0 or greater than 9.0 standard units. **[Monitored at EFF-002**]

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

5. The Discharger shall maximize the use of the available land application areas to minimize waste constituent loadings.

6. Application of waste constituents 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.

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

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

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

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

11. 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.

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

13. 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.

14. The land application area shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.

15. 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, seeds, pulp, and any residual solids removed from the wastewater ponds.

1. Solids shall be removed from processing equipment, drains, and sumps as needed to ensure optimal operation to ensure 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.

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 quantified therein.

H. Provisions

1. The Discharger shall comply with Monitoring and Reporting Program (MRP) R5-2015-XXXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of self-monitoring reports shall be no later than the submittal date specified in the MRP.

2. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provisions."

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

4. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the Plant for reference by operating personnel. Key operating personnel shall be familiar with its 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. 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 or irrigation reservoir containing wastewater shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single storage pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the finding to the Central Valley Water Board in writing within 10 days and include a specific plan to resolve the low DO issues within 30 days.

9. The Discharger shall operate and maintain all wastewater ponds and irrigation reservoirs sufficiently to protect the integrity of containment dams and berms to 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 containing wastewater shall never be less than two feet (measured vertically from the lowest possible point of overflow).

10. 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.

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

12. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain 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.

13. **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.

14. **Groundwater Tasks:** The Discharger shall install and maintain a groundwater monitoring well network to monitor changes in groundwater quality associated with its discharge operations. At a minimum the Discharger shall install at least one up-gradient or background monitoring well to establish background groundwater quality and two monitoring wells down-gradient of its land application areas. As part of this Provision the Discharger shall submit a Work Plan and proposed time schedule to install the monitoring wells.

    The Work Plan shall satisfy the information needs specified in the monitoring well installation section of Attachment C, *Standard Monitoring Well Provisions for Waste Discharge Requirements*. The monitoring wells 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.

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

	Task	Due Date
a.	Submit Work Plan and time schedule for monitoring well installation.	(3 months) following adoption of this Order
b.	Complete well installation and commence groundwater monitoring in accordance with the approved Work Plan and Monitoring and Reporting Program R5-2015-XXXX.	In accordance with the approved time schedule, but no later than 1 year following adoption of this Order
c.	Submit a technical report detailing installation of the monitoring well network and results of the initial sampling event.	(90 days) following installation of the monitoring wells

15. **Salinity Control**: The Discharger shall evaluate and implement the salinity control measures specified in the Plant's Salinity Control Plan, submitted on 6 November 2015, to reduce the salinity of the discharge, and specifically sodium, to the maximum extent feasible to ensure compliance with Effluent Limitation C.1.

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

	Task	Due Date
a.	Begin evaluation of the salinity control measures identified in the Salinity Control Plan.	(3 months) following adoption of this Order
b.	Begin implementation of selected salinity control measures.	(9 months) following adoption of this Order
c.	Provide progress updates quarterly as part of the Monitoring and Reporting Program's quarterly monitoring reports.	Quarterly
d.	Submit a technical report demonstrating complete implementation of the Salinity Control Plan and compliance with Effluent Limitation C.1.	In accordance with the time schedule but no later than (2 years) following adoption of this Order

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 is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort, the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits.

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

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

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

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

or will be provided upon request.

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

_____
PAMELA C. CREEDON, Executive Officer

Order Attachment
A. Site Location Map
B. Process Flow Diagram
C. Standard Monitoring Well Provisions for Waste Discharge Requirements

Monitoring and Reporting Program R5-2015-XXXX
Information Sheet
Standard Provisions (1 March 1991) (separate attachment to Discharger only)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-XXXX

FOR

VENTURA COASTAL, LLC
TIPTON CITRUS JUICE PLANT
TULARE COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to Water Code section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

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

Field test instruments (such as pH, 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
EFF-001	Location where a representative sample of the discharge can be taken prior to the wastewater storage ponds.
EFF-002	Location where a representative sample of the discharge can be obtained prior to discharge to the land application areas.
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 and PND-002	Pond Monitoring.
LAA-001 through LAA-004	Land Application Areas; LAA-001 (Plot 1), LAA-002 (Plot 2), LAA-003 (Plot 3), and LAA-004 (Plot 4).
LAA-001BK@2, LAA-001BK@4, and LAA-001BK@6	Background soil sample collected outside of the wastewater application areas at 2, 4, and 6 feet below ground surface.
LAA-002@2, LAA-002@4, and LAA-002@6	Composite of three discrete soil samples collected within Plot 2 at 2, 4, and 6 feet below ground surface.
LAA-003@2, LAA-003@4, and LAA-003@6	Composite of three discrete soil samples collected within Plot 3 at 2, 4, and 6 feet below ground surface.
LAA-004@2, LAA-004@4, and LAA-004@6	Composite of three discrete soil samples collected within Plot 4 at 2, 4, and 6 feet below ground surface.
GW-01 through GW-0X	Groundwater monitoring well locations.

