CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2016-XXXX

WASTE DISCHARGE REQUIREMENTS

FOR
DELTA PACKING COMPANY AND JOHN TECKLENBURG
SAN JOAQUIN COUNTY

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

1. On 1 July 2015, Delta Packing Company submitted a Report of Waste Discharge (RWD) that describes an existing fruit processing facility that generates wastewater and residual solids which are discharged to land in Lodi. A RWD addendum was submitted on 19 January 2016 which provides information on a future processing facility (Southern Line) located just south of the Northern Line.

2. Delta Packing Company owns and operates the facilities that generate the waste and John Tecklenburg owns the land discharge areas. Therefore, Delta Packing and John Tecklenburg are jointly referred to as "Discharger" and are responsible for compliance with the Waste Discharge Requirements (WDRs).

3. The Discharger operates two adjacent fruit processing facilities. The Northern Line, used for cherry processing, is located at 6021 East Kettleman Lane in Lodi (Section 8, Township 3 North, Range 7 East, Mount Diablo Base & Meridian; Assessor's Parcel Number 049-230-11). The Southern Line, formally used for cold storage, is located south of the Northern Line, across Kettleman Lane at 5932, 5950, 5990, and 6050 East Kettleman Lane and 14860 North Wells Lane. The Southern Line occupies APNs 061-103-039 and 061-030-011, -015. The locations of both facilities are depicted on Attachment A, which is attached hereto and made part of this Order by reference.

Existing Facility and Discharge

4. The Northern Line is a fruit processing facility that has been in operation for approximately 40 years and has not been previously regulated under WDRs. The facility currently processes cherries and grapes. The processing season generally runs between April and mid-June of each year when cherries are processed, packed, and stored in cold storage and pre-cooler rooms to maintain freshness. Fruit is stored in cold storage from mid-June to September and the only wastewater generated during this time is refrigerator condensate. During the off-season (between October and March), storm water is the only water discharged to land. Approximately 9,900,000 pounds of cherries are processed annually at the Northern Line. Site details for the Northern Line are shown on Attachment B, which is attached hereto and made part of this Order by reference.

5. The Southern Line is located across Kettleman Lane to the south. This facility previously stored and cooled pears and grapes from mid-June to September. The Southern Line will be expanded in 2016 to include cherry processing, similar to the Northern Line. During previous seasons, refrigerator condensate was the only wastewater generated at the Southern Line, which collected the condensate in a tanker truck and then discharged to Pond 1 at the northern facility. The site details for the Southern Line are shown on Attachment C, which is attached hereto and made part of this Order by reference.

6. Peracetic acid is used in the fruit washing and processing to disinfect and destroy pathogenic bacteria, fungi, viruses, and other microorganisms. Peracetic acid is water soluble and the end products are hydrogen peroxide, water, oxygen, and acetic acid (vinegar). Approximately 1,850 gallons of peracetic acid are used annually at the Northern Line. An estimated 750 gallons of peracetic acid will be used annually at the Southern Line.

7. Both the Northern and Southern Lines have source water supply wells located on-site. In addition, the Northern Line has an agricultural well that is used for emergency fire prevention and emergency back-up. Details for the three source wells and one agricultural well are provided below.

Well ID	Construction Date	Screen Interval (feet bgs)	Depth to Groundwater (feet bgs) [1]
Northern Line			
Source Well	1993	200 – 395	85
Agricultural Well	2012	230 - 350	90
Southern Line			
South Well West	2003	200 - 300	not provided
South Well East	1976	50 - 140	84

[1] Depth to groundwater was measured at the time of well construction

8. Groundwater samples were collected from the northern agricultural well on 28 April 2014 and the northern source well on 1 May 2015. On 23 December 2015, samples were collected from both southern source wells. The source water from the two southern wells will be combined before use on the line. Results for a select number of constituents are summarized below.

Source Water Characterization					
Constituents	**Constituent Concentrations (mg/L)**				**WQO**
	Northern Well Northern Line Agricultural Well [1]	**Eastern Well Northern Line Source Water [2]**	**South Well East Southern Line Source Water [3]**	**South Well West Southern Line Source Water [3]**	
Chloride	17	12	32	7.8	106[4] – 500 [5]
Sodium	18	19	60 / 54 [7]	15 / 14 [7]	69 [4]
Sulfate	21.3	20	57	11	250
TDS	270	270	511	207	450 [4] – 1,000 [5]
TKN as N	NA	NA	0.9	<0.07	10 [6]
Nitrate as N	NA	NA	7.3	1.1	10 [6]
Total Nitrogen	NA	NA	9	1.3	10 [6]
Arsenic	<0.05	0.003 [8]	0.0011 / 0.0012 [7]	0.0034 / 0.0012	0.01 [6]
Iron	<0.1	<0.02 [8]	0.006 / <0.0044 [7]	0.043 / 0.0083 [7]	0.3 [6]
Manganese	<0.002	<0.02 [8]	<0.012 / <0.012 [7]	<0.012 / <0.012 [7]	0.05 [6]

TDS = total dissolved solids
FDS = fixed dissolved solids
NA = not analyzed
WQO = water quality objective
< = not detected at concentrations greater than laboratory detection limits.
-- = no established WQO

