STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Jack Gregg)
MEETING DATE: April 12, 2017

ITEM: **5D**

SUBJECT: **The Wine Group, LLC, Concannon Winery, Livermore Valley, Alameda County** – Issuance of Waste Discharge Requirements

CHRONOLOGY: July 2014 - Permit for discharge of treated wastewater to land issued
July 2016 - Authorization for discharge of treated wastewater to land ceased
March 2017 - Administrative Civil Liability issued

DISCUSSION: This Revised Tentative Order (Appendix A) would adopt new Waste Discharge Requirements (WDRs) for the Concannon Winery. The Concannon Winery is a historic winery and 257-acre vineyard owned by the Wine Group, LLC (Wine Group). It currently produces up to 93,000 gallons of wine from grapes grown on the property each year. Bottling facilities were expanded in 2012 and are currently used to bottle an additional 10 to 13 million gallons of wine annually. The Board initially adopted WDRs for the Wine Group in 2014 to authorize treatment of wine production and bottling wastewater and the discharge of the treated water to subsurface infiltration areas. Discharge specifications were established to protect Livermore Valley groundwater from additional nitrate impacts. The treatment system installed in 2012 was not able to achieve discharge specifications over a period of two years, and the authorization to discharge to land was terminated in July 2016 as specified in the WDRs.

The Revised Tentative Order (Appendix A) would adopt new WDRs for a new wastewater treatment and dispersal system at the winery. The treatment system has been designed to protect waters of the State using a series of treatment units that remove or reduce suspended solids, organic materials, and nutrients. Wastewater treatment system controls allow the operators to adjust conditions (aeration, wastewater loading, detention time, etc.) for effective microbial treatment of the wastewater. The treated wastewater will be used to supplement irrigation over a minimum of 25 acres so that grape vines and soil microbes can use the nutrients and greatly reduce the risk of groundwater impacts.

We received comments on a draft order from the Wine Group and the Alameda County Planning Department (Appendix B). Appendix C contains our responses to these comments. We resolved the comments

and revised the draft order as appropriate. The attached Revised Tentative Order reflects these changes. We expect this item to remain uncontested.

RECOMMEN-DATION: Adopt the Revised Tentative Order

CIWQS: Place ID 771359

APPENDICES:
A. Revised Tentative Order
B. Comment Letters
C. Response to Comments

Appendix A
Revised Tentative Order

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER No. R2-2017-00XX

WASTE DISCHARGE REQUIREMENTS for:

THE WINE GROUP, LLC
CONCANNON WINERY WASTEWATER MANAGEMENT SYSTEMS
LIVERMORE VALLEY, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Water Board), finds that:

1. **Discharger.** The Wine Group, LLC, (the Discharger) owns and operates the Concannon Winery and is legally responsible for its wastewater system, discharges of wastewater, and compliance with this Order. The wastewater system is managed and operated by personnel employed by the Discharger.

2. **Facility.** Concannon Winery operates at a 4596 Tesla Road, Livermore address (Figure 1, Site Location Map, Figure 2 Current and Former Site Features) and encompasses approximately 257 acres across multiple, contiguous parcels (collectively, the Facility). The Facility parcels include Alameda County Assessor's Parcel Numbers: 99-1200-001, 99-1200-002, 99-1200-003, 99-0900-005, 99-0900-001-09, 99-0801-014, 99-0850-002-02, 99-0850-003, 99-0801-006, and 99-0850-007

3. **Purpose of Order.** The purpose of this Order is to adopt Waste Discharge Requirements (Order) to reflect current conditions at the Facility, including, but not limited to, the following:

   a. Changes to the wastewater treatment system;

   b. Changes to the location and method of discharging treated wastewater; and

   c. Adoption of a Self-Monitoring Program (SMP).

   This Order also rescinds Water Board Order No. R2-2014-0029

4. **History of the Order.** The Water Board adopted Order No. R2-2014-0029, Waste Discharge Requirements for The Wine Group, LLC – Concannon Winery, Concannon Winery Wastewater Management Systems, Livermore Valley (Order No. R2-2014-0029), on July 9, 2014. Order No. R2-2014-0029 allowed the Discharger to discharge treated wastewater to land and allowed two years to complete a connection to a municipal sanitary sewer or initiate alternative compliance actions described in that order. The Discharger did not complete either of those actions within two years, and the discharge to land was terminated as of July 9, 2016. After July 9, 2016, the Discharger began to haul sanitary wastewater and winery wastewater to the East Bay Municipal Utility District's wastewater treatment plant for disposal.

5. **Report of Waste Discharge.** The Discharger submitted a Report of Waste Discharge (ROWD) in application for waste discharge requirements for the subject wastewater systems on November 22, 2016 (2016 ROWD).

The 2016 ROWD consists of the following:

a. **Revised Wastewater Management Plan (WMP).** This plan includes a wastewater treatment system capable of reducing total nitrogen[1] to less than 10 milligrams per liter (mg/L), the use of treated winery wastewater for irrigation of vineyards and cover crops, and the cessation of discharge of sanitary waste to land. The WMP includes a connection to the City of Livermore's Publicly-Owned Treatment Works (Livermore POTW) for discharge of all sanitary waste from the Facility and as a backup discharge location for treated winery wastewater.

b. **Cumulative Impact Analysis.** The cumulative impact analysis is based on a vadose zone groundwater model and Facility water balance, and it predicts the uptake by vineyard plants of most bioavailable nitrogen in treated wastewater discharged to land and slow rates of percolation of residual nitrogen.

c. **ROWD Application Form (Form 200).** A completed Form 200, signed by Kevin Baskin, Director, Concannon Winery, signature dated November 21, 2016.

6. **Sanitary Wastewater.** This Order does not permit the discharge of sanitary wastewater to land. Historically, the Facility utilized two sanitary wastewater septic systems. Both systems were permitted by the Alameda County Health Care Services Agency and included septic tanks and mound drain fields. A third drain field was used for disposal of wine production and bottling (winery) wastewater. Starting in July 2016, the use of the subsurface drain fields ceased. The Discharger began to transport sanitary wastewater and winery wastewater to a regional municipal wastewater treatment system for treatment and disposal while seeking connection to the Livermore POTW and developing an onsite treatment system to meet permit requirements.

7. **Facility Description**

a. **Site and Property.** The Facility encompasses approximately 257 acres in central Livermore Valley, south of the City of Livermore, and includes multiple contiguous parcels (Figure 2). Within the Facility, vineyards cover about 245 acres, buildings cover about 3 acres, paved areas for parking and roadways cover about 3.8 acres, and landscaping covers about 5 acres.

b. **Land Uses and Buildings.** Facility operations include wine production, wine bottling, wine tasting, sales, tours, and special events such as weddings and picnics. The Facility has indoor and outdoor wine production areas, vehicle parking areas, and open-space areas with lawns and ornamental plants (see Figure 3, Facility Map). The Facility hosts between 20 visitors per day during the week and as many as 800 visitors on a busy summer or fall weekend.

c. **Wine Bottling.** The wine bottling operations include wine produced at the Facility and wine transported from other parts of California. The Facility receives and crushes between 150 to 600 tons of grapes annually to produce no more than 93,000 gallons of wine per year. Most of the wine bottled at the Facility is crushed at other locations and

[1] Total Nitrogen equals the sum of Total Kjeldahl nitrogen and Nitrate-nitrogen.

brought onsite via tanker trucks. The Facility bottles 13 to 15 million gallons of wine per year.

d. Facility Operations. Grape crush season extends from August to October or sometimes into November. Wine production solids such as grape stems and pomace are stored in water-tight plastic bins until hauled away. Concannon Winery employs 90 full time employees.