EFFLUENT MONITORING

The Discharger shall monitor the effluent to the ponds 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
Twice Monthly[1]	Biochemical Oxygen Demand (BOD)	mg/L	Composite
Monthly	Total Dissolved Solids (TDS)	mg/L	Composite
Monthly	Fixed Dissolved Solids (FDS)	mg/L	Composite
Monthly	Nitrate as nitrogen	mg/L	Composite
Monthly	Nitrite as nitrogen	mg/L	Composite
Monthly	Ammonia as nitrogen	mg/L	Composite
Monthly	Total Kjeldahl Nitrogen	mg/L	Composite
Monthly	Total Nitrogen	mg/L	Computed
Monthly	Sodium	mg/L	Composite
Quarterly[2]	General Minerals[3]	various	Composite

1. In non-consecutive weeks.
2. Samples to be collected in January, April, July, and October.
3. General Minerals 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.

LAND APPLICATION AREA EFFLUENT MONITORING

The Discharger shall monitor effluent from the ponds to the land application areas at EFF-002 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
Quarterly[1]	Nitrate as nitrogen	mg/L	Grab
Quarterly[1]	Nitrite as nitrogen	mg/L	Grab
Quarterly[1]	Ammonia as nitrogen	mg/L	Grab
Quarterly[1]	Total Kjeldahl Nitrogen	mg/L	Grab
Quarterly[1]	Total Nitrogen	mg/L	Computed
Quarterly[1]	General Minerals[2]	various	Grab

1. Samples to be collected in January, April, July, and 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 supplemental irrigation water at 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)			
Quarterly	EC	mg/L	Grab
1/three years[1]	General Minerals[2]	mg/L	Grab
Irrigation Water (IW-001)			
Quarterly	EC	mg/L	Grab
Quarterly	TDS	mg/L	Grab
Monthly	Volume	gallons	Estimated

1. Sample to be collected and analyzed for general minerals once every three years. Starting in October following adoption of this Order.
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

Permanent Markers (e.g., staff gauges) shall be placed in all ponds. The markers shall have calibrations indicating water level at design capacity and available operational freeboard. The Discharger shall monitor the ponds PND-001 and PND-002, while wastewater is in the ponds, monitoring shall include:

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

1. 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.
2. DO shall be measured 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 for DO shall be collected and the reason shall be noted in the applicable monitoring report.

LAND APPLICATION AREA MONITORING

The Discharger shall inspect the condition of the land application areas 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 LAA-002, LAA-003, and LAA-004. The data shall be collected and presented in tabular format and shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Daily[1]	Application Unit	Plot	n/a
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]	Supplemental irrigation	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]			
Annually	From wastewater	lbs/acre-year	Calculated
Annually	From fertilizers	lbs/acre-year	Calculated
Salt Loading[4]			
Annually	From wastewater	lbs/acre-year	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.
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.

SOIL MONITORING

The Discharger shall establish three representative soil profile monitoring locations, one for each Plot (LAA-002, LAA-003, and LAA-004). Each sample shall be a composite from at least three soil cores taken in the representative location. In addition, at least one representative background soil sample LAA-001BK shall be collected to represent background soil conditions (i.e., area that historically has not received process wastewater). The Discharger shall select sampling locations with concurrence of Central Valley Water Board staff and submit identified sample locations on a map no less than 60 days prior to the first sampling event. The samples shall be collected and analyzed for the constituents and frequencies specified below:

Frequency	Constituent/Parameter	Units	Sample Depth
Annually[1]	Soil pH	pH units	2,4, and 6 feet bgs[2]
Annually[1]	EC	umhos/cm	2, 4, and 6 feet bgs
Annually[1]	Sodium	mg/kg	2, 4, and 6 feet bgs

Frequency	Constituent/Parameter	Units	Sample Depth
Annually[1]	Calcium	mg/kg	2, 4, and 6 feet bgs
Annually[1]	Magnesium	mg/kg	2, 4, and 6 feet bgs
Annually[1]	Nitrate as Nitrogen	mg/kg	2, 4, and 6 feet bgs
Annually[1]	Ammonia as Nitrogen	mg/kg	2, 4, and 6 feet bgs
Annually[1]	Total Kjeldahl Nitrogen	mg/kg	2, 4, and 6 feet bgs
Annually[1]	Sodium Adsorption Ratio (SAR)	Calculated	2, 4, and 6 feet bgs

1. In April.
2. feet bgs = feet below ground surface

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.

