CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2015-0085

WASTE DISCHARGE REQUIREMENTS

FOR
SUTTER HOME WINERY, INC.
SUTTER HOME WINERY WESTSIDE FACILITY
SAN JOAQUIN COUNTY

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

1. On 30 May 2014, Sutter Home Winery, Inc. submitted a Report of Waste Discharge (RWD) that describes expansion of an existing winery wastewater discharge to land in Lodi, California. Additional information to support the RWD was submitted in March 2015 and April 2015.

2. Sutter Home Winery, Inc. (hereafter "Discharger") owns and operates the facility that generates the waste and the land discharge areas, and is responsible for compliance with these Waste Discharge Requirements (WDRs).

3. The facility is located at 18667 Jacob Brack Road, in San Joaquin County (Sections 34 and 35, T4N, R5E, MDB&M). The winery and associated Land Application Areas (LAAs) occupy Assessor's Parcel Numbers (APN) 011-15-12, 011-15-23, 011-09-03, 011-09-14, 011-09-05, and portions of APN 011-09-04. The location of the facility is shown on Attachment A, which is attached hereto and is made part of this Order by reference.

4. The discharge is currently regulated under WDRs Order R5-2009-0073, adopted by the Central Valley Water Board on 13 August 2009, and amended by Order R5-2012-0078 on 3 August 2012. Order R5-2009-0073-001 allows a monthly average wastewater flow of up to 7.0 million gallons per month and a total wastewater flow of 30 million gallons per year (MGY) and discharge up to a total of 186.5 acres of land application areas (LAAs).

5. The Discharger has expanded winery operations to include a bottling plant, and proposes to increase wastewater flows and discharge wastewater to additional LAAs. Therefore, Order R5-2009-0073-001 will be rescinded and replaced with this Order.

## Existing Facility and Discharge

6. The winery was built in 1998 and was initially operated as a non-distilling, non-crushing, non-fermenting wine storage facility. At that time, winery activities primarily included receiving and shipping grape juice and wine in bulk containers. Fermented wine was also received from other Sutter Home facilities and was fined, stabilized, and stored until being shipped off-site for bottling. An average discharge flow of

16,000 gallons per day (gpd) into two clay-lined wastewater ponds and a 15.5-acre Land Application Area (LAA-1) was authorized under WDRs Order R5-2002-0034, which was adopted by the Central Valley Water Board on 11 March 2002 and was later rescinded and replaced by the current WDRs. A current site plan is presented on Attachment B, which is attached hereto and is made part of this Order by reference.

7. Crushing and fermentation activities began at the facility in August 2009. Up to that time the facility used two clay-lined wastewater ponds that provided a total combined storage capacity of 1.23 million gallons. These two ponds were abandoned and destroyed in September 2009 after the installation of two high-density polyethylene (HDPE)-lined wastewater treatment ponds. A third HDPE-lined wastewater pond was installed and began operation in August 2011.

8. Wastewater is generated during tank, piping, equipment, and floor cleaning activities. Because much of the processing equipment is located outdoors, precipitation that falls on outdoor areas where wastewater is generated is collected within the wastewater system. Non-contact storm water is managed by a separate system.

9. The facility currently processes approximately 100,000 tons of grapes and produces 21 million gallons (MG) of wine annually. Approximately 53 MG of wine storage capacity is currently available at the facility.

10. Both domestic and process water for the facility are provided by Well No. 1, located on the eastern portion of the property. Water samples were collected from Well No. 1 between August 2008 and September 2009. Results showed arsenic and manganese at concentrations greater than Title 22 drinking water standards. In response to that testing, the Discharger installed an oxidation coagulation/filtration (CF) treatment system to remove arsenic and manganese from well water prior to use. Chemical treatment includes ferric chloride for co-precipitation with arsenic; sodium hypochlorite to oxidize manganese, iron, and arsenic; and sulfuric acid to reduce the pH for improved arsenic removal. Co-precipitation of arsenic with iron produces a sludge that the Discharger transports off-site to a permitted landfill. The water treatment system is permitted through the San Joaquin County Environmental Health Department.

    Supplemental irrigation water is currently provided by two on-site agricultural wells and surface water supplied by the Woodbridge Irrigation District. Recently acquired agricultural land west of the facility for new LAAs is outside of the Woodbridge Irrigation District service area, but the land includes water rights to Sycamore Slough. Below is a comparison of available water quality data from the process water supply well and the two surface water supply sources. Characterization data for the agricultural wells was not provided in the RWD.

| Constituent | Units | Process Water Supply | Supplemental Irrigation Supply | | Potentially Applicable Water Quality Objective |
|---|---|---|---|---|---|
| | | Well No. 1 [1] | Woodbridge Irrigation District [2] | Sycamore Slough [3] | |
| pH | S.U. | 7.7 | -- | -- | 6.5 [4] – 8.4 [5] |
| BOD | mg/L | -- | 10 | 8 | -- |
| TDS | mg/L | 241 | 44 | 171 | 450 [5] – 1,000 [6] |
| FDS | mg/L | -- | 26 | 121 | --- |
| Bicarbonate | mg/L | -- | -- | 107 | --- |
| Iron [7] | mg/L | 0.06 | -- | 0.2 | 0.3 [4] |
| Manganese [7] | mg/L | 0.2 | -- | 0.02 | 0.05 [4] |
| Nitrate as N | mg/L | 1.0 | 0.1 | 0.1 | 10 [8] |
| TKN | mg/L | 0.6 | 1.5 | 3.0 | --- |
| Potassium | mg/L | 5 | -- | 11 | --- |
| Sodium | mg/L | 35 | 2 | 14 | 69 [5] |
| Chloride | mg/L | 24 | 2 | 14 | 106 [5] - 600 [6] |

[1] Average pretreatment results from January 2008 through October 2010
[2] Average results from January 2009 through October 2013
[3] Average results from January 2013 through October 2013
[4] Secondary Maximum Contaminant Level
[5] Lowest Agricultural Water Quality Goal
[6] Secondary Maximum Contaminant Level range
[7] Dissolved metals concentrations
[8] Primary Maximum Contaminant Level

11. Wastewater and contact storm water are collected in trench and floor drains that drain to several concrete sumps and then conveyed to the process wastewater treatment system. The wastewater treatment process is shown schematically on Attachment C, which is attached hereto and made part of this Order by reference. The wastewater system includes the following components:

    a. Wastewater is screened with basket and strainers in each of the trench and floor drains.

    b. Trench and floor drains connect to a network of piping and appurtenant fittings that convey wastewater to centralized collection sumps.

    c. The wastewater sumps are equipped with pumps that transfer wastewater to the lined treatment ponds. Each sump system includes two self-priming centrifugal pumps mounted on aboveground concrete pads next to the reinforced concrete sump. The pumps operate in a lead-lag configuration, with the leading pump acting as the primary duty pump and the lagging pump acting as a standby pump.

d. When storm water is collected during outdoor winery processing activities, the water is pumped to the wastewater aeration ponds. When outdoor winery processing activities are not occurring, storm water is diverted to the storm water retention basins.

e. Flows from the sumps to the ponds are metered using an inline magnetic flow measurement device.

f. Motorized rotary drum screens are used to remove large solids from the influent to the ponds, thereby reducing the accumulation of solids and organic biological loading in the ponds. Solids collected from the screening operations are managed as pomace.

g. Wastewater is pumped to three high-density polyethylene (HDPE)-lined wastewater treatment ponds, which are equipped with mechanical aerators. Two of the wastewater treatment ponds were constructed in 2009 and provide approximately 8.7 million gallons (MG) in combined storage capacity. A third HDPE-lined wastewater treatment pond, built in 2010, provides 8.3 MG in storage capacity. Wastewater flows to Ponds 1 and 2 for flow equalization and aeration before wastewater is comingled in Pond 3 and then discharged to the LAAs. Storm water incident on outdoor winery processing areas is routed to the wastewater ponds only during times of outdoor processing. Non-contact, storm water is directed to an on-site storm water retention basin located in the southern portion of the site

12. The Discharger uses a number of chemicals in the wine-making, processing, cleaning, and sanitation processes at the facility. Chemicals and estimated quantities used at the facility are identified below:

| **Chemical** | **Areas Used** | **Used For** |
|---|---|---|
| Potassium Hydroxide | Cellar | Tanks, piping, and equipment cleaning |
| Peracetic Acid | Cellar | Tanks, piping, and equipment cleaning |
| Tri-Sodium Phosphate | Cellar | Tanks, piping, and equipment cleaning |
| Calcium Hypochlorite (65%) | Cellar | Floor Cleaning |
| Citric Acid (2-hydroxy-1,2,3-propanetricarboxylic acid) | Cellar | Tanks, piping, and equipment cleaning |
| Sani Bac (Alkyl Dimethyl Benzyl Ammonium Chloride) | Cellar | Tanks, piping, and equipment cleaning |
| Potassium Metabisulfite | Cellar | Wine Making |
| Ammonia | Cellar | Closed-circuit refrigeration |
| Nitrogen (gas) | Cellar | Prevent oxidation of wine in tanks. |

13. Portable Clean-in-Place (CIP) systems are used to clean wine filters. Use of a CIP system can reduce the amount of caustic used at the winery by reusing caustic for cleaning to the extent possible. CIP systems conserve more water thereby reducing the FDS load from the source water. The portable cleaning units do not use hot water; therefore, boiler and boiler feed water residuals are not generated.

14. Below is a summary of average annual effluent quality since 2010:

| Constituent | Effluent Concentration (mg/L) | | | | | 5-Year Average |
|---|---|---|---|---|---|---|
| | 2010 | 2011 [1] | 2012 | 2013 | 2014 | |
| BOD | 286 | 133 | 165 | 247 | 141 | 194 |
| TDS | 1,894 | 1,467 | 1,667 | 1,750 | 1,708 | 1,678 |
| FDS | 1,412 | 1,054 | 1,275 | 1,342 | 1,417 | 1,300 |
| Bicarbonate [2] | 1,135 | 463 | 893 | 920 | 982 | 879 |
| Sodium | 88 | 77 | 85 | 84 | 63 | 81 |
| Chloride | 65 | 50 | 78 | 64 | 70 | 64 |
| Sulfate | 8 | 15 | 37 | 49 | 63 | 34 |
| Total Nitrogen [3] | 26 | 18 | 16 | 25 | 21 | 21 |

[1] Effluent monitoring data from Pond 2 used through July 2011 and then Pond 3 monitoring data thereafter.
[2] Annual average of quarterly sampling.
[3] Total nitrogen is the sum of TKN and nitrate nitrogen.