[1] Sample Date: 28 April 2014
[2] Sample Dates: 28 April 2014 and 1 May 2015. Maximum concentrations are shown.
[3] Sample Date: 23 December 2015. Water from these wells will be combined before use.
[4] Lowest Agricultural Water Quality Goal.
[5] Secondary Maximum Contaminant Upper Level.
[6] Primary Maximum Contaminant Level
[7] Total concentration / Dissolved Concentration
[8] Dissolved concentration

9. All wastewater produced at the Northern Line is captured in two sumps (Sump 1 and Sump 2). Sump 1 collects wastewater from washing and cooling the cherries within a hydro-chiller, refrigeration condensate, leaking machinery, facility cleaning, and storm water from around the processing building. Sump 2 collects wastewater generated from the water conveyance system used to cool, wash, and distribute the cherries. Wastewater samples were collected from the sumps before the processing season and during the season. The wastewater quality for the sumps is summarized below.

Wastewater Characterization Sumps [1] - Northern Line (mg/L)					
Constituents	**Pre-season Sample**	**Mid-Season Samples**			**WQO**
	9/02/14 [2]	**5/01/15 [3]**	**5/14/15 [4]**	**5/28/15 [4]**	
BOD	4.7	110	45	88	--
Chloride	16	19	15	17	106 [5] – 500 [6]
pH (std units)	7.14	6.75	7.07	6.11	6.5 – 8.5 [6]
Sodium	22	45	25	23	69 [5]
Sulfate	40	38	29	55	250 [6]
FDS	265	316	252	277	450 [6] – 1,000 [6]
TDS	318	450	308	347	450 [6] – 1,000 [6]
TKN as N	1.3	2.8	1.6	1.3	10 [7]
Nitrate as N	2.5	3	2.3	2.2	10 [7]
Total Nitrogen	NA	3.2	3.2	2.8	10 [7]
Arsenic (dissolved)	0.0025	0.0042	<0.005	0.0034	0.01[7]
Iron (dissolved)	0.091	0.28	<0.2	0.28	0.3 [6]
Manganese (dissolved)	<0.02	**0.21**	<0.2	0.027	0.05 [6]

Bold text = concentration is greater than WQOs.
< = not detected at concentrations greater than laboratory detection limits
NA = not analyzed
NS = not sampled
-- = no established WQO

[1] Samples were collected from both sumps. The maximum concentration for each constituent between the two samples is shown on the table, with the exception of the sample collected on 1 May 2015. This sample is a composite sample from both sumps.
[2] Samples were collected before fruit processing season began
[3] Sample was collected mid-season and is a composite sample
[4] Sample collected mid-season
[5] Lowest Agricultural Water Quality Goal
[6] Secondary Maximum Contaminant Level
[7] Primary Maximum Contaminant Level

10. Both sumps at the Northern Line discharge to two unlined ponds (Pond 1 and Pond 2). Pond 1 is located north of the processing building and receives wastewater from Sump 1, storm water from the central portion of the facility, and previously, wastewater (refrigeration condensate) from the Southern Line. The pond is 208 feet in width (east-west) by 121 feet in length (north-south) and is 12 feet deep. Pond 1 has a storage capacity of 1.6 million gallons (MG), including 2 feet of freeboard. Pond 1 sits on a distinct soil layer that is largely impervious to water (cemented pan), making the percolation rate negligible and therefore, is only used for evaporation. Pond 2, located just north of Pond 1, is unlined and collects overflow from Pond 1 and

storm water from the northern portion of the site. Pond 2 is approximately 208 feet in width (east-west) by 188 feet in length (north-south) and 14 feet deep. Pond 2 has a storage capacity of 3 MG including 2 feet of freeboard. This pond has a percolation rate of approximately 6 gallons per square foot per day and is used for percolation and evaporation.

11. At the Northern Line, three flow meters are located above inlet piping into Pond 1 to record flow rates. Flow Meter 1 (M1) is located above piping connecting Sump 1 to Pond 1. M2 is located above piping that connects Sump 2 to Pond 1. M3 is located above piping connecting storm drain inlets, located in the parking lot south of Pond 1, to Pond 1.

12. Pond 1 is connected to Pond 2 through a pipe and locked valve. If overload occurs at Pond 1, the valve is manually or automatically opened as needed so excess water will flow into Pond 2, preventing overflow. Evaporation and percolation between the two ponds are the only disposal methods used for wastewater at the Northern Line. The two unlined ponds are not aerated and a chain-linked fence surrounds both ponds. Attachment D, which is attached hereto and made part of the Order by reference, presents a simplified process schematic.

13. A wastewater sample from Pond 1 was collected before the processing season, during the season, and approximately two weeks after the season ended. To date, Pond 2 has not received any wastewater; therefore, no characterization samples have been collected. The wastewater quality for Pond 1 is summarized below.