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	Depth-to-Water	Feet[1]	Measured
Quarterly	Groundwater Elevation	Feet[2]	Calculated
Quarterly	pH	pH units	Grab
Quarterly	EC	umhos/cm	Grab
Quarterly	General Minerals[3,4]	various	Grab
Quarterly	Ammonia as Nitrogen	mg/L	Grab
Quarterly	Arsenic[4]	mg/L	Grab
Quarterly	Total Organic Carbon	mg/L	Grab

1. To the nearest hundredth foot.
2. Groundwater elevation shall be calculated based on depth-to-water measurements from a surveyed measuring point.
3. 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.
4. 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, 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: 5D542044001, Facility Name: Ventura Coastal Tipton Plant, Order: R5-2015-XXXX

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 California Business and Professions Code sections 6735, 7835, and 7835.1.

In the future, the State or Central Valley Water Board may notify the Discharger to electronically submit and upload monitoring reports using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site http://www.waterboards.ca.gov/ciwqs/index.html or similar system. Electronic submittal to CIWQS, when implemented, will meet the requirements of our Paperless Office System.

A. All Quarterly Monitoring Reports shall include the following:

Effluent Monitoring Reporting:

1. Tabulated results of 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 Plants source water and Irrigation water as specified on page 4. If multiple sources are used 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 supplemental 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. For each week, calculation of the daily and average BOD loading for the irrigation cycle, using the BOD results for that month.

Groundwater Reporting:

1. The result of groundwater monitoring specified on page 6. 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. Fourth Quarter Monitoring Reports, in addition to the above, 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 (Standard Provision C.4).
3. A summary of any changes in processing that might affect waste characterization and/or discharge flow rates.

Effluent Monitoring Reporting:

1. A summary of tabulated results of effluent monitoring specified on pages 2 and 3.
2. Calculation of the maximum daily flow, monthly average flow, and cumulative annual flow.

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.

Source Water Reporting

1. The results of annual monitoring of source water as specified on page 4. If multiple sources are used the Discharger, shall calculate the flow-weighted average concentrations for the specified constituents. Results must include supporting calculations, if required.

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 during the reporting year expressed as million gallons and 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. A summary of average and cycle BOD loading rates.

5. The total pounds of nitrogen applied to the land application areas in lbs/acre-year, as calculated from the sum of the monthly loadings.

6. The total pounds of fixed dissolved solids (FDS) that have been applied to the land application areas in lbs/acre-year, as calculated from the sum of the monthly loadings.

Soil Reporting:

1. The tabulated summary results of Soil Monitoring as specified on pages 5 and 6.

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

Ordered by: _____

PAMELA C. CREEDON, Executive Officer

_____

(Date)

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
General Minerals	Analysis for General Minerals shall include at least the following:

Alkalinity (as $CaCO_3$)	Carbonate (as $CaCO_3$)	Magnesium	Sodium
Bicarbonate (as $CaCO_3$)	Chloride	Manganese	Sulfate
Boron	Hardness	Nitrate (NO_3-N)	TDS
Calcium	Iron	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance. Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

INFORMATION SHEET

ORDER R5-2015-XXXX
VENTURA COASTAL, LLC
TIPTON CITRUS JUICE PLANT
TULARE COUNTY

BACKGROUND

Ventura Coastal, LLC, (hereafter "Discharger") owns and operates the Tipton Citrus Juice Plant (Plant) and the adjacent land application areas at 531 West Poplar Avenue, south of the community of Tipton in Tulare County.

The Plant is currently regulated by Waste Discharge Requirements (WDRs) Order 99-040, which was issued to Sunkist Growers, Inc. (Sunkist) on 30 April 1999. A revised monitoring and reporting program (MRP) was issued to Sunkist in March of 2003. Order 99-040 authorizes a maximum daily discharge of 0.75 million gallons per day (mgd) and a monthly average discharge not to exceed 0.5 mgd.