15. Treated wastewater is used to irrigate the LAAs. The Discharger is currently has approximately 111 acres of LAAs. Additional on-site acreage was defined in Order R5-2009-0073 for future LAA use. In 2012, LAA-3 was relocated approximately 1,000 feet east of its original location in anticipation of construction of a new bottling facility. Below is a summary of the current LAAs.

| LAA ID | Acres | Date Wastewater First Applied | Source of Supplemental Irrigation Water | Crops | Irrigation System |
|---|---|---|---|---|---|
| LAA-1 | 15.5 | May 2002 | Wastewater and Woodbridge Irrigation District | Perennial Turfgrass | Sprinkler |
| LAA-2 | 64 | November 2009 | Wastewater and Woodbridge Irrigation District | Sudan Grass, Corn, Forage | Flood Irrigation |
| LAA-3 | 25 | November 2009 [1] | Wastewater | Cover Crops | Microspray |
| | | | Woodbridge Irrigation District | Wine Grapes | Drip Irrigation |

[1] Discharge was relocated in 2012 in preparation for construction of the bottling plant.

Annual volumes discharged to land from the wastewater ponds between 2010 and 2014 are summarized below.

| Year | Annual Total Flow (MGY) | Average Monthly Flow (MG) | Average Daily Flow (MGD) |
|---|---|---|---|
| 2010 | 11.75 | 0.98 | 0.03 |
| 2011 | 11.57 | 0.96 | 0.03 |
| 2012 | 26.65 | 2.22 | 0.07 |
| 2013 | 20.15 | 1.68 | 0.06 |
| 2014 | 29.83 | 2.49 | 0.08 |
| Current Flow Limit: | 30 | 7.0 | None |

16. The annual combined discharge of wastewater and supplemental irrigation water to the LAAs for 2010 through 2014 is summarized below.

| Year | Acres Applied | Average Yearly Wastewater Discharge | | Average Yearly Supplemental Irrigation | | Discharge Ratio [1] |
|---|---|---|---|---|---|---|
| | | Volume (MG) | Depth (Inches) [2] | Volume (MG) | Depth (Inches) [2] | |
| 2010 | 107.5 | 11.7 | 4.0 | 68.5 | 9.9 | 5.8 |
| 2011 | 104.3 | 11.6 | 4.1 | 69.4 | 10.1 | 6.0 |
| 2012 | 104.3 | 26.6 | 9.4 | 79.8 | 12.4 | 3.0 |
| 2013 | 104.3 | 20.1 | 7.1 | 56.4 | 9.9 | 2.8 |
| 2014 | 111.22 | 29.8 | 9.9 | 76.8 | 12.5 | 2.6 |

[1] Ratio of supplemental irrigation water to wastewater discharge
[2] Inches applied to combined LAAs

17. According to the RWD, irrigation of the existing LAAs is performed in a manner that minimizes ponding and prevents the generation of tailwater. There is currently no tailwater collection system. Each LAA is allowed to rest between irrigation cycles.

18. Storm water that mixes with wastewater is discharged to the wastewater system. Uncontaminated (non-contact) storm water is discharged to an on-site storm water retention basin located in the southern portion of the existing facility. The existing storm water retention basin has a capacity of approximately 4.9 MG. The following summarizes current storm water management procedures:

    a. Storm water that falls onto uncovered wine processing areas and exterior tank areas is collected in the facility's wastewater drainage system. During winery operations, the wastewater/storm water mixture is pumped to the wastewater ponds for treatment, and then applied to the LAAs.

b. During high precipitation events, the pipes are flushed to the wastewater ponds by pumping three sump volumes of water into the wastewater ponds. Then, automated valves are switched so that water subsequently accumulated on the paved area is diverted to the storm water pond.

c. After the flushing process, the valves are programmed to switch position so that water entering the sumps overnight or on weekends would be diverted to the storm water pond. The system is equipped with notification alarms if a valve fails.

The Discharger minimizes storm water discharge to the wastewater ponds by limiting outdoor work during rainy periods. Monitoring and Reporting Program R5-2009-0073 requires storm water quality monitoring whenever there is enough water in the storm water pond to be sampled to ensure that the pond does not contain significant amounts of waste constituents. Below is a summary of storm water sampling results from 2010 through 2014.

| **Analyte** | **Units** | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|---|
| Number of monitoring events per year | -- | 6 | 4 | 1 | 2 | 1 |
| pH | Std. Units | 8 - 9.5 | 7.78 - 8.1 | 7.04 | 7.21 - 7.4 | 7.7 |
| Electrical Conductivity | umhos/cm | 555 | 577 | 369 | 598 | 314 |
| Biochemical Oxygen Demand | mg/L | 16 | 40 | 12 | 13 | -- |
| Dissolved Oxygen | mg/L | 12 | 8 | 4 | 4 | 9 |
| Total Dissolved Solids | mg/L | 345 | 480 | 160 | 380 | -- |
| Fixed Dissolved Solids | mg/L | 222 | 338 | 110 | 220 | -- |
| Nitrate Nitrogen | mg/L | 1.5 | 1.2 | <4.0 | <0.4 | -- |
| Total Kjeldahl Nitrogen | mg/L | 2.9 | 4.75 | <1.0 | 2 | -- |

19. The results of storm water pond sampling from 2010 through 2014 indicate that significant discharge of wastewater has not occurred to the storm water basin.

20. Monthly discharge volumes for wastewater and supplemental irrigation water to each LAA were provided in the Annual Monitoring Reports. The annual distribution and blending ratio of supplemental water to wastewater varied greatly to the LAAs between 2010 and 2014, resulting in a high degree of variability in flow-weighted effluent FDS concentrations to each LAA. The following table summarizes the annual FDS flow-weighted average with supplemental irrigation water from Woodbridge Irrigation District from 2010 through 2014.

| Year | Annual FDS Flow-Weighted Average (mg/L) |
|---|---|
| 2010 | 1,358 |
| 2011 | 1,150 |
| 2012 | 1,239 |
| 2013 | 1,310 |
| 2014 | 1,432 |

21. Flow and wastewater monitoring data and discharge calculations for wastewater and supplemental irrigation water to each LAA were provided in the Annual Monitoring Reports. Based on measured wastewater flows to each LAA, FDS monitoring results for Pond 3 effluent, and the gross LAA acreage used as reported in the Annual Monitoring Reports, the following table summarizes the annual FDS loading from wastewater from 2010 through 2014, calculated as an average across all three LAAs.

| Annual Wastewater FDS Mass Loading (lb/acre/year) | | | | |
|---|---|---|---|---|
| **2010** | **2011** | **2012** | **2013** | **2014** |
| 1,238 | 1,064 | 2,640 | 2,110 | 3,203 |

22. Flow and wastewater monitoring data and discharge calculations for wastewater and supplemental irrigation water to each LAA were provided in the Annual Monitoring Reports. The following table summarizes the annual nitrogen loading to each LAA from wastewater, supplemental irrigation water and fertilizers from 2010 through 2014 as reported in the Annual Monitoring Reports.

| LAA | Crop Description | Annual Nitrogen Loading (lb/acre/year) | | | | |
|---|---|---|---|---|---|---|
| | | 2010 | 2011 | 2012 | 2013 | 2014 |
| LAA-1 | Grass | 0 | 0 | 0 | 8 | 0 |
| LAA-2 | Crops | 2.4 | (217) [1] | (24) [1] | 19 (212) [1] | 33 |
| LAA-3 | Vineyard | 0 | 0 | <1 | 4 | 21 |

[1] Values in parentheses represent total nitrogen applied as reported in the Annual Monitoring Reports, but the reported values apparently do not include additional nitrogen from the applied wastewater.

Based on the calculated values presented in the Annual Monitoring Reports, it is not possible to determine whether nitrogen was applied at rates consistent with crop needs. However, based on a five-year average total nitrogen concentration for the effluent wastewater of 21 mg/L, and an assumed total annual wastewater flow to the LAAs at the currently permitted annual volume of 30 MG per year, the site-wide average nitrogen loading rate for wastewater only would have been 47 lb/ac/year.

This loading rate is trivial compared to the needs of the majority of crops and a substantial amount of nitrogen from supplemental fertilizer is required.

23. 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. Additionally, 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. 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.

24. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface and within the evapotranspiration zone. The maximum daily BOD loading rate that can be applied to land without creating nuisance conditions 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 on the day of application to prevent nuisance, but indicates the loading rates can be even higher under certain conditions.

25. 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. However, it is known that reducing conditions that dissolve naturally occurring soil metals can be prevented or controlled by managing applications to ensure that there is a resting period between successive applications that allows for soil drying to allow oxygen to transfer from the atmosphere into the evapotranspiration zone. Typically, the metric used for loading rates to prevent reducing conditions is the irrigation cycle average BOD mass loading rate, which is the total mass of BOD applied per acre during a single irrigation event divided by the number of days of application plus the number of resting days prior to the next application.

    The California League of Food Processors' Manual of Good Practice for Land Application of Food Processing/Rinse Water proposes risk categories associated with particular irrigation cycle average 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. 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.