Pond 1 Wastewater Characterization (mg/L)						
Constituents	**Pre-Season Sample**	**Mid-Season Samples**			**Post-Season Sample**	**WQO**
	9/02/14	**5/01/15**	**5/14/15**	**5/28/15**	**6/11/15**	
BOD	230	23	120	130	61	--
FDS	268	169	217	241	309	450 [1] – 1,000 [2]
TDS	424	231	331	417	341	450 [1] – 1,000 [2]
TKN as N	2.1	1.9	1.7	2.8	3	10 [3]
Nitrate as N	<0.1	<0.1	<0.1	<0.1	<0.1	10 [3]
Total Nitrogen	NA	0.75	1	**19** [4]	1.5	10 [3]
pH	6.32	7.04	6.44	6.37	7.07	6.5 – 8.5 [2]
Chloride	22	10	15	16	15	106 [1] – 500 [2]
Sodium	29	16	23	21	23	69 [1]
Sulfate	25	18	29	25	17	250 [2]
Arsenic [5]	0.007	0.003	<0.005	0.004	0.003	0.01 [3]
Iron [5]	0.047	**0.45**	**0.39**	**0.53**	0.24	0.3 [3]
Manganese [5]	0.032	**0.21**	<0.2	**0.088**	**0.072**	0.05 [3]

Bold text = concentration is greater than WQOs
BOD = biochemical oxygen demand
NA = not analyzed
TDS = total dissolved soils
TKN = total Kjeldahl nitrogen
< = not detected at concentrations greater than laboratory detection limits
-- = no established WQO

[1] Lowest Agricultural Water Quality Goal
[2] Secondary Maximum Contaminant Level
[3] Primary Maximum Contaminant Level
[4] The Discharger and the analytical laboratory (McCampbell Analytical, Inc.) believe that this concentration is either an outlier or a reporting error.
[5] Dissolved metals

14. Total nitrogen exceeded the primary Maximum Contaminant Level (MCL) in one out of five wastewater characterization samples from Pond 1. When totaled, the concentrations of TKN and Nitrate in the same sample as the 19 mg/L detection do not equal the total nitrogen concentration. In addition, all other total nitrogen concentrations from the pond samples were less than the primary MCL. The total nitrogen detection does not appear to represent wastewater quality and is likely an outlier or a reporting error.

15. The Northern Line's wastewater 2015 annual flow rates to Pond 1 are summarized below.

Wastewater Flow Rates to Pond 1 [1] (gallons)					
Month	**Average Daily**	**Dry Weather Daily**	**Peak Day**	**Average Month**	**Peak Month**
January	50,532	0	221.133	1,566,493	6,855,118
February	47,954	0	156,258	1,342,708	4,375,218
March	39,925	0	151,891	1,237,666	4,708,612
April	42,085	22,142	97,121	1,262,541	2,913,632
May	31,129	22,142	77,684	964,991	2,408,209
June	24,426	22,142	48,863	394,494	1,092,234
July	992	550	13,514	30,751	418,949
August	1,139	550	12,778	35,318	396,114
September	4,660	550	36,782	139,810	1,103,454
October	13,701	0	68,947	424,734	2,137,372
November	29,381	0	100,931	881,438	3,027,943
December	44,452	0	144,166	1,333,574	4,324,981
			Annual Totals	9,614,518	33,761,836

[1] Includes storm water from Northern Line; to date, Pond 2 has not received process wastewater.

16. All storm water from the Northern Line is captured in storm drains throughout the site and discharged to the ponds. During the off-season (October to March), processing wastewater is not generated; the ponds receive storm water only. A standard industrial storm water permit is not required because this site has no run-off and contains all storm water onsite. An exemption has been filed with the Regional Water Quality Control Board.

17. Sludge accumulates at the bottom of Pond 1 as a result of biological growth. However, because the ponds are relatively new and have been used for only one season, the Discharger has not characterized the sludge or determined the mass generated.

18. No changes are planned for the Northern Line. The Southern Line, previously used for cold storage only, will be upgraded to a cherry processing facility.

Planned Changes in the Facility and Discharge

19. The Discharger previously used the Southern Line for storing and cooling fruit for long distance transport and refrigerator condensate was the only wastewater produced. To increase the cherry processing capacity, the Southern Line will include a cherry processing line and will process and wash approximately 2,7000,000 pounds of cherries annually. All wastewater, including site storm water, from the Southern Line

will be disposed of via land application areas (LAAs). The refrigeration condensate previously discharged to Pond 1 at the Northern Line will be discharged to the LAAs.

20. The new processing line will use an existing cold storage building, a hand-packing shed for Rainier Cherries, one hydro-cooler, and a new cherry washing and packing line with recirculated water conveyance system similar to the Northern Line.

21. During fruit processing at the Southern Line, wastewater will be generated from refrigeration condensate, fruit washing activities, the hydro-cooler, equipment washing, facility cleaning, and the water conveyance system. Wastewater will be collected in two sumps within the cherry processing line and drains in the cold storage building and the Rainier packing shed. The sumps and the drains will be connected to underground piping directed to an exterior concrete sump located in the southern portion of the facility. The concrete sump will have a capacity of approximately 2,000 gallons, will have a diesel pump, and will be operated manually as needed. The sump will be connected to a surface irrigation distribution system. An inline flow meter will be installed on the irrigation distribution line.

22. Two storm water drains collect storm water from the 3.17 acre facility. One storm water drain is located just south of the southern property boundary within the property located at 5990 East Kettleman Lane. These drains will be connected to the underground piping, combined with the wastewater during the cherry season, and applied to the adjacent agricultural fields. During the off-season, only storm water will be applied to the LAAs.