Surrounding Environment of the Facility

8. Watershed Physical Characteristics. The Facility is located in the Livermore Valley within the Arroyo Mocho sub-watershed of the Upper Alameda Creek Watershed. The elevation is 65 feet above mean sea level. The soil consists of gravelly coarse sandy loam.

9. Climate. The total annual rainfall between 1903 and 2016 has averaged 14.1 inches per year. During the winter season (October through March), rainfall is approximately 12.3 inches per year, and during the summer season (April through September), it is approximately 1.8 inches per year. The average monthly evapotranspiration between 2004 and 2016 ranged from 1.4 inches in December to 7.4 inches in July, with an average annual total of 50.9 inches (2016 ROWD).

10. Surface Water. Arroyo Mocho, located approximately a quarter of a mile from the Facility, is the nearest major surface water body. Arroyo Mocho is tributary to Arroyo de la Laguna, which joins with Alameda Creek in Sunol. The headwaters of Arroyo Mocho are located southeast of Livermore. The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) designates the following existing and potential beneficial uses for Arroyo Mocho: groundwater recharge, cold freshwater habitat, fish migration, fish spawning, warm freshwater habitat, wildlife habitat, water contact recreation, and non-contact water recreation.

11. Groundwater. The Facility lies within the Livermore Valley Groundwater Basin. Groundwater in the Livermore Valley area is found at depths of 4 to 60 feet below ground surface. Groundwater at the Facility ranges from 10 to 20 feet below ground surface, and the groundwater generally flows toward the northwest (see Figure 4, Groundwater Elevation and Monitoring Well Map).

Groundwater beneath the Facility is a source of drinking water pursuant to Water Board Resolution No. 89-039. Water-bearing formations provide sufficient water to supply a single well capable of producing an average, sustained yield of at least 200 gallons per day of groundwater under most conditions with total dissolved solids below 3,000 mg/L, generally ranging from 300 to 550 mg/L and averaging 450 mg/L.

Water chemistry is highly variable within the Livermore Valley Groundwater Basin. Some areas of the basin contain nitrate levels that exceed the national standards for acceptable drinking water quality. This has resulted in the closure of groundwater production wells in the area. The Zone 7 Water Agency is actively monitoring and managing groundwater throughout the basin to understand, control, and improve the groundwater quality with respect to nitrate as well as other drinking water parameters.

12. **Groundwater Impacted.** Groundwater in the vicinity of the subject discharges is impacted for the beneficial use of municipal water supply. The impact is caused by nitrate concentrations that exceed the applicable water quality objective of 45 mg/L.

    Nitrate levels at the Zone 7 groundwater monitoring well 3S/2E22B1 (see Figure 4), located immediately south of the Facility's building complex and representative of the groundwater in the vicinity of the subject discharges, exceed the water quality objective. The nitrate annual average concentrations reported for 2010, 2011, and 2012, were 73.51, 69.97, and 70.41 mg/L, respectively.

13. **Soil Characteristics.** The Soil Survey of Alameda Area (2014 update) indicates that Facility soil is predominately gravelly coarse sandy loam, with gravel content from 40 to 75 percent by volume. The soil is characterized as having rapid permeability (2016 ROWD).

14. **Irrigation Source Water.** The Facility currently uses water supplied by California Water Service Company's Livermore District, which is purchased from the Zone 7 Water Agency and comes from a combination of surface water and local groundwater.

Wastewater System

15. **Wastewater Management Plan.** The proposed management practices for wastewater at the Facility are as follows:

    a. All winery wastewater generated at the Facility is treated in an onsite winery wastewater treatment system designed to achieve the discharge specifications authorized by this Order.

    b. Treated wastewater (effluent from the winery wastewater treatment system) is beneficially reused and discharged to irrigate vineyards on the Facility or, as a backup if needed, sent to the Livermore POTW. Effluent from the winery wastewater treatment system is referred to herein as treated winery wastewater.

16. **Wastewater Sources.** The discharges of waste to land regulated by this Order are from wine production and wine bottling operations. Such discharges to the onsite winery wastewater treatment system are collectively referred to as winery wastewater and are described below. The discharge of sanitary waste is not authorized by this Order.

    a. Wine Production wastewater. Wine production wastewater typically includes wash water from rinsing floors, tanks, bottles, barrels, and equipment in the processing areas. Wine production wastewater at this Facility is generated only during the grape crush season, typically from August to October or sometimes into November.

    b. Bottling wastewater. Bottling wastewater is generated from rinsing floors, storage tanks, bottles, barrels, and bottling equipment within the bottling areas. Bottling wastewater is generated five days a week throughout the year and occasionally on Saturdays when wash and rinse activities occur.

    c. Stormwater from Wine Production Areas. Stormwater from wine production areas (e.g., 30,000 square feet crush pad) is collected for treatment during the grape crush season because wine production activities occur outside of buildings, potentially adding pollutants to the stormwater. This water is not discharged as clean stormwater, but collected and routed to the wastewater collection system for treatment. Manually

operated valves in the collection system redirect stormwater flow to the wastewater treatment system. During periods before and after the grape crush season, the outdoors grape production areas are kept clean, and stormwater from those areas is sent to a french drain system for infiltration into the soil.

d. Winery wastewater. Winery wastewater refers to any mixture of wastewater from wine production, wine bottling, and stormwater from wine production areas during the grape crush season.

17. Wastewater Flow. The Discharger projects that wastewater flows will continue to be about 3.24 million gallons per year based on flow data recorded between July 2014 and June 2016. This is equivalent to 11,250 gallons per day based on 288 operating days per year. The treatment system was designed to receive inflow of winery wastewater as follows (Table 1):

Table 1. Winery Wastewater Flow

Flow Condition	Gallons per minute (gpm)	Gallons per day (gpd)
Average Influent	**7.8**	**11,250**
7-day Maximum	**10.4**	**14,996**
24-hour Peak	**17.4**	**25,000**

18. Winery Wastewater Quality. Winery wastewater had the following constituent concentrations from July 2014 to July 2016: total nitrogen averaged 28 mg/L with a peak of 110 mg/L; biochemical oxygen demand (BOD) averaged 7,233 mg/L with a peak of 37,000 mg/L; and total suspended solids averaged 101 mg/L with a peak of 410 mg/L.

a. BOD reduction. The wastewater treatment system and pretreatment measures are designed to reduce BOD in wastewater to levels that will not adversely impact the beneficial uses of groundwater for potable uses. The wastewater treatment system reduces BOD by removing organic matter with the rotary screen, the roughing filter, and the membrane filtration unit. The rotary screen removes particulates larger than 0.020 inches. The roughing filter passes wastewater over fixed, cross-flow media that supports microbes which feed on digestible organic material (measured as BOD). The membrane filtration unit near the end of the treatment process mechanically separates the microbes that reduce BOD.