In February 2012 Sunkist merged with Ventura Coastal, LLC. A change of ownership was adopted by the Central Valley Water Board at its meeting on 31 May 2013.

Wastewater

The Plant processes citrus fruits including oranges, lemons, and grapefruit to produce juices, concentrates, and oils. The fruit is delivered from the fields or nearby packing houses. The Plant processes approximately 250,000 to 350,000 tons of fruit each year. Operations change throughout the year depending on the type and quantity of the fruit being processed. During slower periods, when little or no fresh fruit is brought in, the Plant remains in operation refining juices and oils. The wastewater is stored in two lined storage ponds and reused for irrigation of crops on approximately 248 acres of Discharger owned land. According to the Discharger, the influent pumps to the ponds were damaged in 2013 and the discharge bypassed the ponds and was sent directly to the land application areas from March 2013 to August of 2015.

Historically, the Discharger regularly discharged in excess of both the monthly average and daily maximum flow limits of 0.5 mgd and 0.75 mgd, respectively. However, the Discharger replaced its receiving area with a dry conveyor system in July of 2014. Since the new dry conveyor system was installed, discharge flows have stayed within the current permitted limits. The tentative Order carries over the monthly average and maximum daily flow limits from the existing Order 99-040.

Wastewater quality for effluent samples collected from January 2012 through July 2014 are presented in the Table below.

Parameters	Units	Average	Range	Count
pH	std.	7.1[1]	3.5 – 12.7	130
BOD_5 [2]	mg/L	2,800	19 – 14,000	130
EC	umhos/cm	1,800	257 – 8,570	130
Total Dissolved Solids (TDS)	mg/L	2,100	330 – 3,970	9

Parameters	Units	Average	Range	Count
Fixed Dissolved Solids (FDS)	mg/L	1,100	410 – 1,940	9
Total Nitrogen	mg/L	34	5.4 - 122	24
Sodium	mg/L	430	60 – 1,100	5
Calcium	mg/L	23	9.7 – 36	5
Magnesium	mg/L	5.9	2 – 12	5
Potassium	mg/L	88	11 - 208	5
Chloride	mg/L	23	16 – 32	5
Sulfate	mg/L	20	16 – 34	5
Boron	mg/L	< 0.2	< 0.1 – 0.3	5
Alkalinity (as $CaCO_3$)	mg/L	450	< 1 – 1,200	5

[1] Median pH

[2] Five-day biochemical oxygen demand.

Source Water

Source water for the Plant is provided by an on-site water supply well. The well log for the on-site supply well shows interbeded sand and clay layers down to 600 feet below ground surface (bgs). The source water is of good quality with an EC of about 270 umhos/cm, a TDS of about 170 mg/L, and nitrate as nitrogen of about 3 mg/L.

DISPOSAL METHODS

Solids

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

Wastewater

Land owned by the Discharger is divided into four plots. Plot 1 includes the Plant and open space around the Plant. Plots 2 through 4 make up the 248-acre land application area, which is divided into three fields ranging in size from approximately 81.6 acres (Plot 2), 94 acres (Plot 3), and 72.4 acres (Plot 4). Each Plot is further divided in half for a total of six fields, ranging from 30 to 40 acres each. In 2008 the Plots were reportedly divided into long irrigation checks or furrows (approximately 110 feet wide by 2,600 feet long). Historically, wastewater was applied to all three plots as pre-irrigation water prior to planting in the spring. The rest of the time wastewater was applied to only one or two of the plots, while the other plot(s) were actively farmed and irrigated with fresh water, and no crops were grown within the plot receiving the wastewater. Concentration of the Plant's wastewater on only a portion of the land application area and the potentially uneven application resulting from oversized checks can overload the soil and cause groundwater degradation and/or pollution.

In 2012, the Discharger leased the land application area to Cox Farming. Since 2012, Cox Farming has made several improvements to the land application area including laser leveling

the fields, shortening the irrigation checks to increase irrigation uniformity, started blending wastewater with fresh water to irrigate crops, and improved crop rotation plans within the land application area.

GROUNDWATER CONDITIONS

According to the Department of Water Resources Groundwater Elevation Maps for 2000 and 2010, first encountered groundwater in the vicinity of the site occurred at about 100 feet below ground surface (bgs) in Spring 2000 and at about 130 feet bgs in Spring 2010. Regional groundwater flow is to the southwest. There are no monitoring wells on-site and no site specific groundwater gradient information is available.