26. The current WDRs impose a daily maximum loading rate limit of 300 lb/ac/day and a BOD loading rate limit of 100 lb/ac/day as a five-day average to prevent reducing conditions in the LAA soils. As noted above, it is more appropriate to apply a BOD mass loading rate limit in the form of an irrigation cycle average loading. Based on calculations presented in the Annual Monitoring Reports, the highest seven-day average BOD loading rates to the LAAs between 2010 and 2014 are tabulated below.

| Year | Maximum Seven-Day Average BOD Loading Rate (lb/acre/day) | | |
|---|---|---|---|
| | **LAA-1** | **LAA-2** | **LAA-3** |
| 2010 | 0 | 11 | 2 |
| 2011 | 4 | 19 | 3 |
| 2012 | 22 | 2 | 2 |
| 2013 | 10 | 27 | 6 |
| 2014 | 0 | 8 | 6 |

Unless the irrigation cycle is typically 7 days, there is no direct correlation between a 7-day average BOD loading rate and the actual irrigation cycle average loading rate. However, these data indicate that the recent historical BOD loading rates complied with the limit set forth in the current WDRs and correspond to CLFP Risk Category 1.

27. Solid waste generated by wine making includes stems, pomace, leaves, spent diatomaceous earth, and solids settled from grape juice and wine. Pomace, stems, and leaves are stored on a concrete slab that drains to the wastewater ponds. During the crush season, diatomaceous earth is stored on a concrete slab, while during the remainder of the year it is stored in a 20-cubic yard watertight bin prior to off-site

disposal. These wastes are managed as non-hazardous waste hauled off-site for composting or other uses. Sutter Home has not removed sludge from the wastewater treatment ponds since they were lined and put in service in 2009 and 2011.

28. Domestic wastewater is generated at the washrooms and toilets, and an employee lunchroom. Until 2014, domestic wastewater generated at the winery was discharged into a septic system permitted by the San Joaquin County Environmental Health Department. A larger septic system with a subsurface drip leachfield located at the northeastern portion of the facility was constructed in 2014 and is currently permitted under separate Waste Discharge Requirements.

**Planned Changes to the Facility and Discharge**

29. The Discharger is planning to increase wine production to ultimately crush up to 200,000 tons of grapes annually and has constructed a bottling plant. The RWD states that the annual wastewater volume will be as high as 70 MGY, with approximately 11 MGY of that total generated by the bottling plant. The Discharger is not planning to increase wastewater treatment or storage capacity.

In July 2013, the Discharger purchased approximately 166 acres of agricultural land west of the existing facility property for use as new LAAs to support the increased wastewater discharge. The existing LAAs and recently acquired land will be reconfigured to provide approximately 268 acres of LAAs. The reconfigured LAA system is summarized below.

| LAA Subunits | Current Use | Area (acres) | Supplemental Irrigation Water Source | Proposed Crop | Irrigation System |
|---|---|---|---|---|---|
| North Block LAAs | | | | | |
| N-1, N-2, N-3 N-4 | LAA-2 | 58.6 | Woodbridge Irrigation District | Corn/Forage Double Crop | Flood |
| East Block LAAs | | | | | |
| E-1, E-2, E-3 | Portions of LAA-3 and unused LAA | 46.2 | Woodbridge Irrigation District | Corn/Forage Double Crop | Flood |
| West Block LAAs | | | | | |
| W-5 | New LAA | 16.6 | Woodbridge Irrigation District | Corn/Forage Double Crop | Flood |
| W-1, W-4 | New LAA | 57.7 | Sycamore Slough | Corn/Forage Double Crop | Flood |
| W-2, W-3 | New LAA | 89.2 | Sycamore Slough | Alfalfa | Flood |

30. Wastewater will be applied to the LAAs year-round as needed to support crops. Treated wastewater from Pond 3 and supplemental irrigation water will be conveyed through separate distribution pipes to each of the LAAs.

31. The Discharger has constructed additional storm water retention basins surrounding the recently constructed bottling facility. One of these basins, located immediately east of the bottling plant building (Basin B), is approximately 3.8 acres in size, and will be used as a backup LAA for wastewater discharge. The original 8.25-acre storm water retention basin on the southern side of the original facility (Basin A) will also be used as a backup LAA for wastewater discharge. A site map depicting the recently constructed bottling plant, additional storm water basins, and the reconfigured LAAs is shown on Attachment D, which is attached hereto and is made part of this Order by reference.

32. Flood irrigation will be used to apply wastewater and supplemental irrigation water using a series of narrow checks within each of the LAAs. The RWD states that the Discharger will minimize tailwater and potential ponding by matching the inflow rate with the infiltration capacity of the soil. Furrows and checks will be used to promote the even application of wastewater within each LAA. Elevations of the new LAAs are lower than the surrounding access roads, which provides tailwater control and will prevent off-site runoff. Regular inspections of reconfigured LAAs will be performed to identify areas that need to be regraded or require maintenance.

33. The RWD provided a water balance hydraulic capacity analysis to show that the systems of existing ponds and planned LAAs will have sufficient hydraulic capacity to accommodate the proposed wastewater flow increase. The water balance included two models: one for the average year, 365-day precipitation event, and another for the 100-year, 365-day precipitation event. The two models assumed year-round cropping or perennial crops, and the application of supplemental irrigation water as needed to meet crop needs based on specific soil types, which vary across the site. The hydraulic capacity analysis demonstrated that the existing pond system and expanded LAAs can accommodate the increased flow. However, the water balance relied on a soil water balance approach and a leaching fraction of 7 to 9 inches during a normal precipitation year and 22 to 29 inches during the 100-year 365-day return period, as well as irrigation during periods when crop water demand will be met by precipitation (even in a normal rainfall year).

34. The RWD stated that the chemical character of wastewater influent to the treatment ponds will be similar to existing influent character except that wastewater from the new bottling operation is expected to contain lower concentrations of FDS. The RWD estimated influent FDS concentrations from the bottling line will range from 400 mg/L to 650 mg/L, and will average 515 mg/L based on data collected from another winery facility.

Prior to August 2012, the WDRs set an effluent limit for FDS of 1,100 mg/l as an annual average concentration. At the Discharger's request, the WDRs were amended in August 2012 to revise the effluent limit for FDS to 1,500 mg/L as a flow-weighted annual average as measured in effluent flows applied to the LAAs from Pond 3. Based on measured wastewater flows from Pond 3 to each LAA, FDS monitoring results for Pond 3 effluent, and the gross LAA acreage used as reported in the Annual Monitoring Reports, the recent history of flow-weighted annual average FDS concentrations is provided below.

| Year | Total LAA Area (acres) | Total Annual Wastewater Volume (gallons) | Flow-Weighted Annual Average FDS Concentration (mg/L) | Site-Wide Average[1] FDS Loading Rate (lb/acre/year) |
|---|---|---|---|---|
| 2010 | 107.5 | 11,749,900 | 1,358 | 1,238 |
| 2011 | 104.3 | 11,571,600 | 1,150 | 1,064 |
| 2012 | 104.3 | 26,648,900 | 1,239 | 2,640 |
| 2013 | 104.3 | 20,145,900 | 1,310 | 2,110 |
| 2014 | 111.22 | 29,826,200 | 1,432 | 3,203 |

[1] Based on the total mass and total acreage used during the calendar year. Individual LAA loading rates were variable.

However, these calculated values understate the actual effluent FDS concentrations and loading rates because the Discharger has been adding supplemental irrigation water directly to Pond 3 to reduce the FDS concentration in order to comply with the effluent limit.

35. The Discharger states that Sutter Home Winery has been aggressively implementing water conservation measures for the last several years, and that water conservation has caused, and will continue to cause, increases in effluent salinity concentrations despite the addition of lower salinity bottling line wastewater. In a RWD amendment dated March 2015, the Discharger requested that the FDS effluent limit be increased to 2,000 or 2,100 mg/L as a flow-weighted annual average, and provided the estimated values tabulated below to support that request.

| Year | Total Annual Wastewater Volume (MG) | Volume of Wine Produced (MG) | Gallons of Wastewater per Gallon of Wine Produced |
|---|---|---|---|
| 2010 | 19.4 | 9.1 | 2.14 |
| 2011 | 22 | 12.5 | 1.77 |
| 2012 | 30 | 18.2 | 1.65 |
| 2013 | 24.7 | 16.7 | 1.48 |
| 2014 | 27.8 | 21 | 1.33 |

The March 2015 RWD amendment further stated that, based on projected wastewater flows from the bottling plant and the expanded winery, an estimated FDS concentration of 514 mg/L for bottling wastewater, and the actual 2014 winery wastewater FDS concentration of 1,432 mg/L, a flow-weighted annual average FDS concentration limit of 2,000 mg/L would effectively prohibit additional water conservation beyond that which has already been implemented.

Beginning in 2010, FDS monitoring data were collected from Ponds 1 and 2 to represent effluent wastewater quality from the winery, in accordance with the Monitoring and Reporting Program. Effluent monitoring for Pond 3 began in August 2011. The Discharger has continued to collect monitoring data from both Ponds 2 and 3 since 2011. Because supplemental water has been periodically added to Pond 3, flow monitoring influent to the pond system and FDS monitoring data from Pond 2 represent a more accurate representation of wastewater quality. A summary of FDS mass loading from 2010 through 2014 is presented below based on total influent flow and Pond 2 effluent FDS.

| Year | Influent to Ponds 1 and 2 (MG) [1] | Flow-Weighted Annual Average FDS Concentration (mg/L) [2] | LAAs in Use (Acres) | Flow-Weighted FDS Mass Loading (lb/acre/yr) |
|---|---|---|---|---|
| 2010 | 19.4 | 1,446 | 107.5 | 2,181 |
| 2011 | 22.1 | 1,158 | 104.3 | 2,047 |
| 2012 | 29.9 | 1,609 | 104.3 | 3,844 |
| 2013 | 24.7 | 2,609 | 104.3 | 5,161 |
| 2014 | 27.8 | 2,451 | 111.22 | 5,121 |

[1] As reported in annual winery effluent monthly summaries presented in the Annual Monitoring Reports

[2] Based on average monthly FDS monitoring data from Pond 2.

36. Based on the water balance provided in the RWD, the anticipated total nitrogen loading rates to the LAAs are expected to be approximately 50 lb/ac/year. Because nitrogen concentrations in the wastewater are relatively low, supplemental nitrogen will be needed to maintain crop productivity.