In 2016, the Discharger initiated pretreatment of wine production and bottling wastewater to address chronic exceedances of biochemical oxygen demand and total nitrogen above the limits in Order No. R2-2014-0029. Previous practices included discharging excess wine from the production and bottling operations to the wastewater treatment system. The Discharger implemented a recovery process to capture excess wine and transfer it to other facilities where it can be used. The Discharger estimates that the “no wine down the drain” program removes more than 750 gallons of wine per week from the waste treatment process.

b. Nitrate reduction. The wastewater treatment system is designed to reduce nitrate and other forms of nitrogen in winery wastewater to levels that will not adversely impact the beneficial use of groundwater for potable uses. Nitrogen is a critical nutrient for all life. Decay of organic materials, as well as agricultural practices, release nitrogen compounds to soil and water. The predominant form of nitrogen in water depends on pH and oxidation conditions, with nitrate predominant in oxygenated waters and ammonium more likely in anoxic waters.

i. **Nitrate measurement.** Water analysis can be specific for nitrate, ammonium, or for organic nitrogen. Organic nitrogen includes ammonium and all nitrogen in organic materials. The measurement for organic nitrogen is called Total Kjeldahl nitrogen, named after the developer of the chemical process.

ii. **Total Nitrogen.** In this Order, discharge limits are a specified as total nitrogen, defined in this Order as the sum of the nitrate and Total Kjeldahl nitrogen. Total nitrogen is used to assess the overall threat to water quality since the form of nitrogen can change over time and with changes to the water conditions due to microbial activity.

c. Suspended Solids reduction. Suspended solids are also removed by the treatment processes that have been designed to remove BOD and total nitrogen.

d. Design Wastewater Quality. The treatment system has been designed to provide treatment for the influent wastewater quality shown in Table 2. The treatment system has been designed to achieve the treated wastewater concentrations shown in the last column in Table 2.

Table 2. Design Influent Wastewater Quality for Winery Wastewater

Constituent	Design Influent Concentration	Design Treated Wastewater Concentration
BOD_5 20^oC[(a)] - Daily Average	**3,000 mg/L**	**< 20 mg/L**
BOD_5 20^oC - Daily Peak	**7,700 mg/L**	**--**
Total Suspended Solids – Concentration	**600 mg/L**	**< 20 mg/L**
Total Nitrogen[(b)]	**45 mg/L**	**< 10 mg/L[(c)]**

Notes: [(a)] Biochemical Oxygen Demand, 5-day, at 20 C

[(b)] Total Nitrogen equals the sum of Total Kjeldahl nitrogen and Nitrate-nitrogen.

[(c)] 10 mg/L is the State and federal Maximum Contaminant Level (MCL) for nitrate in the form of nitrogen.

19. Wastewater Treatment System Components. The wastewater treatment system is comprised of all equipment, control, and monitoring systems located at the Facility that provide collection, conveyance, treatment, storage, and discharge of wastewater. The winery wastewater treatment system is designed to reduce biochemical oxygen demand, total suspended solids, and total nitrogen in winery wastewater. Figure 5 is a flow diagram that

illustrates the wastewater treatment and discharge processes and flows. The basic components of the treatment process are described below:

a. Pretreatment. The Discharger improved management practices at the Facility to reduce the amount of wine wastewater. The Discharger implemented programs to reuse excess wine and to reduce wine waste generated by wine production and bottling (e.g., steam cleaning bottles).

b. Collection System. Wastewater is pumped out of collection system sumps and into the rotary screen by trash pumps. A collection system of trench floor drains and catch basins capture wine production wastewater, bottling wastewater, and stormwater that comes in contact with outdoor wine production, bottling equipment, or wastewater.

c. Rotary Screen. The rotary screen removes solids larger than 0.020 inches when wastewater passes through a 4-foot-diameter, stainless steel, elevated rotary screen.

d. Roughing Filter. The roughing filter reduces influent BOD concentrations. Microorganisms attached to fixed, cross-flow media on a high-rate filter reduce BOD as wastewater is continually recirculated over the media. An automated valve opens to release primary-treated wastewater from the Roughing Filter Chamber to the Aeration Chamber based on inflow rates and condition of the wastewater.

e. Aeration Chamber. The aeration chamber removes waste activated sludge based on concentrations of suspended solid. The chamber is equipped with a positive displacement blower, fine-bubble aeration diffusers distributed across the floor of the aeration chamber, and monitoring and control devices, including a dissolved oxygen sensor to maintain proper conditions. A transfer pump transfers wastewater from the aeration chamber to the anoxic chamber.

f. Anoxic Chamber. Nitrogen removal (denitrification) occurs in the anoxic chamber. To provide a carbon source for denitrification, some of the activated sludge from the membrane filtration process is mixed with some of the partially-treated wastewater from the roughing filter and sent to the anoxic chamber to lower oxygen levels and provide the carbon necessary for nitrogen removal.

g. Membrane Filtration. Additional removal of nutrients, BOD, and particulates occurs in the membrane filtration unit. The membrane unit is comprised of two chambers. The first chamber is equipped with a membrane cassette and the second chamber is used as a clear well. Waste activated sludge is removed from the membrane chambers using a dedicated sludge pump and taken offsite to a regulated disposal facility.

h. Pumps. All pumps for the winery wastewater treatment system have been designed, constructed, operated, and maintained to prevent the occurrence of a wastewater spill or spills resulting from mechanical breakdown or power failure. All pumps are equipped with reserve hydraulic capacity sufficient to provide storage of wastewater during a pump failure condition for at least 24 hours, and water level monitoring

i. Chemical Addition. Chemicals can be added to the wastewater as needed to control pH and to clean membranes. Anticipated chemical addition will include ammonium hydroxide and citric acid for pH correction and control. Sodium hypochlorite and citric acid is used on a periodic basis for membrane cleaning.

j. Treatment Residual Solids. Solid particles are removed from wastewater at several locations in the treatment process. The solid particles from the roughing filter and waste activated sludge are collected in a small storage tank and periodically dewatered using a press. The dewatered solids are removed from the Facility and transported to an appropriate offsite facility for disposal.

20. System Operation and Controls. Monitoring equipment, including water level sensors, flow meters, pH probes, and dissolved oxygen sensors are incorporated into the various unit treatment processes. The winery wastewater treatment system will include a supervisory control and data acquisition (SCADA) system and a central touchscreen controls computer. The SCADA system will also be equipped with an alarm module to provide notification to specific Facility staff via email or text regarding an alarm condition. The SCADA system will also allow remote monitoring and control of the treatment system via an Internet connection. A maintenance module will track system runtime, and generate reminders for staff to perform specific maintenance activities.

21. Discharge System. Treated winery wastewater will either be beneficially reused at the Facility by application as irrigation to designated vineyards (referred to as Land Application Areas in the 2016 ROWD) or discharged to the Livermore POTW.

a. Land Application Areas: The Discharger will only apply the treated wastewater to Facility vineyards located north of Tesla Road (Parcels 99-0900-005, 99-0900-001-09, 99-1200-1, 99-1200-2, and 99-1200-3), which are designated for irrigation with treated wastewater and referred to as the Land Application Area. The Land Application Area totals 121 acres. The Discharger modeled applications of treated wastewater to the Land Application Area and will not apply wastewater to individual areas less than 25 acres. The Discharger plans to use the entire 121-acre area to discharge wastewater.

b. Discharge Method. Treated wastewater is discharged to the Land Application Area either by drip irrigation or by furrow flooding. Furrow flooding will be implemented in a manner that does not cause runoff to leave the Facility property or create areas of standing water that extend beyond areas of compacted soil between vines.

c. Discharge Practices. Management practices used to ensure that constituents of concern in treated wastewater will not degrade waters of the State include:

i. Treated winery wastewater may not be discharged to land within one day of a forecasted rain event with greater than 50 percent probability of rain to exceed 0.4 inches in 24 hours, during rainfall, or for 24 hours after a rainfall event of 0.4 inches or more.

ii. Treated winery wastewater may not be discharged to land when soils are saturated. Evidence of saturated soils would include runoff leaving the Facility property or areas of standing water on Facility property.

iii. Treated wastewater may not be discharged in a manner that causes runoff from the Facility.

iv. Treated winery wastewater may not be discharged to land in a manner that delivers more than 4.3 inches of wastewater per year to the root zone of any specified area. This Order limits gross application of wastewater to 4.8 inches per year based on

the local evapotranspiration rate of ten percent[2] or greater and requires that the discharge of treated winery wastewater be spread evenly over an area of at least 25 acres at a time to ensure that this maximum percolation rate will not be exceeded, based on modeling in the 2016 ROWD (shown in Table 3 below).