Comment 1: Storm water in the eastern portion of the facility flows east and south toward a storm drain inlet located south of the southern property boundary. This storm drain inlet is connected via north-south running underground piping to an east-west trending ditch located approximately 700 feet south of the southern property line (off-site). It was initially thought that eastern storm water was discharged to a ditch on the west side of the railroad via underground piping. However, upon further review, this is incorrect. Storm water at the eastern portion of the site does not comingle with the interior wastewater or western storm water, and therefore would not be discharged to land. In order to keep eastern storm water on-site, the storm water would need to be rerouted beneath the existing railroad for discharge to the western fields. This would require significant and potentially unobtainable alterations, especially considering the existing railroad.

Delta Packing is exempt for industrial storm water under Standard Industrial Classification (SIC) code 0723, detailed below.

0723 Crop Preparation Services for Market, Except Cotton Ginning
Establishments primarily engaged in performing services on crops, subsequent to their harvest, with the intent of preparing them for market or further processing. Establishments primarily engaged in buying farm products for resale to other than the

general public for household consumption and which also prepare them for market or further processing are classified in Wholesale Trade. Establishments primarily engaged in stemming and redrying tobacco are classified in Manufacturing, Industry 2141.

- Bean cleaning
- Corn shelling
- Cotton seed delinting
- Drying of corn, rice, hay, fruits, and vegetables
- Flax decorticating and retting
- Fruit precooling, not in connection with transportation
- Fruit vacuum cooling
- Grain cleaning
- Grain fumigation
- Grain grinding, custom
- Moss ginning
- Nut hulling and shelling
- Packaging fresh or farm dried fruits and vegetables
- Peanut shelling, custom
- Potato curing
- Seed cleaning
- Sorting, grading, and packing of fruits and vegetables
- Sweet potato curing
- Tobacco grading
- Vegetable precooling, not in connection with transportation
- Vegetable vacuum cooling

Based on the applicable SIC Code, Delta Packing is not required to obtain an industrial storm water permit for storm water. Since the eastern storm water does not comingle with wastewater, it will not be applied to land and does not need to be part of a WDR. Eastern storm water is therefore out of the scope of this permit.

23. The wastewater will be used to irrigate the LAAs, which consist of two vineyards located adjacent to the Southern Line. The two LAAs are leased by Delta Packing from the property owner, John Tecklenburg. The two LAAs are located at 5932 East Kettlemen Lane (Zone 1; 4.79 acres) and 14860 North Wells Lane (Zone 2; 3.7 acres), as depicted on Attachment C, which is attached hereto and made part of this Order by reference.

Comment 2: The two vineyards for land application are correctly indicated on the WDR maps. However, after further consideration, Delta Packing requests the option to irrigate the cherry orchard to the south of Zone 1 as necessary (9.5 acres of 14818 North Wells Lane). Maturing crops require specific quantities of water to ensure proper sugar ratios; excess water can ruin crops. Therefore, from June to March when the Zinfandel grapes in Zones 1 and 2 are maturing, water may be directed to the

southern cherry orchard (Zone 3) as necessary. During the remainder of the year (March to June) water will likely be exclusively used to irrigate the vineyards. This would effectively prevent crop damage. We do not need a change to the permit as currently written at this time, but would like to have the permit reflect this need for flexibility so that a change can be considered when needed in the future.

24. A 2,000 gallon concrete sump will be located south of the processing line in the south eastern corner of the LAAs. This sump will be connected to a surface irrigation distribution branch that will run east-west at the southern boundary of Zone 1 and the northern boundary of Zone 3, and north-south at the boundary between Zones 1 and 2. Effluent will be applied evenly from the east-west irrigation distribution branch north onto Zone 1, and from the north-south irrigation distribution branch west onto Zone 2.

25. All wastewater from the Southern Line will be distributed evenly to the LAAs via flood irrigation valves and will be applied and controlled by Delta Packing. The valves will be opened during each cycle, which is two operational days or 50,000 gallons, and will allow approximately one acre coverage per cycle. Berms around the LAAs will control tailwater and prevent the wastewater from leaving the fields. A wastewater flow schematic for the Southern Line is shown on Attachment D, which is attached hereto and made part of this Order by reference.

26. Projected wastewater flows at the Southern Line were provided by the Discharger and are presented below.

Estimated Wastewater Flow Rates to the LAAs [1] (gallons)					
Month	**Average Daily**	**Dry Weather Daily**	**Peak Day**	**Average Month**	**Peak Month**
January	9,254	0	41,676	295,231	1,291,957
February	9,038	0	29,449	253,055	824,580
March	7,524	0	28,626	233,258	887,414
April	3,759	0	13,714	112,756	411,429
May	21,694	20,000	35,051	652,505	1,061,585
June	430	0	4,619	12,911	138,578
July	83	0	2,443	2,582	75,744
August	111	0	2,305	3,443	71,441
September	775	0	6,828	23,240	204,854
October	2,582	0	12,994	80,048	402,822
November	5,537	0	19,022	166,121	570,665
December	8,378	0	27,170	251,333	815,112
			Annual Totals	2,086,483	6,756,181

[1] Includes processing wastewater and storm water.

27. The same processing methods and use of peracetic acid for washing and processing the cherries at the Northern Line will be used at the Southern Line. Therefore, the effluent water quality from the Southern Line is anticipated to be of relatively comparable quality as the effluent at the Northern Line.