37. The highest effluent BOD concentration of the wastewater in Pond 3 in 2014 was 270 mg/L. The RWD did not provide specific estimates of maximum daily or irrigation cycle average BOD loading rates. However, the water balance included in the RWD indicates that a maximum of 5.2 inches of wastewater would be applied to any LAA in a single month. Assuming that depth of wastewater were to be applied in one day and a minimum irrigation cycle of 7 days, the estimated

maximum daily BOD loading would be approximately 318 lb/ac/day, and the irrigation cycle average loading rate would be approximately 45 lb/ac/day.

If the maximum Pond 3 BOD effluent concentration were to increase by 30 percent to 350 mg/L, the estimated maximum daily BOD loading would be approximately 413 lb/ac/day, and the assumed 7-day irrigation cycle average loading rate would be approximately 59 lb/ac/day.

Either of these scenarios would be consistent with CLFP Risk Category 2. Therefore, this Order sets an irrigation cycle average BOD loading rate limit for the LAAs of 100 lb/acre/day for flood irrigation and requires that the Discharger manage land application to evenly distribute the BOD load evenly between the LAAs and within each LAA.

38. Because of the sequence of LAA improvements, not all LAAs will be available for continuous use during 2015. In the Discharger's 17 April 2015 comments on the tentative version of this Order, the Discharger proposed the following build-out schedule.

<table>
<tr><th rowspan="2">2015 by Month</th><th colspan="2">East Block LAAs</th><th colspan="2">North Block LAAs</th><th colspan="2">West Block LAAs</th><th rowspan="2">Total Available Acres</th></tr>
<tr><th>Activity</th><th>Acres</th><th>Activity</th><th>Acres</th><th>Activity</th><th>Acres</th></tr>
<tr><td>January</td><td rowspan="2">Land Apply</td><td rowspan="2">46</td><td>Land Apply N1-N3</td><td rowspan="6">56</td><td rowspan="6">No Wastewater Application</td><td rowspan="6">0</td><td rowspan="2">102</td></tr>
<tr><td>February</td><td>Land Apply</td></tr>
<tr><td>March</td><td rowspan="4">Construct LAA</td><td rowspan="4">0</td><td>Land Apply, Harvest</td><td rowspan="4">56</td></tr>
<tr><td>April</td><td>Land Apply, Replant</td></tr>
<tr><td>May</td><td rowspan="2">Land Apply N1-N3, Construct N4</td></tr>
<tr><td>June</td></tr>
<tr><td>July</td><td rowspan="4">Land Apply</td><td rowspan="6">46</td><td rowspan="2">Construct N1-N4</td><td rowspan="2">0</td><td rowspan="4">Construct [1]</td><td rowspan="5">0</td><td rowspan="2">46</td></tr>
<tr><td>August</td></tr>
<tr><td>September</td><td rowspan="4">Land Apply</td><td rowspan="4">70</td><td rowspan="3">116</td></tr>
<tr><td>October</td></tr>
<tr><td>November</td><td>Land Apply, Harvest, Replant</td><td>Construct, Plant</td></tr>
<tr><td>December</td><td>Land Apply</td><td>Land Apply</td><td>163</td><td>279</td></tr>
</table>

[1] Assumes WDRs adopted during June 2015 Board hearing

Despite the temporary deficit in available LAAs, the Discharger also requested that the interim wastewater flow limit be increased from the current 30 million gallons per year (mg/y) to 35 mg/y to allow for immediate operation of the bottling plant. This will result in temporary hydraulic and waste constituent overloading, but it is not likely to adversely affect groundwater quality if the overloading is limited to a short period. Therefore, this Order requires that all LAA construction be completed and all LAAs be fully operational by 30 December 2015.

**Site-Specific Conditions**

39. Land use in the vicinity of the site consists of vineyards and agricultural operations, including confined animal facilities to the north, east, and south of the site. Jacob Brack Road and Interstate Highway 5 border the facility to the east.

40. The topography of the site and surrounding area is generally level with an approximate mean sea level (MSL) surface elevation. The facility is within the Lower Mokelumne Hydrologic Area (No. 531.20), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986. Sycamore Slough borders the northern portion of the site, and then bisects the western portion of the site where it then connects with the Upland Canal. Sycamore Slough then drains westward into the South Mokelumne River.

41. An irrigation canal owned by the Woodbridge Irrigation District enters the eastern portion of the site, and then runs along the southern property line. In 2014, a portion of the Woodbridge Irrigation District canal was relocated outside the facility boundary and converted to a pipeline to allow for more agricultural land use at the site.

42. Elevations of the LAAs are such that runoff from the facility cannot flow off-site or into the nearby Woodbridge Irrigation District canal or Sycamore Slough. Aside from Sycamore Slough, the nearest surface water is the South Mokelumne River, located approximately 4.5 miles west of the facility.

43. According to Federal Emergency Management Agency (FEMA) flood zone mapping, the western half of the site, including the three lined wastewater ponds, is located within the 100-year flood zone that is subject to flooding greater than three-feet. The northeastern portion of the site is located within the 100-year flood zone with no base elevation determined, while the southeastern portion of the site is designated within the 500-year Zone X flood plain. The tops of the berms for the three existing wastewater ponds are higher than the currently-defined 100-year flood zone.

44. The western Lodi area is underlain by alluvial deposits consisting of fine grained sand, silt, and clay. According to United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) data, near-surface soils at the site are classified primarily as Devries sandy loam and Guard clay loam. These soils are generally characterized as moderate to poorly drained alluvial floodplain deposits with low permeability rates. Published infiltration rates for the soils range from 0.05 to 1.5-in/hr.

45. Based on climate data from the California Irrigation Management Information System (CIMIS), the average annual precipitation for the nearby area (Lodi West Station 166) is approximately 17.1 inches per year. The 100-year, 365-day precipitation event is approximately 33.6 inches, and the average reference evapotranspiration (ETo) rate is approximately 50.3 inches per year.

## Groundwater Conditions

46. Lodi is located within the Eastern San Joaquin Subbasin of the San Joaquin River Groundwater Basin, San Joaquin River Hydrologic Region. Water-bearing units of the subbasin include undifferentiated deposits of alluvium and flood basin deposits of the Laguna Formation. The Plio-Pleistocene Laguna Formation consists of discontinuous lenses of fluvial sand and silt with lesser amounts of clay and gravel.

47. Shallow groundwater in the Lodi area occurs within the alluvial flood plain deposits to depths of greater than 20 feet bgs. The depth to groundwater is as little as a few feet below ground surface in some areas, especially near unlined canals and surface water bodies such as Sycamore Slough.

48. The Eastern San Joaquin Groundwater Basin Groundwater Management Plan1 summarizes the geologic and hydrogeologic conditions in the Eastern San Joaquin, Cosumnes, and Tracy Sub-basins of the greater San Joaquin Valley Groundwater Basin. According to the Plan, degradation of water quality due to TDS and/or chloride contamination threatens the long-term sustainability of groundwater as a water resource for drinking water needs and irrigating crops. Regional sources of groundwater degradation include applied fertilizers, salts, and septic systems (nitrate and salt loading).

49. Shallow groundwater depth and flow conditions can vary depending on location, season, land use, nearby pumping (i.e. construction dewatering, agricultural wells and irrigation, etc.), and the proximity and flow stage of nearby surface water bodies. As a result, changes in agricultural land use, irrigation practices, and regional pumping have likely altered the groundwater flow regime. The local topography and low horizontal gradient[2] suggest a low net horizontal movement of shallow groundwater.

50. Twenty two shallow groundwater monitoring wells (GW-1 through GW-22) were installed at the site between 2002 and 2013 to collect pre-discharge groundwater data and compliance monitoring data during the use of various LAAs. The monitoring wells were constructed with 2-inch Schedule 40 PVC casing in accordance with California Department of Water Resources Well Standards. Groundwater monitoring well details are summarized below, and the locations are shown on Attachment D.

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[1] San Joaquin County Department of Public Works, Stockton, 2004.
[2] 2014 Annual Monitoring Report, Condor Earth Technologies, Inc., 21 January 2015.

| Well ID | Year Installed | Screen Interval (feet bgs) | Description of Well Location and Function |
|---|---|---|---|
| GW-1 | 2002 | 5.5 – 14.5 | Southeast corner of property and adjacent to Woodbridge Irrigation District canal; downgradient of future LAA E-2 |
| GW-2 | 2002 | 5.9 – 14.8 | Centrally located; downgradient of current LAA-3; limited value as a future compliance well |
| GW-3 | 2002 | 5.4 – 14.3 | Along southern property line adjacent to storm water basin and Woodbridge Irrigation District canal; limited value as a future compliance well |
| GW-4 | 2002 | 5.7 – 14.6 | Along southern property line adjacent to storm water basin and Woodbridge Irrigation District canal; limited value as a future compliance well |
| GW-5 | 2002 | 5.8 – 14.7 | Downgradient of current LAA-1 and future LAA N-4; presumed [1] upgradient of future LAA W-5 |
| GW-6 | 2002 | 5.9 – 14.8 | Downgradient of current LAA-1 and future LAA N-4; presumed [1] upgradient of future LAA W-5 |
| GW-7 | 2002 | 5.8 – 14.7 | Within current LAA-1 and future LAA N-4 |
| GW-8 | 2009 | 6.6 – 16.6 | Within current LAA-2 and future LAA N-3; downgradient of lined wastewater ponds |
| GW-9 | 2009 | 7.1 – 17.1 | Within current LAA-2 and downgradient of future LAA N-2 |
| GW-10 | 2009 | 5.9 – 15.9 | Within current LAA-2 and downgradient of future LAA N-2; upgradient of lined wastewater ponds |
| GW-11 | 2009 | 7.2 – 17.2 | Within current LAA-2 and future LAA N-2; downgradient of future LAA N-1 |
| GW-12 | 2009 | 7.2 – 17.2 | Upgradient edge of current LAA-2 and downgradient of both current and former LAA-3; Upgradient edge of future LAA N-1 |
| GW-13 | 2009 | 9.3 – 19.3 | Eastern end of property downgradient of an existing dairy waste discharge field owned by others and domestic wastewater leachfield; limited value as a future LAA compliance well |
| GW-14 | 2009 | 7.1 – 17.1 | Within current LAA-2; downgradient of future LAA N-3; presumed[1] upgradient of future LAA W-5 |
| GW-15 | 2010 | 7.1 – 17.1 | Downgradient of current LAA-2 and future LAA N-3; presumed [1] upgradient of future LAA W-5 |
| GW-16 | 2010 | 7.8 – 17.8 | Adjacent to northern property line, background monitoring well |
| GW-17 | 2010 | 7.9 – 17.9 | Adjacent to northern property line, background monitoring well |

| Well ID | Year Installed | Screen Interval (feet bgs) | Description of Well Location and Function |
|---|---|---|---|
| GW-18 | 2010 | 7.3 – 17.3 | Eastern end of property; downgradient of current LAA-3 and future LAA E-1 |
| GW-19 | 2013 | 5.0 – 15.0 | Downgradient of future LAA W-1 |
| GW-20 | 2013 | 4.7 – 14.7 | Downgradient of future LAA W-1 |
| GW-21 | 2013 | 4.7 – 14.7 | Downgradient of future LAAs W-1, W-2 and W-3 |
| GW-22R | 2014 | 5.0 – 15.0 | Downgradient of future LAAs W-1, W-2 and W-3 |