22. Stormwater

a. Facility Stormwater. Stormwater collected from 278,308 square feet of impervious surfaces around the vicinity of the winery is either discharged to one of the two french drains shown on Figure 2, or sheet flows into the surrounding vineyards (Figure 3). Stormwater that is potentially contaminated by wine production activities on the Facility are captured and conveyed to the winery wastewater treatment system.

b. No Offsite Stormwater Discharges. According to the ROWD, stormwater runoff does not discharge from the Facility. The ROWD states that the Facility does not generate runoff or collect stormwater from offsite sources because of soil and land characteristics at, and in the vicinity of, the Facility. The soil is rapidly permeable and the land is relatively flat due in part to agricultural practices. The Discharger observed no runoff during a major rain event on January 3 to 5, 2017, that was recorded at 1.1 inches of precipitation at the nearby Dublin-San Ramon Fire House weather station. Water Board staff visited the Facility on the morning of January 20, 2017, after an overnight rainfall of 0.5 inches, and found no evidence of runoff from the vineyard or of ponded or standing water.

c. Impervious Surface Runoff. Runoff from impervious surfaces at the Facility is captured by a stormwater collection system that includes french drains (Figure 2). Stormwater from the South Building roof and adjacent paved areas flows to a 2,820-foot-long, three-foot-wide french drain system, located adjacent to the south and west sides of the building. Stormwater from the North Building roof and adjacent paved areas sheet flows away from the building into adjacent vineyards and infiltrates into the soil. Stormwater from the paved area east of the North Building drains to a 110-foot-long, three-foot-wide french drain, located to the north of the parking area.

d. Stormwater from Wine Production Areas. Stormwater from the wine grape processing and wine storage tank areas is managed in accordance with active-use periods. During grape handling and wine production, collected water is diverted to the winery wastewater system. When wine production activities are not being conducted in the wet weather season, stormwater flows to the collection and french drain system.

23. Solid Waste. Disposal of solid waste, including spreading of wine production solids, does not occur on the Facility and is not authorized by this Order.

24. Vadose Zone and Water Balance Models. The 2016 ROWD includes models of the fate of treated wastewater in the vadose zone and an overall water balance to evaluate the impacts of vineyard management practices on groundwater.

a. The vadose zone model (Figure 6) estimates the behavior of NO_3-N as it passes through the crop root zone within four soil depth layers. The four soil layers are used to account

[2] Gross application of treated wastewater is limited to 4.8 inches per year, which results in net application of 4.3 inches per year after the minimum loss of ten percent of the applied water to evaporation.

for the distribution of roots in the soil profile, which controls crop uptake of water and nutrients. In each layer, water flow, crop water uptake, and changes in total nitrogen concentration are calculated using a mass balance approach that is an acceptable method of modeling movement of water and wastewater for the Facility. Monthly calculations of water flow are made for each layer and ground surface evaporation, crop uptake, irrigation, precipitation, and percolation losses below the root zone are all incorporated. The annual percolation summary that results from the vadose zone model becomes an input to the water balance model for groundwater.

b. The vadose zone water balance model predicts that under average rainfall conditions (14.1 inches) an additional 24.8 inches of water are needed to maintain healthy vines. Of this total, treated wastewater would make up 2.2 inches per year for 53.3 acres of vines, supplementing 22.6 inches of irrigation water (see the top line of Table 3 below) from the Zone 7 Water Agency. Under these conditions, the model predicts that a total of 9 inches per year would pass through the root zone with the potential to mix with groundwater. The rest of the applied water would be evaporated or taken up by roots.

c. This is a significant improvement over the wastewater percolation rates under the previous subsurface disposal system where percolation below the root zone was over 400 inches per year. That previous system discharged the same volume of winery wastewater into an area of less than one acre. In addition, the previous treatment system was not able to achieve reductions of total nitrogen, BOD, or suspended solids that are required in this Order.

d. The use of treated wastewater for surface irrigation provides nitrogen for the vineyards. The model predicts that most of the total nitrogen will be removed by uptake from roots. Under average rainfall conditions, the residual total nitrogen in water that percolates below the root zone is predicted to be 7.8 mg/L. Variability in rainfall and area of application change model results (Table 3).

i. Changes in rainfall affect the average concentration of total nitrogen in the water that percolates below the root zone. Under low rainfall conditions the model predicts a total nitrogen concentration of 8.6 mg/L and under high rainfall conditions the model predicts 5.7 mg/L of total nitrogen.

ii. Changing the area of vineyard used for application of treated wastewater changes the amount and quality of percolated water (see last section of Table 3). At 25 acres, the amount of wastewater applied increases to 4.8 inches per year and the total percolation below the root zone increases to 10.6 inches per year. The total nitrogen of the percolate increases to 7.9 mg/L.

e. The Discharger proposes to apply treated wastewater anywhere within the 121 acres of vineyards designated as the Land Application Area (Finding 24 above). This Order prohibits the discharge of treated wastewater to less than 25 acres each year, and requires that the application rate not exceed 4.8 inches per year within the Land Application Area.

Table 3. Percolate Total Nitrogen with Varying Rainfall and Irrigation Area

Rainfall Conditions	Annual Rainfall (in)	Area (acres)	Waste-water Irrigation (in/yr)	Supplemental Irrigation (in/yr)	Average Percolate Total Nitrogen (mg/L)	Total Percolation below root zone (in/yr)
Average Rainfall Condition	14.1	53.3	2.2	22.6	7.8	9.0
Low Rainfall Condition (2013)	4.5	53.3	2.2	34.0	8.6	9.3
High Rainfall Condition (10 Year Return Period)	20.9	53.3	2.2	22.6	5.7	9.4
Average Rainfall Condition	14.1	25	4.8	21.6	7.9	10.6
Low Rainfall Condition (2013)	4.5	25	4.8	36.1	8.4	10.0
High Rainfall Condition (10 Year Return Period)	20.9	25	4.8	22.8	5.6	15.8

Monitoring and Reporting

25. **Monitoring and Reporting Requirements.** All technical and monitoring reports required by this Order are required pursuant to Water Code section 13267. The water quality benefit to be obtained from the reports bears a reasonable relationship to the burden imposed by their preparation. Specifically, monitoring is designed to ensure that the Discharger is in compliance with the Order and there is no degradation of groundwater or other impacts to beneficial uses. The technical reports required [e.g., Design Plans of Constructed Wastewater Systems, Operation and Maintenance Manual Submittal, Operation and Maintenance Manual Review and Update Reports, Non-Compliance Reporting, Monitoring Reports and Reports of Violations] are necessary to ensure efficient operation and

maintenance of the Facility wastewater treatment and discharge systems, and the protection of the beneficial uses of waters of the State.

26. **Wastewater Monitoring.** Wastewater quantity and quality are monitored at various points throughout the wastewater systems in order to assure proper operation and performance of the systems and to document compliance with these requirements. Monitoring requirements for the wastewater systems are specified in the Self-Monitoring Program of this Order.