Data that is 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 the water quality including the Water Quality Portal published by the Department of Water Resources (DWR), and United States Geological Survey (USGS) and the State Water Board's Groundwater Ambient Monitoring Program (GAMA) databases identified several wells within about five miles of the site. Samples from these wells collected from 1958 through 1995 shows that the area is underlain by good quality groundwater with an EC between 246 and 526 umhos/cm, a TDS between 76 and 163 mg/L, and nitrate as nitrogen between 1.3 and 4.7 mg/L.

REGULATORY CONSIDERATIONS

Basin Plan

The *Water Quality Control Plan for the Tulare Lake Basin,* Second Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan. The Plant and land application areas 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 Resources Control Board and the Department of Water Resources, revised August 1986. The receiving water for this discharge is groundwater. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply; agricultural supply; and industrial service and process supply.

The Basin Plan identifies the greatest long term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture and 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.

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. As discussed in Findings the discharge does show an increase in the TDS of the discharge due to concentrations of organic dissolved solids. However, the Discharger has not demonstrated that it has implemented best management practices to control inorganic dissolved solids.

Treatment and Control Practices

The Discharger has implemented or will implement the following treatment and control of the discharge:

a. Even application and reuse of wastewater for irrigation of crops at agronomic rates;
b. Effluent limits for FDS, chloride, boron, and pH;
c. A cycle average BOD loading limitation of 100 lbs/acre/day;
d. Resting periods between wastewater applications;
e. Hydraulic loading rates that preclude standing water in the land application areas;
f. Proper handling and off-site disposal of solids;
g. Groundwater limitations; and
h. Groundwater monitoring to monitor the impact of the discharge on first encountered groundwater.

In combination with the requirements of this Order, these treatment and control measures represent best practicable treatment and control (BPTC).

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16, "*Statement of Policy With Respect to Maintaining High Quality Waters in California*," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Policy and procedures for complying with this directive are set forth in the Basin Plan.

The discharge and the potential for groundwater degradation allowed in this Order is consistent with the Antidegradation Policy since: (a) the limited degradation allowed by this Order will not result in water quality less than water quality objectives, or unreasonably affect present and anticipated beneficial uses of groundwater, (b) the Discharger has or will implemented BPTC to minimize degradation as a part of this Order, and (c) the limited degradation is of maximum benefit to people of the State.

Title 27

Unless exempt, the release of designated waste is subject to full containment pursuant to Title 27 requirements. Here, the discharge is exempt from the requirements of Title 27 pursuant to the wastewater exemption found at Title 27, section 20090(b).

California Environmental Quality Act

This is an existing facility. This Order places additional requirements on the continued operation of the Plant and does not allow for increased effluent flow rates or expansion of the land application areas. Therefore, the action to adopt waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality (CEQA), in accordance with the California Code of Regulations, title 14, section 15301.

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 for the Plant:

1. The effluent flow rate to the ponds shall not exceed a monthly average daily flow limit of 0.5 mgd or a maximum daily flow limit of 0.75 mgd.

2. The effluent discharge to the ponds shall not exceed a monthly average Fixed Dissolved Solids (FDS) concentration of 700 mg/L, a chloride concentration of 175 mg/L or a boron concentration of 1 mg/L.

3. The effluent discharge to the land application areas shall not have a pH of less than 5.0 or greater than 9.0 standard units.

Consistent compliance with the effluent limitation for FDS is not immediately practicable. Therefore, the tentative Order includes a Provision with a time schedule to implement salinity control measures within the Plant and come into compliance with this effluent limitation.

The tentative Order includes Discharge Specifications and Land Application Area Specifications that require the application of waste constituents to the land application areas be evenly applied over the available land application area to minimize waste constituent loadings and ensure reasonable agronomic rates to preclude creation of a nuisance or

unreasonable degradation of groundwater. The tentative Order also requires the annual nutritive loading of the wastewater application area, including the nutritive value of organic and chemical fertilizers, manure from non-commercial livestock, and of the wastewater to not exceed the annual crop demand. In addition, the tentative Order also requires the Discharger to install a groundwater monitoring well network to monitor groundwater conditions beneath the land application areas.

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 monitoring requirements for effluent, soil, and groundwater. In addition, the Order requires loading calculations to the land application areas for wastewater, irrigation water, organics, nutrients, and salts. This monitoring is necessary to characterize the discharge, and evaluate compliance with effluent limitations and discharge specifications prescribed in the Order.

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.