[1] To be verified after installation of additional monitoring well within future LAA N-5

51. Monitoring well installation logs indicate that shallow soils at the facility consist of inter-bedded silt and fine to medium-grained sand intervals to depths of approximately 50 feet below ground surface (bgs). The twenty-two monitoring wells are screened in the uppermost saturated zone across intervals of fine to medium grained sands inter-bedded with fine-grained sediments.

52. Quarterly groundwater monitoring conducted since 2002 shows that shallow groundwater occurs at approximately 10 feet bgs and fluctuates seasonally. The direction of groundwater flow is generally to the west across the central and western portions of the site, and with a relatively low degree of horizontal gradient (less than 0.001 ft/ft). Groundwater flow at the east end of the facility has a more south-southeasterly component, and may be influenced by local pumping or surface recharge.

53. Groundwater monitoring wells GW-1 through GW-7 were installed in March 2002 to collect pre-discharge groundwater data for LAA-1. These wells were then used for compliance monitoring (LAA-1 was the only LAA in use from 2002 until October 2009). A summary of pre-discharge groundwater data from GW-1 through GW-7 is provided below.

| Monitoring Well | Number of Sampling Events | Pre-Discharge Groundwater Monitoring Data (mg/L) | | | | | |
|---|---|---|---|---|---|---|---|
| | | TDS | FDS | Cl | Na | $NO_3$-N | Sulfate |
| GW-1 [1] | 30 | 700 | 590 | 23 | 18 | 1 | 23 |
| GW-2 [1] | 30 | 1,210 | 920 | 26 | 127 | 3 | 70 |
| GW-3 [1] | 30 | 1,210 | 500 | 13 | 41 | 8 | 40 |
| GW-4 [1] | 30 | 820 | 710 | 20 | 50 | 33 | 48 |
| GW-5 [2] | 1 | 840 | 730 | 20 | 50 | 23 | 41 |
| GW-6 [2] | 1 | 890 | 700 | 25 | 164 | 5 | 100 |
| GW-7 [2] | 1 | 1,110 | 820 | 34 | 158 | 12 | 210 |

[1] Pre-discharge data collected between 28 March 2002 and 26 August 2009
[2] Data collected on 24 June 2002

54. In September 2008, eleven direct push soil borings were advanced and sampled to collect pre-discharge grab groundwater data before the current lined wastewater ponds were constructed and before discharge began to LAA-2 and LAA-3. The resulting data are summarized below.

| Sampling Location | Pre-Discharge Groundwater Monitoring Data (mg/L) | | | | | |
|---|---|---|---|---|---|---|
| | TDS | Cl | Na | Total N [1] | $NO_3$-N | Sulfate |
| KB-1 | 202 | 3 | 8 | 1 | 0.72 | 5 |
| KB-2 [2] | 1,070 | 70 | 221 | 29 | 29 | 75 |
| KB-3 [2] | 972 | 30 | 183 | 39 | 38 | 77 |
| KB-4 | 793 | 42 | 91 | 3 | 31 | 110 |
| KB-5 | 893 | 29 | 181 | 34 | 34 | 53 |
| KB-6 | 878 | 31 | 100 | 57 | 54 | 56 |
| KB-7 | 622 | 18 | 35 | 7 | 7 | 35 |
| KB-8 | 317 | 22 | 25 | <1.0 | <0.25 | 13 |
| KB-9 | 944 | 38 | 92 | <1.0 | 44 | 132 |
| KB-10 | 622 | 24 | 41 | <1.0 | 4 | 27 |
| KB-11 | 750 | 15 | 89 | <1.0 | 30 | 37 |

1 Total nitrogen is the sum of TKN and nitrate-N
2 Sampling location near adjacent off-site dairy operation

55. Groundwater monitoring wells GW-8 through GW-14 were installed on the northern half of the site in July 2009 to collect pre-discharge data before LAA-2 and LAA-3 began being used in November 2009. Included in this group of wells was GW-13, which is located on the far eastern end of the facility property and adjacent to an off-site dairy. Pre-discharge groundwater monitoring data were collected between July 2009 and September 2009. The average pre-discharge monitoring results are summarized below.

| Sampling Location | Number of Sampling Events | Pre-Discharge Groundwater Monitoring Data (mg/L) | | | | |
|---|---|---|---|---|---|---|
| | | TDS | Cl | Na | $NO_3$-N | Sulfate |
| GW-8 | 3 | 733 | 23 | 157 | 21 | 35 |
| GW-9 | 3 | 557 | 33 | 69 | 26 | 29 |
| GW-10 | 3 | 653 | 38 | 64 | 23 | 36 |
| GW-11 | 3 | 787 | 46 | 216 | 28 | 75 |
| GW-12 | 3 | 663 | 74 | 128 | 29 | 52 |
| GW-13 | 3 | 693 | 55 | 121 | 16 | 38 |
| GW-14 | 3 | 590 | 35 | 81 | 4 | 34 |

56. Monitoring wells GW-15 through GW-18 were installed in February 2010 along the northern side of the site to provide background groundwater monitoring data. Because GW-15 is cross- to downgradient from LAA-2 and pre-discharge data were not collected from this well, GW-15 is not considered a background well. Monitoring wells GW-16 and GW-17 are considered background wells based on their consistently upgradient position with respect to all current and former LAAs. Monitoring well GW-18 was also considered a background well until the use of LAA-3 began in 2012.

57. On 28 June 2013, a Background Groundwater Quality Standard Report was submitted to comply with Provision 1.g of Order R5-2009-0073. The background study evaluated site-wide groundwater monitoring data and identified spatial variability with respect to shallow groundwater quality. The background study concluded that the spatial variability was influenced by discharges from nearby dairies located to the south, east, and northeast; infiltration of higher quality water from the unlined Woodbridge Irrigation District water supply canal located south of the site; infiltration from Sutter Home's storm water retention basin located along the southern boundary of the site; and a former septic system, which was replaced with a larger system elsewhere on the site in 2012. Below is a summary of background groundwater monitoring data from monitoring wells GW-16 and GW-17 from February 2010 to August 2010, and GW-18 from February 2010 through February 2012.

| Sampling Location | Number of Sampling Events | Background Groundwater Monitoring Data (mg/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | TDS | FDS | Cl | Na | Total N | $NO_3$-N | Sulfate [1] |
| GW-16 | 3 | 510 | 340 | 42 | 67 | 4 | 3 | 28 |
| GW-17 | 3 | 519 | 375 | 42 | 45 | 2 | 2 | 26 |
| GW-18 [2] | 9 | 525 | 405 | 15 | 49 | 7 | 2 | 32 |

[1] Data from samples collected on 31 March 2010
[2] Data from samples collected between 31 March 2010 and 29 February 2012

58. The current Monitoring and Reporting Program (MRP) for the site requires the analysis of groundwater samples for selected metals, but does not specify whether the samples should be field-filtered and analyzed for dissolved metals concentrations. Groundwater samples collected in May 2013 as part of the Background Groundwater Study were analyzed for total and dissolved iron and manganese. Additionally, in November 2013, groundwater samples from monitoring wells GW-19 through GW-22 were analyzed for dissolved iron and manganese. Below is a summary of dissolved iron and manganese concentrations from groundwater sampling conducted in May 2013 and November 2013.

| Monitoring Well | Iron [1] | | Manganese [1] | |
|---|---|---|---|---|
| | Total | Dissolved | Total | Dissolved |
| GW-1 | 20 | 2.62 | 7.8 | 6.68 |
| GW-2 | 4.5 | <0.03 | 0.017 | 0.02 |
| GW-3 | 4.94 | <0.03 | 0.17 | 0.01 |
| GW-4 | 2.53 | <0.03 | 2.81 | 0.82 |
| GW-5 | 0.85 | <0.03 | 1.22 | 1.11 |
| GW-6 | 2.2 | <0.03 | 4 | 2.17 |
| GW-7 | 0.17 | <0.03 | 0.21 | 0.21 |
| GW-8 | 2.44 | <0.03 | 0.13 | 0.05 |
| GW-9 | 6.1 | <0.03 | 0.12 | <0.01 |
| GW-10 | 10.5 | <0.03 | 1.18 | 0.77 |
| GW-11 | 17 | <0.03 | 2 | <0.01 |
| GW-12 | 20 | <0.03 | 0.56 | 0.09 |
| GW-13 | 9.47 | <0.03 | 0.16 | <0.01 |
| GW-14 | 19 | <0.03 | 3.2 | 0.79 |
| GW-14 | 2.5 | <0.03 | 1.4 | 0.41 |
| GW-16 | 11.7 | <0.03 | 0.33 | <0.01 |
| GW-17 | 8.86 | <0.03 | 0.23 | 0.02 |
| GW-18 | 26.6 | <0.03 | 0.56 | <0.01 |
| GW-19 | -- | <0.1 | -- | 0.44 |
| GW-20 | -- | <0.1 | -- | 0.46 |
| GW-21 | -- | <0.1 | -- | 0.21 |
| GW-22 | -- | <0.1 | -- | 0.23 |
| Water Quality Objective | 0.3 [2] | | 0.05 [2] | |