27. **Groundwater Monitoring**

    a. **Monitoring Required.** The subject wastewater system involves discharges of waste to land. In order to monitor groundwater quality and potential impacts of the proposed discharges, this Order requires groundwater monitoring at 6 well locations shown on Figure 4.

    b. **Monitoring Requirements.** The Self-Monitoring Program for this Order includes minimum monitoring requirements for groundwater, including specific water quality parameters, monitoring frequencies, and reporting requirements.

    c. **Modification.** The monitoring requirements may be modified by the Executive Officer, as may be necessary or appropriate with respect to the Groundwater Monitoring Plan report or other new information about groundwater monitoring related to the discharges. Any modifications must ensure an equivalent or improved level of monitoring to ensure protection of groundwater and beneficial uses.

28. **Operation and Maintenance Program.** The Discharger must properly operate and maintain the wastewater systems to assure adequate and reliable wastewater management for the design wastewater type and flow and compliance with this Order. Provision 10 of this Order requires the Discharger to develop and implement an Operation and Maintenance Program acceptable to the Executive Officer and to prepare and submit an Operation and Maintenance Manual that fully describes the Operation and Maintenance Program.

29. **Operation and Maintenance Providers.** Provision 9 of this Order requires the wastewater systems to be operated and maintained by wastewater treatment plant operators, or similarly qualified persons, who are experienced and knowledgeable of the wastewater system design and its proper operation.

Applicable Plans, Policies, and Other Authorities

30. **California Water Code.** This Order serves as waste discharge requirements pursuant to California Water Code (Water Code) Division 7, Chapter 4, Article 4 (commencing with section 13260).

31. **Basin Plan.** The Basin Plan is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law, and U.S. EPA, where required.

    a. **Basin Plan Implementation.** The Basin Plan contains water quality objectives, lists beneficial uses for waters of the State within the San Francisco Bay Region, and includes

an Implementation Plan. This Order includes prohibitions and discharge requirements to protect existing and potential beneficial uses of waters of the State, in the surrounding area of the Facility and its operations, as well as to protect public health and the environment.

b. Beneficial Uses of Waters of the State. Treated wastewater from the Facility's treatment system discharges to land, not into surface water. Discharges onto Facility vineyards are at a rate that may reach groundwater in the Livermore Valley Groundwater Basin. The beneficial uses of waters of the State identified in the Basin Plan for groundwater in the Livermore Valley basin are municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply.

32. Antidegradation. The Code of Federal Regulations (CFR) Title 40, part 131.12, requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's Antidegradation Policy through State Water Board Resolution 68-16, which incorporates the federal antidegradation policy and applies to Waters of the State, including groundwater. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies.

This Order is consistent with both the State and federal antidegradation policies, because it ensures that groundwater will not be degraded as a result of the Discharger's operations. The Order allows no net increase in nitrogen loading to groundwater. Water Board staff completed an analysis of the potential for the Facility to degrade surface water and groundwater and concluded that the authorized discharge to land will not unreasonably affect present and anticipated beneficial uses of the groundwater or surface waters and will not result in water quality less than that prescribed in the Antidegradation Policy. This Order requires the following:

a. The wastewater treatment system shall reduce total nitrogen and biochemical oxygen demand to 10 and 20 mg/L, respectively. These discharge specifications ensure that nitrate, a drinking water contaminant, will be at or below the groundwater quality objective in the Basin Plan before it is discharged to land. Agricultural practices to conserve irrigation water and subsurface microbial action will minimize percolation of water below the root zone and further reduce the amount of total nitrogen and biochemical oxygen demand. The water that does percolate below the root zone will eventually reach groundwater, but the Vadose Zone and Water Balance Models predict that this percolated water will have lower levels of total nitrogen than the groundwater and so, will improve groundwater quality.

b. Additional reduction of nitrate in the treated wastewater will occur by plant uptake and other subsurface processes, before any wastewater percolates to groundwater.

i. The rate of application is constrained to ensure that subsurface processes and uptake of nitrogen by vineyard roots have time to reduce nitrate concentrations before the wastewater encounters groundwater. The application of treated wastewater is no more than 4.8 inches per year, the area of application may not be less than 25 acres, and the total volume that can be discharged to the Land Application Area is limited to 3.24 million gallons per year. This rate of application is about 1% of the highest

application rate that was previously used in the Facility's subsurface infiltration basins.

ii. Residual nitrogen that may percolate below the root zone will have minimal impacts on groundwater because of residence time in the vadose zone, modeled to be ten or more years, and degradation processes that reduce the amount of nitrogen that may reach groundwater. For example, nitrogen in the form of nitrate is used by bacteria for respiration in the presence food sources. This process, known as denitrification, converts the nitrate into nitrogen gas, which is not a threat to groundwater.

c. There is a prohibition for discharges to groundwater that exceed water quality objectives, unreasonably affect beneficial uses, or cause or contribute to pollution or nuisance. Groundwater is monitored at Facility wells to verify there will be no impacts to groundwater quality caused by the Discharger's operations.

d. There is a prohibition for runoff of treated wastewater to surface water. The application of treated wastewater is only to designated vineyards known to have highly permeable soil, at a rate that will prevent soil saturation, surface runoff, or standing water, and wastewater discharges to the Land Application Area are prohibited if soil saturation occurs.

33. California Safe Drinking Water Act. 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 upholds that policy by requiring limits on discharges that will ensure groundwater does not exceed maximum contaminant levels designed to protect human health and that water is safe for domestic uses.

34. California Environmental Quality Act

a. The California Environmental Quality Act (CEQA) requires all discretionary projects approved by public agencies to be in full compliance with CEQA. The County of Alameda, as lead agency, has approved construction of additional water treatment facilities on a 2,400 square foot cement pad located in an area that is currently bare pavement and is conditioned on approval of this Order.

b. The Water Board, as a responsible agency under CEQA, has jurisdiction over impacts to groundwater and beneficial uses. The Water Board finds that all environmental effects have been identified for project activities that it is required to approve, and that the project will not have significant adverse impacts on the environment, provided that the Discharger operates the facilities as conditioned by this Order. In adopting the terms required in this Order, the Water Board has avoided effects on water quality and therefore approves the operation of the wastewater treatment and discharge systems. The new water treatment facilities will significantly reduce the risk of harm to surface waters and groundwater. Data in the record supports the conclusion that discharging treated wastewater at the rates and allowable concentrations of nitrate and BOD contemplated by this Order will improve groundwater quality in the underlying aquifer. The project is therefore exempt from the provisions of the CEQA under the general rule that "CEQA applies only to projects that have the potential for causing a significant effect on the

environment." (Cal. Code Regs., tit. 14 § 15061, subd. (b)(3) [the "common sense" exemption].)

c. The Discharger has operated the Facility since 2002 and discharged winery wastewater to land since that time. Beginning in 2013, the Discharger began discharging treated wastewater from wine bottling operations to land. The Facility is an Existing Facility, as described in CEQA Guideline 15301, which is exempt from CEQA. This Order does not authorize an increase in the amount of the discharge or the concentration of the constituents in the discharge, and, as described in the Findings, additional treatment as required in this Order will reduce the environmental impacts of the prior discharge.

d. The Discharger's new treatment facility qualifies as new construction of a small structure, which is exempt as described in CEQA Guideline 15303. The structure will utilize less than 2,500 square feet and will not involve the storage of significant amounts of hazardous substances.

35. **Public Notice.** The Water Board has notified the Discharger and interested persons of its intent to prescribe waste discharge requirements for the subject wastewater system and discharges and has provided them with an opportunity for a public hearing and to submit written views and recommendations.