28. The Southern Line is anticipated to be used for a maximum of 30 days during the peak of the cherry processing season, typically in May, when the Northern Line has reached capacity. The maximum wastewater produced during the processing season at the Southern Line, not including storm water, is anticipated to be 25,000 gallons per day (gpd). A maximum of 750,000 gallons of wastewater produced over one year is planned for discharge to the vineyards.

29. Sludge will not be generated from the fruit processing activities at the Southern Line.

Site-Specific Conditions

30. The Northern and Southern Lines are located at an elevation of approximately 60 feet above mean sea level (MSL). Ponds 1 and 2 have berms elevated to approximately 3.5 feet above the surface. The general vicinity slopes shallowly to the southwest and site drainage is completely self-contained at the Northern and Southern Lines. Surface water bodies in the area include Mokelumne River approximately 2 miles north and Pixley Slough approximately 2.3 miles south.

31. A review of the Federal Emergency Agency (FEMA) Flood Insurance Rate Map (FIRM) that covers the facilities was performed. The facilities are located in Zone X, which is defined as: areas of the 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas of less than 1 square mile; and areas protected by levees from 1% annual chance flood.

32. Natural Resource Conservation Service (NRCS) soil data provided by the UC Davis California Soil Resource Lab 9 indicate that site surface soil is Tokay fine sandy loam, which consists of very deep, well drained soils formed in alluvium derived mainly from granitic rock. Based on the lithology noted during the installation of the agricultural well at the Northern Line, site lithology consists of alternating layers of sand and clay, with a layer of low permeability layer (hardpan) located at 9 to 10 feet below ground surface (bgs).

33. Annual precipitation for the area was obtained from the Western Regional Climate Center, Station 045032, located approximately 2.5 miles southwest of the facilities. The annual precipitation at Station 045032 is approximately 17.27 inches. The precipitation depth for the 100-year 365-day precipitation is 37.5 inches. The average potential evapotranspiration is summarized below.

Month	**Monthly Average ETO (inches)**
January	1.24
February	1.96
March	3.41
April	5.10
May	6.82
June	7.80
July	8.06
August	7.13
September	5.40
October	3.72
November	1.80
December	0.93
ANNUAL TOTAL	**53.30**

ETO = evapotranspiration

34. The general vicinity around Delta Packing consists of agricultural land with rural residences. North of the Discharger is vacant agricultural land and to the east is a vineyard. Kettleman Lane is located between the Northern and Southern Lines, followed by a vineyard farther south. West of the Discharger is the north-south trending Central California Traction railroad tracks, followed by Sullivan Supply Grooming Equipment (5941 East Kettleman Lane) and vineyards. The City of Lodi,

consisting of industrial and commercial facilities, is located approximately 0.3 miles to the west-northwest.

Groundwater Conditions

35. Shallow groundwater beneath the facilities is estimated at 80 feet bgs, based on the spring 2014 San Joaquin County Flood Control and Water Conservation District Groundwater Report. During the installation of the agricultural well at the Northern Line in March 2012, groundwater was measured at 90 feet bgs. Based on the information provided in the RWD, the hydraulic gradient is approximately 0.0038 feet/feet to the south-southeast, as presented in the RWD. Groundwater flow directions fluctuate based on seasonal variations in rainfall and agricultural activity but are generally to the south-southeast.

36. Mokelumne River is located approximately two miles north of the Discharger's facilities, flows east to west, and is a significant source of groundwater recharge to the basin.

37. Currently, no shallow groundwater monitoring wells are located on-site. Information regarding on-site source well construction details and water quality for the three source wells and one agricultural well is discussed in previous findings.

38. Domestic and agriculture wells are within two miles up- and down-gradient of the lines. Groundwater samples were collected from these wells between 2005 and 2014. The screen intervals for these wells are unavailable, making it unclear if the data from these wells represent shallow groundwater quality. A summary of the water quality for select constituents is presented below.

Constituents	Units	Average Concentrations (mg/L)		WQOs
		Upgradient (7 wells)	Downgradient (4 wells)	
pH	Std. Units	7.6	7.7	6.5-8.5 [3]
Sodium	mg/L	12.4	23.8	69 [4]
Specific Conductivity	uS/cm	160.4	303.8	--
Sulfate	mg/L	4.6	14.8	250 [3]
Total Dissolved Solids	mg/L	160	236.7	450 [4] – 1,000 [2]
Arsenic	mg/L	0.004	0.003	0.01 [1]
Chloride	mg/L	5.6	12.4	106 – 500 [2]

Constituents	Units	Average Concentrations (mg/L)		WQOs
		Upgradient (7 wells)	Downgradient (4 wells)	
Iron	mg/L	0.05	0.025	0.3 [3]
Manganese	mg/L	0.005	0.001	0.05 [3]

-- = no established water quality objective
[1] Primary Maximum Contaminant Level
[2] Secondary Maximum Contaminant Upper Level
[3] Secondary Maximum Contaminant Recommended Level
[4] Lowest Agricultural Water Quality Goal

Basin Plan, Beneficial Uses, and Regulatory Considerations

39. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins,* Fourth Edition, revised June 2015 (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.