[1] All results reported in milligrams per liter.
[2] Secondary Maximum Contaminant Level

59. In November 2013, four monitoring wells (GW-19 through GW-22) were installed to obtain pre-discharge groundwater data for the proposed new LAAs located west of the existing facility and Sycamore Slough. Since that time these wells have been sampled quarterly. Pre-discharge monitoring data from November 2013 through August 2014 for GW-19 through GW-22 are summarized below.

| Parameter | Pre-Discharge Groundwater Monitoring Data (mg/L) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | TDS | Cl | Na | Total N | $NO_3$-N | Fe [1] | Mn [1] | B [2] |
| GW-19 | 629 | 24 | 52 | 7 | 4 | <0.1 | 0.44 | 0.2 |
| GW-20 | 593 | 23 | 74 | 7 | 4 | <0.1 | 0.46 | 0.2 |
| GW-21 | 596 | 29 | 111 | 10 | 7 | <0.1 | 0.21 | 0.2 |
| GW-22 | 652 | 30 | 99 | 10 | 5 | <0.1 | 0.23 | 0.2 |

[1] Dissolved concentration from a single sampling event conducted on November 2013.
[2] Total metal concentration average.

60. Based on the planned expansion and reconfiguration of the LAAs and expected direction of shallow groundwater flow, the current monitoring well network is not adequate to monitor future LAAs E-2, W-2, W-4 and W-5. Therefore, this Order requires that the Discharger install additional monitoring wells.

61. Pre-discharge groundwater conditions in 2002, 2008, and 2013 illustrate a high degree of spatial variability in nitrate, sodium, and TDS groundwater concentrations prior to any discharge of winery waste. Pre-discharge groundwater data collected in 2002 prior to the use of LAA-1 and additional data collected in 2008 prior to the use of LAA-2 and LAA-3 identified several locations across the property where TDS and/or nitrate nitrogen, exceeded their water quality objectives. Because pre-discharge groundwater data from on-site monitoring wells shows temporal and spatial variability, a determination of source or sources of these constituents from on- or off-site activities prior to Sutter Home's discharge could not be made. Regardless of the pre-discharge source(s) of nitrate and TDS to groundwater, it is appropriate to rely on an intrawell evaluation to determine whether the discharge is causing or contributing to degradation.

62. An intra-well evaluation was conducted for each LAA by comparing pre-discharge groundwater data with the results of four quarterly monitoring events conducted between November 2013 and August 2014. Due to spatial variability of pre-discharge conditions and different timing when the three LAAs were activated, a summary of post-discharge water quality is summarized below by each existing LAA. Ambient background groundwater concentrations are generally of higher quality than pre-discharge monitoring conditions and are not relevant to this analysis.

    a. **<u>LAA-1:</u>** Monitoring wells GW-5, GW-6, and GW-7 are compliance wells for LAA-1. Below is a comparison of pre-discharge monitoring data collected from GW-5, GW-6, and GW-7 in March 2002 and post-discharge monitoring data collected from November 2013 through August 2014.

| **Parameter** [1] | **GW-5** | | **GW-6** | | **GW-7** | |
|---|---|---|---|---|---|---|
| | **Pre-** | **Post-** | **Pre-** | **Post-** | **Pre-** | **Post-** |
| TDS | 840 | 1,125 | 890 | 785 | 1,110 | 525 |
| Chloride | - | 187 | - | 68 | - | 22 |
| Sodium | - | 87 | - | 128 | - | 71 |
| Nitrate Nitrogen | 23 | 14 | 5 | 2 | 12 | 3 |

[1] All results reported in milligrams per liter.

Based on the monitoring data, groundwater conditions in LAA-1 have improved for nitrate-nitrogen, although the current intrawell discharge average for GW-5 continues to exceed the water quality objective of 10 mg/L (the primary MCL).

In general, nitrate-nitrogen concentrations have decreased in LAA-1 and appear to be more stable with less temporal variability since use of this LAA began.

In contrast, TDS concentrations in monitoring wells GW-5, GW-6, and GW-7 continue to show a wider range of temporal variability. Concentrations in GW-5 have increased steadily since 2011 while TDS concentrations have declined in GW-6 and GW-7. Below is a comparison of pre-discharge TDS monitoring data collected from GW-5, GW-6, and GW-7 in March 2002 with all post-discharge monitoring data collected from June 2002 through November 2014 and from November 2013 through August 2014.

| **Monitoring Interval** | **GW-5** | **GW-6** | **GW-7** |
|---|---|---|---|
| Pre-Discharge TDS (March 2002) [1] | 840 | 890 | 1,110 |
| Post-Discharge Average TDS (2002 – 2014) [1] | 777 | 760 | 802 |
| Post-Discharge Average TDS (2013 – 2014) [1] | 1,125 | 785 | 525 |

[1] All results reported in milligrams per liter.

**LAA-2:** Monitoring wells GW-9, GW-10, GW-11, GW-14, and GW-15 are compliance groundwater monitoring wells for LAA-2. Although monitoring wells GW-8 and GW-12 are also located within LAA-2, they are both hydraulically upgradient and most likely are not reflecting influence by the discharge. Below is a comparison of pre-discharge monitoring data from GW-9, GW-10, GW-11, GW-14, and GW-15 in August 2009 and post-discharge monitoring data collected from November 2013 through August 2014.

| **Parameter** [1] | **GW-9** | | **GW-10** | | **GW-11** | | **GW-14** | | **GW-15** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Pre-** | **Post-** | **Pre-** | **Post-** | **Pre-** | **Post-** | **Pre-** | **Post-** | **Pre-** | **Post-** |
| TDS | 557 | 511 | 653 | 668 | 787 | 475 | 590 | 674 | - | 723 |
| Chloride | 33 | 22 | 38 | 25 | 46 | 19 | 35 | 20 | - | 24 |
| Sodium | 69 | 49 | 64 | 41 | 216 | 84 | 81 | 92 | - | 118 |
| Nitrate Nitrogen | 26 | 7 | 22 | 12 | 28 | 17 | 4 | 8 | - | 16 |

[1] All results reported in milligrams per liter.

Based on the monitoring data, groundwater conditions in LAA-2 have generally improved for nitrate-nitrogen since the discharge began, however concentrations continue to exceed the water quality objective in GW-10, GW-11, and GW-15. Nitrate-nitrogen concentration trends show some degree of reduction in temporal variability.

TDS concentrations in monitoring wells GW-9 and GW-11 have trended downward slightly from pre-discharge conditions. Although pre-existing degradation was present as compared to background monitoring wells GW-16 and GW-17, the discharge is not causing TDS conditions to exceed the water quality objective of 1,000 mg/L or to get worse than pre-discharge conditions.

b. **LAA-3:** Monitoring wells GW-2 and GW-12 are compliance groundwater monitoring wells for the former location of LAA-3, which was relocated in 2012. Below is a comparison of pre-discharge monitoring data collected from GW-2 and GW-12 from March 2002 through August 2009 and post-discharge monitoring data collected from November 2013 through August 2014.

| **Parameter** [1] | **GW-2** | | **GW-12** | |
|---|---|---|---|---|
| | **Pre-** | **Post-** | **Pre-** | **Post-** |
| TDS | 767 | 499 | 663 | 613 |
| Chloride | 28 | 21 | 74 | 28 |
| Sodium | 132 | 90 | 128 | 112 |
| Nitrate Nitrogen | 7.0 | 6.9 | 28 | 30 |

[1] All results reported in milligrams per liter.

Monitoring data from compliance wells GW-2 and GW-12 show different trends before and after discharge began to LAA-3. Pre- and post-discharge monitoring data from GW-2 shows a relatively consistent temporal trend primarily below the nitrate water quality objective. In contrast, monitoring well GW-12 shows a greater degree of temporal variability and increasing nitrate-nitrogen concentrations. It should be noted that GW-12 is located hydrologically between LAA-2 and LAA-3, and may be influenced by the discharge at one or both LAAs.

TDS concentrations in monitoring wells GW-2 and GW-12 have trended downward from pre-discharge conditions since discharge began to LAA-3, although the monitoring events from GW-12 from November 2013 through August 2014 averaged slightly higher than the overall average of all post-discharge monitoring. Although pre-existing degradation was present as compared to background monitoring wells GW-16 and GW-17, the discharge has not caused TDS conditions to exceed the water quality objective or to get worse than pre-discharge conditions.

## Basin Plan, Beneficial Uses, and Regulatory Considerations

63. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth 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.

64. Local drainage is to the Mokelumne River. The beneficial uses of the Mokelumne River from Comanche Reservoir to the Sacramento/San Joaquin Delta are agricultural supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.

65. 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.

66. 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.

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

68. 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.

69. 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.

70. 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.

71. 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.

## Antidegradation Analysis

72. 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.

73. Degradation of groundwater by some of the typical waste constituents associated with discharges from a winery, 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 several hundred full, part-time, and seasonal jobs and jobs for that work at the vineyards that produce the grapes used to make the wine, as well as those that produce materials and equipment used for winemaking. The Discharger anticipates providing an additional 300 to 400 full-time equivalent jobs and support for additional ancillary services as part of the facility expansion. 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.