36. **Public Hearing.** The Water Board, in a properly noticed public hearing, heard and considered all comments pertaining to these waste discharge requirements.

IT IS HEREBY ORDERED that the Discharger, pursuant to the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of any waste not specifically regulated by this Order is prohibited.
2. The Discharger shall not discharge wastewater in excess of the limit(s) specified in this Order.
3. The discharge of any waste to surface waters or surface water drainage courses is prohibited. No winery wastewater shall be allowed to discharge from the designated land application area via surface flow.
4. The discharge of liquid wastes from winery process waste solids handling or storage areas or from rainfall runoff that has come into contact with the winery waste solids being stored, to surface water is prohibited.
5. There shall be no bypass or overflow of waste to waters of the State from the wastewater collection, treatment, transport, storage, or disposal facilities.
6. The discharge of any winery waste that has bypassed treatment or discharge of any untreated winery waste is prohibited.
7. The discharge of waste classified as "hazardous" or "designated," as defined in Title 23 of the California Code of Regulations, section 2521, and Water Code section 13173(a), respectively, to any part of the wastewater disposal system is prohibited.
8. The discharge of wastewater containing greases and emulsions that can clog soils and discharge lines or nozzles, or coat vegetation is prohibited.

9. Continual application of wastewater to land is prohibited. Utilization of a resting period is required when discharging to land.
10. The discharge of winery wastewater to an onsite wastewater treatment system (septic system) designed for domestic wastewater is prohibited.
11. There shall be no discharges of treated winery wastewater within 100 feet of any well used for domestic water supply, nor within 50 feet of any well used only for agricultural water supply, nor within 100 feet of any surface water body, including Arroyo Mocho.
12. Neither the treatment, storage, nor disposal of domestic or winery wastewater discharges shall cause or contribute to an exceedance of applicable water quality objectives in the underlying groundwater, unreasonably affect applicable beneficial uses, or cause or contribute to a condition of pollution or nuisance as defined in Water Code sections 13050(l) and (m), respectively.
13. The discharge of waste shall not degrade the quality of any groundwater used for municipal or domestic purposes or cause an increase in any quality parameter that would make groundwater unsuitable for domestic use, industrial process and service water supply, or agricultural supply.

B. DISCHARGE SPECIFICATIONS

1. Authorized Wastewater Flows

a. Peak Daily Flow. Inflow of winery wastewater into the membrane filtration chamber shall not exceed the design peak daily flow rate of 25,000 gallons per day.

b. Annual Average Daily Flow. Inflow of winery wastewater into the membrane filtration chamber shall not exceed the design annual average daily flow rate of 11,250 gallons per day.

c. Design Specifications. The Discharger shall not exceed the design specifications of the wastewater system

2. Discharge System. Treated winery wastewater will either be beneficially reused at the Facility as irrigation water discharged to designated vineyards (referred to as Land Application Areas in the 2016 ROWD) or discharged to the Livermore POTW:

a. The Discharger shall only use the treated wastewater as irrigation on Facility vineyards north of Tesla Road (Parcels 99-0900-005, 99-0900-001-09, 99-1200-1, 99-1200-2, and 99-1200-3). These parcels total 121 acres of vineyards.

b. The Discharger shall not apply more than 3.3 million gallons of treated wastewater to land each year and shall apply the treated wastewater over a minimum of 25 acres of vineyards, so that the discharge does not exceed a maximum of 4.8 inches of treated wastewater per year to any of the designated vineyards.

c. The Discharger shall apply the treated wastewater in a manner such that no runoff leaves the designated vineyards.

d. The Discharger shall apply the irrigation either by drip or by furrow flooding.

e. The Discharger shall not apply treated wastewater to land when soils are saturated. Evidence of saturated soils includes ponding or standing water and stormwater runoff in

the Land Application Area.

3. Treated Wastewater Discharge Limits

Treated winery wastewater discharged to land from the winery wastewater system shall not exceed the water quality limits shown in Table 4 in order to protect the beneficial uses of groundwater beneath the Facility:

Table 4. Treated Wastewater Quality

Constituent	Discharge Limits
BOD_5 20°C[(a)] – Daily Average	**20 mg/L**
Total Suspended Solids Concentration – Monthly Average	**20 mg/L**
Total Nitrogen[(b)] – Monthly Average	**10 mg/L[(c)]**
pH – Monthly Average	**6.5-8.5**

Notes: [(a)] Biochemical Oxygen Demand, 5-day, at 20 C

[(b)] Total Nitrogen equals the sum of Total Kjeldahl nitrogen and Nitrate-nitrogen.

[(c)] 10 mg/L is the state and federal Maximum Contaminant Level (MCL).

4. Discharge Discontinuation. Discharges of treated wastewater to the Land Application Area are prohibited during any period when the limits specified in Table 4. Treated Wastewater Quality are not being met. The discharges shall not resume until all conditions that caused the specified limits to be violated have been corrected.

5. Wastewater System Operation and Maintenance

a. The Discharger shall operate and maintain the wastewater system as efficiently as possible, and shall maintain in good working order all wastewater system components, equipment, and control systems installed to achieve compliance with this Order.

b. The Discharger shall be operate and maintain the wastewater system in accordance with the procedures identified in the Operations and Maintenance (O&M) Manual required by this Order (Provision 9.c).

6. Pumps

a. All pumps shall be designed, constructed, operated, and maintained to prevent the occurrence of a wastewater spill or spills resulting from mechanical breakdown or power failure.

b. All pumps shall be equipped with reserve hydraulic capacity sufficient to provide storage of wastewater during a pump failure condition for at least 24 hours, and water level monitoring and alarm system(s) to provide notification of high water level conditions. The alarm system shall include audible and visual alarms sufficient to notify operating personnel of an alarm condition. If operating personnel are not present at the Facility, the alarm system shall include an automated telephone dialer or other telecommunication system capable of notifying on-call operating personnel of the alarm condition.

c. The power supply for alarm systems shall be sustained in the case of a loss of power, in order to ensure notification to the operators.

7. Diversion Valves

a. Winery Process Area Stormwater Diversion Valve

The winery process area stormwater diversion valve allows the Discharger to direct stormwater to the winery wastewater treatment system or to the french drain. This valve shall be operated as appropriate to direct stormwater collected on the outdoor wine production area as follows:

1. Into the winery wastewater treatment system during all times when the wine production area is in use for grape handling or processing or other wine making activities, or has materials remaining on it from such use that could contribute pollutants to runoff, or
2. Into the french drain when the winery production area tributary to the valve is not in active use for grape processing or wine making activities and has been cleaned of any spills or wastes generated by these activities, and the collected water consists only of clean-captured rainwater.

b. Treated Winery Wastewater Diversion Valve

The treated winery wastewater diversion valve allows the Discharger to direct treated wastewater to the Facility irrigation system for the Land Application Area or to the Livermore POTW. This valve shall be operated as appropriate to direct the treated winery wastewater as follows:

1. To vineyards designated as Land Application Areas, or
2. To the collection system of the Livermore POTW.

c. Land Application Areas Irrigation Diversion System

The Land Application Area irrigation diversion system includes values and pipes that are used to direct treated wastewater to various vineyards for irrigation. Use of this diversion system should be recorded so that the amount of treated wastewater applied annually to each vineyard is documented.