40. Local drainage in the area is to the southwest. The facilities are within the Camanche Reservoir Hydrologic Unit No. 531.2, as depicted on the interagency hydrologic maps prepared by the Department of Water Resources in August 1986. The beneficial uses, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

41. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.

42. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric objective for total coliform organisms.

43. The Basin Plan's numeric water quality objective for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in municipal and domestic supply groundwater.

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

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

46. 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.

47. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 µmhos/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 µmhos/cm if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.

48. 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.

49. With regard to BOD, excessive application can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.

50. *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.

51. The California League of Food Processors' *Manual of Good Practice for Land Application of Food Processing/Rinse Water* proposes risk categories associated with particular BOD loading rate ranges as follows:

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

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

    c. Risk Category 3: (greater than 100 lb/ac/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site-specific application cycles and soil properties and special monitoring.

    The *Manual of Good Practice* recommends allowing a 50 percent increase in the BOD loading rates in cases where sprinkler irrigation is used, but recommends that additional safety factors be used for sites with heavy and/or compacted soils.

52. Although it has not been subject to a scientific peer review process, the *Manual of Good Practice* provides science-based guidance for BOD loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals.

Antidegradation Analysis

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

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

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

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

d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

54. Degradation of groundwater by some of the typical waste constituents associated with discharges from a small food processor, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The Discharger's operation provides 300 to 400 full time seasonal jobs and approximately 30 permanent jobs. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.

55. The Discharger has not monitored shallow groundwater quality at the facilities because there are no shallow groundwater monitoring wells on-site or nearby. Groundwater data are from the source and agricultural wells and up- and down-gradient off-site wells, as noted in Findings 7, 8, and 38. However, the screen intervals on these wells were not provided and therefore there is it uncertain if the data from these wells represent shallow groundwater quality. Because there is a lack of shallow groundwater data, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on the assumption that the current water quality in the on-site wells and the up- and down-gradient off-site wells generally represents background groundwater quality.

56. Based on the three wastewater samples collected during the processing season (May 2015), constituents of concern that have the potential to degrade groundwater include iron, manganese, and total nitrogen. Yearly maximum and average concentrations in Pond 1 samples collected during the processing season are presented below.

Constituent (mg/L)	Potential WQO	Range of Concentrations in Pond 1 [1]	Average Concentrations in Pond 1 [2]	Background (Upgradient) Groundwater [3]	Downgradient Groundwater [4]
Chloride	250 [5]	10 - 16	14	11.25	19.5
TDS	450 [6] – 1,000 [7]	231 - 417	326	237.5	310
pH (std unit)	6.5 – 8.5 [5]	6.37 – 7.04	7	7.48	7.55
Sulfate	250 [5]	18 - 29	24	11	23
Sodium	69 [6]	16 - 23	20	20.75	35.5
TKN as N	10 [8]	1.7 - 2.8	2.1	NA	NA
Nitrate as N	10 [8]	<0.1	<0.1	NA	NA

Total Nitrogen	10 [8]	0.75 - 1 [10]	0.875 [10]	NA	NA
Arsenic	0.01 [8]	0.0034 - 0.0036 [9]	0.0035	0.006	0.004
Iron	0.3 [5]	**0.39 - 0.53** [9]	**0.457**	0.12	0.05
Manganese	0.05 [5]	**0.088 - 0.21** [9]	**0.149**	0.008	0.003

NA = not analyzed
Bold = exceeds a WQO
< = constituent was detected at a concentration less than the laboratory reporting limit

[1] Samples dates are 1 May 2015, 14 May 2015, and 28 May 2015.
[2] Average concentrations were derived from three samples collected during the cherry processing season
[3] Maximum concentrations are from seven up-gradient off-site wells; data were collected between 2005 and 2014
[4] Maximum concentrations are from four off-site down-gradient wells; data were collected between 2005 and 2012
[5] Secondary Maximum Contaminant Level
[6] Lowest Agricultural Water Quality Goal
[7] Upper Secondary Maximum Contaminant Level
[8] Primary Maximum Contaminant Level
[9] Dissolved concentration
[10] The maximum concentration of Total Nitrogen is 19 mg/L (sample dated 28 May 2015). However, the Discharger and the analytical laboratory (McCampbell Analytical, Inc.) believe that the Total Nitrogen concentration of 19 mg/L is either an outlier or a reporting error. The concentration of 19 mg/L was not included in the average calculation.

a. **Total Nitrogen.** Out of five wastewater samples collected from Pond 1 pre-, mid-, and post-season, total nitrogen was detected in one sample at a concentration of 19 mg/L, which exceeds the primary MCL. The other analytical results for total nitrogen were 1.0 mg/L and less. This single detection is considered a data point outlier and is not representative of the wastewater quality. However, because there is some uncertainty associated with this concentration in the wastewater, total nitrogen is evaluated to determine if it poses a threat to groundwater.