74. The Discharger has been monitoring groundwater quality at the site since 2002. Because discharge of on-site wastewater has occurred at various locations since that time, pre-discharge groundwater monitoring data are available to perform the antidegradation analysis. However, pre-discharge groundwater quality data as compared to background conditions indicate that degradation occurred prior to Sutter Home's discharge. Additionally, the long term agricultural nature of the surrounding area prevents a determination of pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on pre-discharge groundwater quality. Because pre-discharge data are available for the existing LAAs, an intrawell analysis was used to determine whether the discharge to date is in compliance with the Basin Plan and whether the proposed expansion is likely to be consistent with the Basin Plan.

75. Constituents of concern that have the potential to degrade groundwater quality are salts (primarily TDS, sodium, and chloride), manganese, iron, and nitrate, as discussed below. Below is a summary of groundwater data before and after discharge began.

| Well | Monitoring Well Location | TDS (mg/L) | | Nitrate Nitrogen (mg/L) [1] | |
|---|---|---|---|---|---|
| | | Pre-Discharge | Current Average [2] | Pre-Discharge | Current Average [2] |
| GW-1 | South Property Line [3] | 492 | 518 | 4 | 1 |
| GW-2 | LAA-3 | 733 | 499 | 7 | 7 |
| GW-3 | South Property Line [3] | 421 | 298 | 7 | 3 |
| GW-4 | South Property Line [3] | 573 | 434 | 9 | 2 |
| GW-5 [4] | LAA-1 | 840 | 1,125 | 23 | 14 |
| GW-6 [4] | LAA-1 | 890 | 785 | 5 | 2 |
| GW-7 | LAA-1 | 1,100 | 525 | 12 | 3 |
| GW-8 | LAA-2 | 733 | 672 | 19 | 21 |
| GW-9 | LAA-2 | 560 | 511 | 26 | 7 |
| GW-10 | LAA-2 | 653 | 668 | 24 | 14 |
| GW-11 | LAA-2 | 787 | 475 | 28 | 19 |
| GW-12 | LAA-2/LAA-3 | 663 | 613 | 32 | 32 |
| GW-13 | Upgradient [5] | 616 | 635 | 14 | 14 |
| GW-14 | LAA-2 | 580 | 674 | 4 | 8 |
| GW-15 | LAA-2 | -- | 723 | -- | 17 |
| GW-16 | Background | 502 | 497 | 4 | 8 |
| GW-17 | Background | 465 | 407 | 1 | 1 |
| GW-18 | Cross-gradient | 525 | 617 | 2 | 4 |
| GW-19 | Future LAA W-1 | 629 | 629 | 4 | 4 |
| GW-20 | Future LAA W-1 | 593 | 593 | 4 | 4 |
| GW-21 | Future LAA W-3 | 596 | 596 | 7 | 7 |
| GW-22R | Future LAA W-3 | 652 | 652 | 5 | 5 |
| Effluent Quality [6] | | -- | 406 | -- | 6 |
| Water Quality Objective | | 1,000 [7] | | 10 [8] | |

[1] Total nitrogen represented by nitrate-nitrogen and TKN.
[2] Average of monitoring data collected between November 2013 and August 2014
[3] Monitoring well located adjacent to irrigation canal and/or storm water retention basin

[4] Monitoring well to be destroyed and replaced
[5] Monitoring well located adjacent to domestic wastewater leachfield and downgradient of off-site dairy
[6] Annual flow-weighted average monitoring for 2010 through 2014
[7] Upper Secondary Maximum Contaminant Level
[8] Primary Maximum Contaminant Level

76. Based on the comparison of wastewater and groundwater concentrations, the following constituents have the potential to degrade groundwater quality.

a. **Total Dissolved Solids**: In 2014, wastewater discharged to the LAAs from Pond 3 had a flow-weighted annual average FDS concentration of about 1,400 mg/L. However, as noted in Finding 35 the actual average wastewater FDS was higher to an unknown degree. For the majority of the monitoring wells, pre-discharge groundwater TDS concentrations were less than the water quality objective of 1,000 mg/L. Since the discharge began, TDS concentrations have decreased or remained relatively stable and below the water quality objective in all of the monitoring wells except for GW-5. Between November 2013 through August 2014, TDS concentrations in five wells (GW-1, GW-5, GW-10, GW-14, and GW-18) increased, and TDS concentrations in well GW-5 now exceed the water quality objective for TDS. Based on the available groundwater and wastewater FDS loading data, it appears that continuing and/or expanding the discharge at the current FDS effluent limitation of 1,500 mg/L as a flow-weighted annual average (or the equivalent mass loading rate of about 3,300 lb/ac/year) would not cause significant exceedance of the water quality objective if the wastewater is carefully managed to ensure even loading between LAAs and within each LAA.

The RWD requested to increase the FDS effluent limit to 2,100 mg/L, which is equivalent to a mass loading of 4,500 lb/ac/year based on the proposed total annual flow and the total acreage of the expanded LAA system. This represents a 30 percent increase over what is currently allowed, which was reportedly due to aggressive water conservation. The RWD did not show that the proposed effluent limit and resulting FDS mass loading would ensure compliance with the Antidegradation Policy. If further effluent salinity increases are a consequence of additional water conservation beyond that which has already been implemented, it would be reasonable to expect that wastewater flows would be reduced commensurate with the FDS concentration increase, and that the FDS loading rate from wastewater would not increase significantly. However, the estimate for future effluent quality was based in part on assumed bottling wastewater salinity that is substantially lower than the current wastewater quality. It is therefore appropriate to allow for a modest increase over the predicted bottling line salinity.

Therefore, this Order sets an FDS mass loading rate for the land application areas of 28 percent over the currently permitted loading rate, or 4,200 lb/ac/year. The groundwater limitation for TDS prohibits any statistically significant increase in TDS concentration for any monitoring well where TDS currently exceeds the water quality objective and prohibits the discharge causing exceedance of the water quality objective in wells for which the TDS concentration is less than the water quality objective. This Order also sets a numeric trigger concentration for TDS for those wells that monitor discharge to the LAAs that is lower than the water quality objective. If the trigger concentration is exceeded, this Order requires that the Discharger demonstrate that the increasing trend will not result in exceedance of the groundwater limitation or implement additional treatment or control measures to ensure compliance with the groundwater limitation.

b. **Nitrate Nitrogen:** Wastewater discharged from Pond 3 to the LAAs typically has a total nitrogen concentration of about 20 mg/L, which is similar to that of treated domestic wastewater. As noted in previous findings, the expected nitrogen loadings from wastewater to the LAAs will be trivial compared to crop needs.

Pre-discharge groundwater quality was spatially variable with respect to nitrate nitrogen and concentrations in on-site wells exceeded the primary MCL of 10 mg/L before any discharge was initiated at this facility. Nitrate nitrogen concentrations in groundwater since the discharge began have decreased to below the water quality objective in two monitoring wells (GW-7 and GW-9) and have been stable in the six monitoring wells, however nitrate nitrogen concentrations continue to exceed the water quality objective in six monitoring wells. Based on these findings, the discharge is not causing nitrate degradation, and the expansion to new LAAs is expected to not cause or contribute to a condition of pollution.

This Order sets a groundwater limitation for nitrate nitrogen that prohibits any statistically significant increase in any monitoring well that currently exceeds the water quality objective, and does not allow the discharge to cause an exceedance of the water quality objective where groundwater meets the water quality objective for nitrate.

c. **Manganese and Iron**: With regard to manganese, pre-discharge groundwater monitoring data identified dissolved manganese concentrations in excess of the water quality objective during one sampling event conducted in May 2013 and November 2013. In contrast, only one of the groundwater samples collected in May 2013 and November 2013 analyzed for dissolved iron had a detected concentration above the laboratory reporting limit and the water quality objective. To date, insufficient monitoring data have been collected to make a determination whether the discharge is causing manganese or iron degradation or contributing to pollution.

This Order requires that BOD loading rates and with irrigation cycles that are consistent with best practices to prevent reducing conditions, and the wastewater be evenly applied between the LAAs and within each LAA. Compliance with these requirements should prevent exceedance of the water quality objectives for these two constituents, which are the secondary MCLs of 0.50 and 0.300 mg/L, respectively. The groundwater limitations prohibit exceedance of a water quality objective.

77. This Order establishes effluent and groundwater 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.

78. With the exception of GW-5, current groundwater monitoring data for TDS indicate that groundwater has not been degraded by the discharge and that the expanded discharge does not pose a threat of pollution in the future. Because the average TDS concentration in GW-5 currently exceeds the water quality objective, the requirements of this Order do not allow any statistically significant increase in TDS concentrations to occur in that well (or its replacement).

79. Pre-discharge groundwater monitoring data for nitrate nitrogen indicate that groundwater degradation and pollution had occurred prior to Sutter Home's discharge. A comparison of pre-discharge to current average groundwater monitoring conditions indicates that the discharge has not caused further pollution and in some locations decreased degradation. Therefore, this Order does not allow any statistically significant increase in nitrate nitrogen concentrations to occur in those wells which currently exceed the water quality objective.

80. The Discharger provides treatment and control of the discharge that incorporates the following treatment and control measures:

    a. Lined wastewater treatment ponds;
    b. The equivalent of secondary treatment to reduce BOD and total nitrogen;
    c. Physical pre-cleaning of equipment prior to washing;
    d. Portable clean-in-place equipment to replace boilers;
    e. Chemical solution reuse;
    f. Application of wastewater at nutrient loading rates consistent with crop needs;
    g. Sufficient land application area to control salt and BOD loading rates with use of supplemental irrigation water;
    h. Solids storage on a concrete pad to prevent leachate percolation; and
    i. Off-site disposal of solids.

81. With respect to TDS, an unacceptable degree of groundwater degradation has occurred in one monitoring well. Therefore this Order does not authorize any continued degradation beyond that which exists today for that constituent in that well, or its replacement. The Groundwater Limitations are effective immediately and allow no degradation beyond existing groundwater quality in any compliance monitoring well where the TDS concentration exceeds the water quality objective. Because of the spatial variability of groundwater quality, this Order requires intrawell analysis of

compliance well groundwater monitoring data to determine compliance with the Groundwater Limitations. If significant improvement of the TDS concentration in well GW-5, or its replacement well, does not occur within five years of adoption of this Order, the Provisions require that the Discharger implement additional treatment or control as necessary to bring the discharge into compliance with the Basin Plan water quality objectives.