8. Wastewater Solids

The discharge of solid waste, including spreading of wine production solids on the Discharger's property, is not authorized by this Order. All solid materials removed from the liquid waste stream of the wastewater systems shall be disposed of at a legal point of disposal and in accordance with the provisions of Title 27 of the California Code of Regulations. This includes solids accumulated in septic tanks, pump tanks, filters, or other components of the wastewater systems. For the purpose of this requirement, a legal point of disposal is defined as a facility for which waste discharge requirements have been prescribed or waived by a Water Board and which facility is in full compliance therewith. This Order does not authorize reuse or disposal of wastewater solids or any other solid wastes anywhere on the Concannon Winery property. If the Discharger desires to reuse or dispose of solid wastes on the property, the Discharger shall file with the Water Board a ROWD describing the proposed discharges and methods of control, and the Facility will

need to comply with applicable laws and regulations governing solid wastes prior to any discharges of solid wastes.

9. Wastewater application timing methods

a. Treated winery wastewater shall not be discharged to land by irrigation within one day of a forecasted rain event with greater than 50 percent probability of rain to exceed 0.4 inches in 24 hours, during rainfall, 24 hours after a rainfall event of 0.4 inches or more, or when soils are saturated. Evidence of saturated soils would include runoff leaving the Facility property or areas of standing water on Facility property that extend beyond small areas of compacted soil between vines.

b. The Discharger may propose an alternative method for determining weather-related application timing. The alternative method must be prepared and stamped by a qualified professional and document that treated wastewater will not leave the Facility. The alternative method may not be implemented until it has been accepted by the Executive Officer, who will consider whether the alternative method is equally protective of groundwater and beneficial uses as the measures adopted in this Order.

C. PROVISIONS

1. Order Compliance

The Discharger shall comply immediately with all Prohibitions, Specifications, and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Water Board (Water Code sections 13261, 13263, 13265, 13268, 13300, 13304, and 13350).

2. Self-Monitoring Program

The Discharger shall comply with the Self-Monitoring Program (Attachment A) for this Order as adopted by the Water Board and as may be amended by the Executive Officer.

3. Order Availability

A copy of these waste discharge requirements shall be maintained by the Discharger at the Facility and shall be made available by the Discharger to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.).

4. Severability

Provisions of these waste discharge requirements are severable. If any provisions of these requirements are found invalid, the remaining requirements shall not be affected.

5. Requirements for Technical Reports

All technical and monitoring reports required by this Order are required pursuant to Water Code section 13267. Failure to submit reports in accordance with schedules established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement actions pursuant to Water Code section 13268.

6. Electronic Reporting Format

In addition to print submittals, all reports submitted pursuant to this Order shall be submitted as electronic files in PDF format. All electronic files shall be submitted via the Water Board's file transfer protocol (FTP) site, the centralized email address: WDR.monitoring@waterboards.ca.gov or via an electronic database submittal established during the course of this Order, following notification of that procedure by Water Board staff. Email notification shall be provided to the current Water Board staff case manager whenever a file is uploaded to the Water Board's FTP site.

7. Design Plans of Constructed Wastewater Systems

The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, no later than 30 calendar days from the date of adoption of this Order, of current design plans for the constructed wastewater systems, clearly showing any changes to the design plans that were submitted in 2016.

The Discharger shall submit design plans including "as-built" drawings and narrative descriptions, as appropriate, of the completed wastewater treatment and discharge systems within 30 days of the commencement of discharge to land. All plan drawings shall be of scale at least one inch equals 40 feet, properly labeled, and legible.

8. Operation and Maintenance Providers

The wastewater systems shall be operated and maintained by persons that are experienced in, and knowledgeable of, proper wastewater treatment and disposal practices. Such persons may be wastewater treatment plant operators possessing a current and valid certification from the State of California or other persons with similar knowledge and experience.

9. Operation and Maintenance Program

The Discharger shall develop and implement an Operations and Maintenance Program for the wastewater system in accordance with the following:

a. Operation and Maintenance Program

The Operation and Maintenance Program shall include all procedures necessary to properly operate the wastewater system in accordance with design parameters, to achieve compliance with waste discharge requirements, and to maintain the system in good working condition.

b. Operation and Maintenance Manual

The Operation and Maintenance Program shall include an Operation and Maintenance Manual documenting all aspects of the program. The Operation and Maintenance Manual shall include, but not be limited to, the following:

1. Description of the overall wastewater system;
2. Scaled plan drawings of the wastewater system, including pipes, valves, and control equipment;
3. Description of the wastewater flow through the system from source to final disposal;
4. Descriptions and specifications of all system components and equipment;

5. Routine procedures for operation of the wastewater system including all mechanical, electrical, or hydraulic control systems; tanks; pumps; diversion valves; and the discharge systems;
6. Routine procedures for management and disposal of wastewater solids removed from the wastewater streams;
7. Procedures for maintenance of all system components;
8. Procedures for operation of the wastewater system during emergency conditions such as power outage, major equipment failure, extreme wet weather conditions, or other emergencies; and
9. Copies of all applicable regulatory permits for the wastewater system, or specific references of those permits and identification of a location at Concannon Winery where those permits are available for review and reference by operating personnel, other service providers, or regulatory agency staff.

c. Operation and Maintenance Manual Submittal

1. The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, comprised of a complete copy of the Draft Final Operation and Maintenance Manual, identification of the person(s) responsible for the implementation of the Operation and Maintenance Program, and contact information for those persons.

   Due Date: No later than 30 days after the date of adoption of this Order

2. The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, comprised of a complete copy of the Final Operation and Maintenance Manual, identification of the person(s) responsible for the implementation of the Operation and Maintenance Program, and contact information for those persons.

   Due Date: No later than 30 days after the commencement of discharge to land as described in this Order

d. Operation and Maintenance Manual Review and Updates

The Discharger shall periodically review and update, as necessary, the Operation and Maintenance Manual in order to ensure that the manual remains current and applicable to the wastewater systems and their proper operation.

e. Operation and Maintenance Manual Review and Update Reports

Annually, the Discharger shall submit a report to the Water Board containing any proposed revisions or updates of the Operation and Maintenance Manual or a letter stating that the Operation and Maintenance Manual remains adequate and no revisions are necessary. This report shall be submitted as part of the Annual Monitoring Report. Proposed revisions or updates may be approved by the Executive Officer, as may be necessary or appropriate with respect to the effectiveness of the Operation and Maintenance Program.

10. Water Softener Brine

The discharge of any water softening ion exchange regeneration brine in the onsite

wastewater treatment system is not authorized by this permit unless the Discharger submits a technical report, acceptable to the Executive Officer, which documents that the water softener brine will not adversely impact waters of the State or cause the discharge to exceed or otherwise violate effluent limitations or other requirements of this order. The technical report must provide information on the brine constituents, average and minimum dilution by winery wastewater, and how the additional loading and concentration of salt in the treated wastewater will compare to water quality objectives in the Basin Plan or the Zone 7 Water Agency Salt Management Plan (2004).

11. Groundwater Monitoring Program

a. Groundwater Monitoring Required

In order to ensure compliance with Discharge Prohibition 17 of this Order, the Discharger shall implement a program of groundwater monitoring in the vicinity of the discharges.

b. Monitoring Requirements

The Self-Monitoring Program for this Order includes minimum monitoring requirements for groundwater. The Discharger shall implement these monitoring requirements. Requirements include monitoring parameters and frequencies, and reporting requirements. The requirements may be modified by the Executive Officer, as may be necessary or appropriate with respect to the Groundwater Monitoring Plan report or other new information about groundwater monitoring related to the discharges.

Due Date: The monitoring requirements shall be in effect as of the date of adoption of this Order.