   For nutrients such as total nitrogen, the potential for groundwater degradation depends on wastewater quality, crop uptake, and the ability of the vadose zone below the LAAs and unlined ponds to support nitrification and denitrification to convert the nitrogen to nitrogen gas before it reaches the water table. Total nitrogen is not likely to impact groundwater because there is sufficient unsaturated vadose zone (depth to groundwater is approximately 80 feet bgs) where excess nitrogen can be mineralized and denitrified by soil microorganisms. In addition, the new vineyard LAAs for the Southern Line will provide nitrogen uptake by crops and minimize the potential for nitrate to migrate to groundwater. Therefore, this Order requires that nutrients associated with the wastewater and other sources be applied to the LAAs at rates consistent with crop demand.

b. **Manganese and Iron.** Wastewater samples collected from the Northern Line sumps and Pond 1 during the processing season have concentrations of

dissolved manganese and iron greater than the corresponding secondary MCLs. Because peracetic acid is a mild oxidizer, the Discharger believes that iron and manganese are precipitating out of solution in the wastewater beginning in the sumps and then as the water is discharged into Pond 1. The source of manganese and iron is expected to be associated with the use of various herbicides, pesticides, and fertilizers that are applied to the cherry trees throughout the year. When the cherries are washed, any residual iron and manganese are removed and dissolved in the cleaning solution.

Pond 1 has very low percolation rate and is primarily used for evaporation. Dissolved iron and manganese concentrations in wastewater entering Pond 1 are expected to diminish as the water neutralizes and the metals precipitate back out of solution. Although Pond 2 has a higher percolation rate than Pond 1, wastewater is only transferred to Pond 2 when Pond 1 is full, which provides sufficient time for dissolved metals to precipitate out of solution into a less mobile state.

The conversion of dissolved metals out of solution is also expected to occur in the LAAs, where the discharge is blended with supplemental irrigation water and storm water and applied through flood irrigation. Because near-surface conditions impede the mobility of metals (due to the presence of a distinct soil layer at approximately 10 feet bgs that is largely impervious to water [cemented pan]) and that shallow groundwater is on the order of 80 to 90 feet bgs, dissolved metal concentrations in the wastewater exceeding water quality objectives are expected to attenuate with depth and not present a threat to groundwater.

57. This Order establishes effluent limitations that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. Although is Order does not require groundwater monitoring, it does include requirements for continued monitoring of the wastewater from both Lines. If the results of effluent monitoring indicate a change in waste characterization or if total nitrogen, iron, or manganese concentrations show a statistically significant average annual increase in concentrations, the Executive Officer may require groundwater monitoring or may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution No. 68-16. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution No. 68-16.

58. Based on the forgoing, the Discharger's current efforts appear to constitute best practicable treatment or control. This Order requires compliance with discharge requirements designed to minimize the potential for groundwater degradation and evaluation and implementation of additional measures as needed. If total nitrogen, iron, or manganese concentrations in wastewater show an annual average concentration statistically increasing over time, this Order requires that the Discharger either demonstrate that continuing the discharge will not result in the degradation of

groundwater or implement additional treatment or control to ensure compliance with the protection of groundwater.

59. The Discharger provides control of the discharge that incorporates:

    a. High quality source water;
    b. Engineered wastewater collection ponds;
    c. Periodic removal of sludge from the ponds;
    d. The facility does not include the use of a boiler or a water softener.
    e. Overflow is prevented by opening the valve between Pond 1 and Pond 2 (Northern Line). At the Southern Line, the valve at the exterior pump will be closed to prevent excess water being discharged to the LAAs.

Other Regulatory Considerations

60. 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.

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

    a. Category 3 threat to water quality. "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 3."

    b. Category C complexity, defined as: "Those discharges for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included in Category A or Category B. Included are discharges having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal."

62. 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 domestic sewage, wastewater, and reuse. 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.
>
> (f) Soil Amendments - Use of nonhazardous decomposable waste as a soil amendment pursuant to applicable best management practices, provided that RWQCBs may issue waste discharge or reclamation requirements for such use.

63. 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. Discharges to Ponds 1 and 2 and the LAAs 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 treated effluent discharged to the ponds does not need to be managed as hazardous waste.

    b. Discharge of food processing residual solids to Pond 1 and LAAs is exempt pursuant to Title 27, section 20090(b) because it constitutes use of nonhazardous decomposable waste as a soil amendment and this Order requires implementation of applicable best management practices.

64. The U.S. EPA published *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (hereafter "Unified Guidance") in 2009. As stated in the Unified Guidance, the document:

> …is tailored to the context of the RCRA groundwater monitoring regulations … [however, t]here are enough commonalities with other regulatory groundwater monitoring programs … to allow for more general use of the tests and methods in the Unified Guidance… Groundwater detection monitoring involves either a comparison between different monitoring stations … or a contrast between past and present data within a given station… The Unified Guidance also details methods to compare background data against measurements from regulatory compliance points … [as well as] techniques for comparing datasets against fixed numerical standards … [such as those] encountered in many regulatory programs.

The statistical data analysis methods in the Unified Guidance are appropriate for determining whether the discharge complies with Groundwater Limitations of this Order.

65. The State Water Board adopted Order 2014-0057-DWQ (NPDES General Permit CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The Discharger is exempt from coverage under NPDES General Permit CAS000001.

66. Water Code section 13267(b)(1) 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 … shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The technical reports required by this Order and the attached Monitoring and Reporting Program **R5-2016-XXXX** are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facilities that discharge the waste subject to this Order.

67. 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 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.

68. The action to adopt waste discharge requirements for the 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.

69. 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.

Public Notice

70. 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.

71. 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.

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

IT IS HEREBY ORDERED that, pursuant to Water Code sections 13263 and 13267, Delta Packing Company and John Tecklenburg, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

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

2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.

3. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

4. Bypass around, or overflow from, the wastewater ponds is prohibited.

5. Discharge of wastewater at the Northern Line to any location other than the ponds identified in Finding No.10 is prohibited.

6. Discharge of wastewater at the Southern Line to any location other than the approved land application areas identified in Finding No. 23 is prohibited.

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

8. Discharge of toxic substances into any wastewater treatment system or land application area such that biological treatment mechanisms are disrupted is prohibited.

9. Discharge of domestic wastewater to the wastewater ponds is prohibited.

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

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

B. Flow Limitations

1. **Effectively immediately**, wastewater flows to the ponds and LAAs shall not exceed the following limits:

	Flow Limit
Northern Line (ponds)	
Total Annual Flow [1]	36 MG
Maximum Average Daily Flow [2]	100,000 GPD
Southern Line (LAAs)	
Total Annual Flow [1]	36 MG
Maximum Average Daily Flow [2]	100,000 GPD

[1] As determined by the total flow for the calendar year.

[2] As determined by the total flow during the calendar month divided by the number of days in that month.

C. Effluent and Mass Loading Limitations

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

Constituent	Units	Daily Maximum	Irrigation Cycle Average	Annual Maximum
BOD Mass Loading	lb/ac/day	300	50 [1]	--
Average FDS Concentration	mg/L	--	--	600
Total Nitrogen Mass Loading	lb/ac/year	--	--	Crop Demand

[1] This limit applies as an irrigation cycle average. For the purpose of this Order, "irrigation cycle" is defined as the time period between the start of an irrigation event for a single field and the start of the next irrigation event for the same field.

The Southern Line will only be operated during dry weather. Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program.

2. The total nitrogen mass loading to the LAAs shall not exceed the agronomic rate for the crop grown. Compliance with this requirement shall be determined using published nitrogen uptake rates for the vegetation/crops grown as specified in the Monitoring and Reporting Program.

D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.

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

3. The discharge shall remain within the permitted ponds and LAAs at all times.

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

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

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

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

8. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.6 and E.7.

9. 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.

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

11. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.

12. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every **five years** beginning in **2016**, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the pond exceeds **five percent** of the permitted capacity, the Discharger shall complete sludge cleanout within **12 months** after the date of the estimate.

13. Storage of residual solids, including pomace and/or diatomaceous earth on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

E. Groundwater Limitations

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

1. Contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.

2. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

F. Land Application Area Specifications

1. Crops shall be grown in the LAAs.

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

3. The LAAs shall be managed to prevent breeding of mosquitoes or other vectors.

4. LAAs shall be designed, maintained, and operated to comply with the following setback requirements:

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

5. Irrigation of the LAAs shall occur only when appropriately trained personnel are on duty.

6. LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop wastewater discharge immediately and implement corrective actions to ensure compliance with this Order.

7. Spray irrigation with wastewater is prohibited when wind speed (including gusts) exceeds 30 mph.

8. Sprinkler heads shall be designed, operated and maintained to create a minimum amount of mist.

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

10. Discharge to the LAAs shall not be performed during rainfall or when the ground is saturated.

G. Solids Disposal Specifications

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

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

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

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

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

H. Provisions

1. The following report shall be submitted pursuant to CWC section 13267 and shall be prepared as described in Provision H.3:

   a. **By 1 September 2016**, The Discharger shall submit a *Sludge Management Plan*. The plan shall include a detailed plan for sludge removal from any wastewater treatment/storage basin or pond (i.e. setting basin, recycled basin, or sludge drying pond); sludge drying operations; and off-site disposal practices. The plan shall specifically describe measures to be used to control runoff or percolate from the sludge as it is drying and a schedule that shows how all dried sludge will be removed from the site prior to the onset of the rainy season **(1 October)**.

   b. **By 1 September 2016**, the Discharger shall submit a *Flow Metering Systems Improvement Plan*. The plan shall describe the planned installation of flow meter systems at the Southern Line and describes the exiting meters at the Northern Line. Continuous direct flow measurements and accurate calculation of daily total flows for:

i. combined flow from the Northern Line, which will included storm water, to the storage ponds, and

ii. flow from the Southern Line exterior sump to the LAAs.

The plan shall describe how the metering systems will be calibrated and used in conjunction with appropriate wastewater sampling stations (whether existing or new) to ensure accurate calculation of waste constituent loadings. The plan shall document that all wastewater flow meters shown in Attachment D will be independently calibrated by a third party.

2. **By 1 September 2016**, The Discharger shall submit a *Flow Meter Installation and Calibration Report* that demonstrates that flow meters have been installed downstream of the wastewater collection process to the LAAs for use in determining compliance with the Flow Limitation of this Order. The report shall document that all wastewater flow meters for the Northern Line and Southern Line shown schematically in Attachment D have been independently calibrated by a third party. The report shall also provide standard procedures for recording wastewater flow measurements, and provide a schedule for periodic meter calibration.

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

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

5. The Discharger shall comply with Monitoring and Reporting Program **R5-2016-XXXX**, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.

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

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

8. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.

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

10. 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.

11. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."

12. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

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. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

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

16. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

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

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

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water

Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

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

or will be provided upon request.

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

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PAMELA C. CREEDON, Executive Officer