82. This Order imposes effluent and mass loading rate limitations ensure that the highest water quality consistent with the maximum benefit to the people of the State will be achieved while minimizing any degradation that may occur. This Order will be reopened if necessary to reconsider effluent limitations and other requirements to comply with Resolution 68-16 or the Controllable Factors Policy as applicable. Based on the existing record, the discharge authorized by this Order will be consistent with the Basin Plan.

**Other Regulatory Considerations**

83. 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.

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

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

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

85. 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.

86. 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 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 wastewater does not need to be managed as hazardous waste.

87. 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.

88. The State Water Board adopted Order 97-03-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 filed a Notice of Non-Applicability of Coverage under the NPDES General Permit for Discharges of Storm Water in 1998.

Following a site visit in 2002, the Central Valley Water Board concurred that the facility is exempt from the requirements to acquire coverage under the General Permit. The Discharger is covered under NPDES General Permit CAS000001.

89. 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 discharging, or who proposes to discharge 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 R5-2015-0085 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.

90. 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.

91. A Negative Declaration was certified by the San Joaquin County Community Development Department on 15 May 2014, in accordance with CEQA (Pub. Resources Code, § 21000 et seq.). The Initial Study and Negative Declaration describe the project as expanding winery production from crushing and processing 100,000 tons of grapes per year to 200,000 tons per year and constructing a bottling plant. Facility upgrades include additional winery equipment, buildings, and management operations for crop irrigation. The Initial Study found that the project would not cause significant impacts to water quality and that mitigation measures were not necessary.

92. 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.

93. 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

94. 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.

95. 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.

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

**IT IS HEREBY ORDERED** that Order R5-2009-0073-001 is rescinded and, pursuant to Water Code sections 13263 and 13267, the Discharger, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

## A. Discharge Prohibitions

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

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

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

4. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.

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

6. Discharge of toxic substances into the wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.

7. Application of residual solids to the land application areas is prohibited.

8. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.

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

## B. Flow Limitations

1. **Effective immediately**, influent flows to the wastewater treatment ponds shall not exceed the following limits:

| Flow Measurement | Flow Limit |
|---|---|
| Total Annual Flow [1] | 35 MG |
| Total Monthly Flow [2] | 7.0 MG |

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

[2] As determined by the total flow during the calendar month.

2. **Effective on the date of Executive Officer approval** of the *Land Application Area Completion Report* submitted pursuant to Provision H.1.a, influent total flows to the wastewater treatment ponds shall not exceed the following limits:

| Flow Measurement | Flow Limit |
|---|---|
| Total Annual Flow [1] | 70 MG |
| Total Monthly Flow [2] | 13 MG |

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

[2] As determined by the total flow during the calendar month.

## C. Effluent and Mass Loading Limitations

1. Discharge to the LAAs shall not exceed the following effluent and mass loading limits:

| Constituent | Units | Limit |
|---|---|---|
| FDS Mass Loading Limit | lb/ac/year | 4,200 |
| BOD Loading Rate Limit<br>Irrigation Cycle Average<br>Flood Irrigation<br>Sprinkler Irrigation | <br>lb/<br>lb/ac/day<br>lb/ac/day | <br><br>100<br>150 |
| Total Nitrogen Loading Rate Limit | lb/ac/yr | Crop Demand |

[1] Flow-weighted annual average based on total flow and concentration.

## 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 systems and equipment to optimize the quality of the discharge.

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

6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.

7. As a means of discerning compliance with Discharge Specification D.8, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive weekly sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.

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

9. Wastewater treatment, storage, and disposal systems 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 average rainfall patterns.

10. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.9 and D.10.

11. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

    a. Weeds shall be minimized through control of water depth, harvesting, or herbicides.

    b. Dead algae, vegetation, and debris shall not accumulate on the water surface.

    c. 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.

12. 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.

13. **Every five years beginning in 2018**, the Discharger shall test the integrity of all pond liners and repair all significant leaks in accordance with an approved workplan pursuant to Provision H.1.e.

14. The Discharger shall monitor sludge accumulation in the wastewater ponds at least **every five years beginning in 2018**, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in any pond exceeds ten percent of the permitted pond capacity, the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

15. 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 site shall not cause groundwater to:

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The

wells to which these requirements apply are specified in the Monitoring and Reporting Program.

| Constituent | Water Quality Objective (mg/L) | Maximum Allowable Concentration | |
|---|---|---|---|
| | | Where Current Water Quality Exceeds Water Quality Objective | Where Current Water Quality Meets Water Quality Objective |
| TDS | 1,000 | No statistically significant increase [1] | 1,000 mg/L |
| Nitrate nitrogen | 10 | No statistically significant increase [1] | 10 mg/L |

[1] For the purpose of this requirement, "Current Water Quality" is defined as the arithmetic mean of the last four quarterly monitoring results prior to adoption of this Order for each of the specified compliance monitoring wells listed in the Monitoring and Reporting Program.

2. For all compliance wells, except as specified in 1 above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.
3. For all compliance wells, except as specified in 1 above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

The applicability of these subparagraphs to each compliance well is specified in the Monitoring and Reporting Program (MRP). Compliance with these limitations shall be determined on an intrawell basis using approved statistical methods.

If additional wells are designated as compliance wells in the future, the Executive Officer will issue a revised MRP specifying the applicability of subparagraphs 1, 2, and 3 to those wells.

## F. Land Application Area Specifications

1. Crops (e.g. corn, alfalfa, forage crops, etc.) shall be grown in the LAAs. Crops shall be selected based on nutrient uptake capacity, tolerance to soil conditions, consumptive use of water, and irrigation requirements. Cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.

2. Application of waste constituents to LAAs shall be at reasonable rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading of the LAAs, including the nutritive value of organic and chemical fertilizers and of the wastewater shall not exceed the annual crop demand.

3. Wastewater shall be evenly distributed between the LAAs and within each irrigation block of each LAA to the maximum practical extent. Due consideration shall be given to changing irrigation methods or operational practices as needed to prevent uneven loading of waste constituents.

4. Discharge of process wastewater to any LAA not having a fully functional tailwater/runoff control system is prohibited.

5. Tailwater runoff shall not be discharged outside of the LAAs.

6. LAA storm water runoff shall not be discharged outside of the LAAs.

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

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

9. 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 |

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

11. 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 immediately implement corrective action to ensure compliance with this Order.

12. Any irrigation runoff (tailwater) shall be contained within the LAAs and shall not enter any surface water drainage course or storm water drainage system.

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

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

15. 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 screens, sumps, ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.

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

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

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

## H. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision H.5:

    a. **By 31 December 2015**, the Discharger shall submit a *Land Application Area Completion Report* that that certifies completion of all reconfigured and new LAAs as described in the findings. The report shall describe the irrigation and tailwater control systems for each LAA, and shall include as-built drawings.

    b. By **31 July 2015**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* that describes plans to install additional monitoring wells within or downgradient of planned LAAs E-2, W-1, W-4 and W-5 to verify groundwater gradient and compliance with the Groundwater Limitations and to document the planned replacement of GW-5 and GW-6. The workplan shall be prepared in accordance with, and include the items listed in, the first section of Attachment E: "*Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports*", which is attached hereto and made part of this Order by reference. The groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first aquifer underlying the LAAs.

c. By **30 November 2015**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods that are proposed to determine compliance with the Groundwater Limitations of this Order for the constituents listed in the Monitoring and Reporting Program. As described in the MRP, Compliance shall be determined annually based on intrawell statistical analysis that evaluates temporal trends based on all historic data for each well.

d. By **1 February 2016**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation of the new groundwater monitoring wells required by Provision G.1.b. The report shall be prepared in accordance with, and including the items listed in, the second section of Attachment E: "*Monitoring Well Workplan and Monitoring Well Installation Report Guidance*," which is attached hereto and made part of this Order by reference. The report shall describe the installation and development of all new monitoring wells, and explain any deviation from the approved workplan. Groundwater monitoring of these wells is described in the Monitoring and Reporting Program.

e. By **29 December 2017**, the Discharger shall submit a *Pond Liner Integrity Evaluation Workplan* that specifies the means and methods that the Discharger proposes to use to perform a 5-year evaluation of all geosynthetic liner systems to comply with Discharge Specification D.13.

f. By **1 October 2020**, the Discharger shall submit a *Groundwater Salinity Trend Evaluation Report* that demonstrates statistically significant decreasing temporal trends in groundwater for TDS in monitoring well GW-5, or its replacement, as applicable, to demonstrate compliance with the groundwater limitations of this Order. If there is not a statistically significant decrease in TDS concentrations since the date of adoption of this Order, the report shall include a description of the specific additional treatment or control measures that will be implemented to achieve compliance with the Controllable Factors Policy unless the report demonstrates that another source of pollutants is preventing compliance. The Discharger shall fully implement those measures by **30 September 2022**.

2. If groundwater monitoring results show that the discharge is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, within 120 days of the request of the Executive Officer, the Discharger shall submit a *BPTC Evaluation Workplan* that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent that exceeds a Groundwater Limitation. The workplan shall contain a preliminary evaluation of each component of the wastewater and disposal system and propose

a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

3. At least **180 days** prior to any sludge removal and disposal, the Discharger shall submit a *Sludge Cleanout Plan*. The plan shall include a detailed plan for sludge removal, drying, and disposal. The plan shall specifically describe the phasing of the project, measures to be used to control runoff or percolate from the sludge as it is drying, and a schedule that shows how all dried sludge will be land applied to the LAAs or removed from the site prior to the onset of the rainy season **(1 October)**.

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

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

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

7. The Discharger shall comply with Monitoring and Reporting Program R5-2015-0085, 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.

8. 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)."

9. 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.

10. 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.

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

12. 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.

13. 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."

14. 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.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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 will be provided upon request, and may be found on the Internet at:

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

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 5 June 2015.

PAMELA C. CREEDON, Executive Officer