12. Non-Compliance Reporting

a. Notification Required

The Discharger shall notify the Water Board of any time or event when any non-compliance with any of the conditions of this Order occurs. Such non-compliance may include:

1) Breakdown of wastewater transport or treatment equipment;

2) Accidents caused by human error or negligence; or

3) Other causes, such as acts of nature.

b. Initial Notification

The Discharger shall provide initial notification to the Water Board by telephone as soon as the Discharger or the Discharger's agents have knowledge of the incident. Notification shall be provided to the current Water Board staff case manager.

c. Written Notification

The Discharger shall provide written notification to the Water Board within five work days of the initial notification.

d. Written Notification Content

The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem, and the dates thereof, and what steps are being taken to prevent the problem from recurring.

13. Entry, Access, and Inspection

The Discharger shall permit the Water Board or its authorized representatives, in accordance with Water Code section 13267 :

a. Entry

Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

b. Access

Access to and copy of, at reasonable times, any records required by conditions of this Order;

c. Inspection

Inspection, at reasonable times, of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Monitoring

To photograph, sample, or monitor, at reasonable times, for the purpose of assuring compliance with this Order.

14. Annual Fees

The Discharger must pay annual fees in accordance with the fee schedule given in California Code of Regulations Title 23, section 2200 and annual fee invoices issued by the State Water Resources Control Board.

15. Change in Control or Ownership

In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the Water Board of such changes in writing, and shall also notify the succeeding owner or operator of the existence of this Order and current compliance status in writing. The succeeding owner or operator, in order to obtain authorization for discharges regulated by this Order, must file a ROWD requesting transfer of the Order which must include complete identification of the new owner or operator, the reasons for the change, and effective date of the change.

16. Report of Waste Discharge

The Discharger shall file with the Water Board a ROWD at least 180 days before making any material change in the character, location, or volume of the discharges or discharge facilities as described in this Order, except for emergency conditions. In the event of changes implemented in response to emergency conditions, the Water Board shall be notified immediately by telephone and in writing or by facsimile or electronic transmission within five calendar days of such changes.

17. Design Plans of Future Wastewater System Changes

In the event of any changes to wastewater system components in the future, updated as-built plans of the portion of the system(s) affected by such changes shall be submitted to the Water Board within 30 days of completion of those changes.

18. Vested Rights

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from liability under federal, State, or local laws, nor do they create a vested right for the Discharger to continue the waste discharge.

19. Order Review and Update

The Water Board will review this Order periodically and may revise the requirements as necessary to comply with changing State and federal laws, regulations, policies, or guidelines; changes in this Water Board's Basin Plan; or changes in the discharge's characteristics.

20. Order Termination

The Water Board may modify, or revoke and reissue, this Order if present or future investigations demonstrate that the discharges governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality or beneficial uses of the receiving waters. The Water Board may reopen this Order to review results of the Discharger's studies and new data on contaminants and decide whether effluent limits should be revised.

21. Rescission of Order No. R2-2014-0029

Order No. R2-2014-0029 is hereby rescinded, except for enforcement purposes.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on <date>, 2017.

_____

Bruce H. Wolfe
Executive Officer

Figures:

Figure 1 – Site Location Map
Figure 2 – Current and Former Site Features
Figure 3 – Facility Map
Figure 4 – Groundwater Elevation and Monitoring Well Locations
Figure 5 – Winery Wastewater Treatment System Schematic
Figure 6 – Vadose Zone Model Schematic
Figure 7 – Vineyards Designated for Irrigation with Treated Wastewater

Attachment:

A. Self-Monitoring Program
[CIWQS Place Number 771359]

Figures

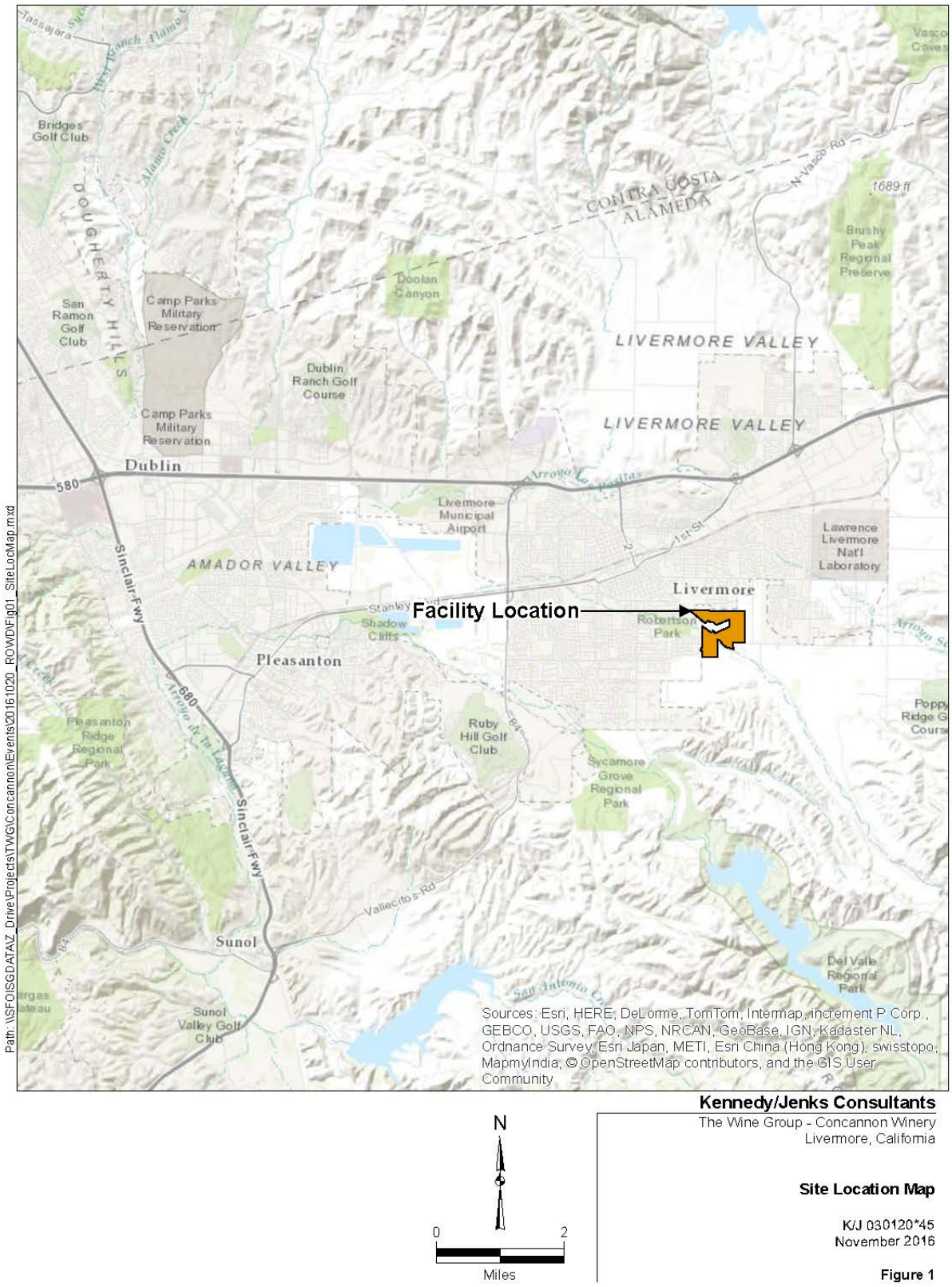

Figure 1 – Site Location Map

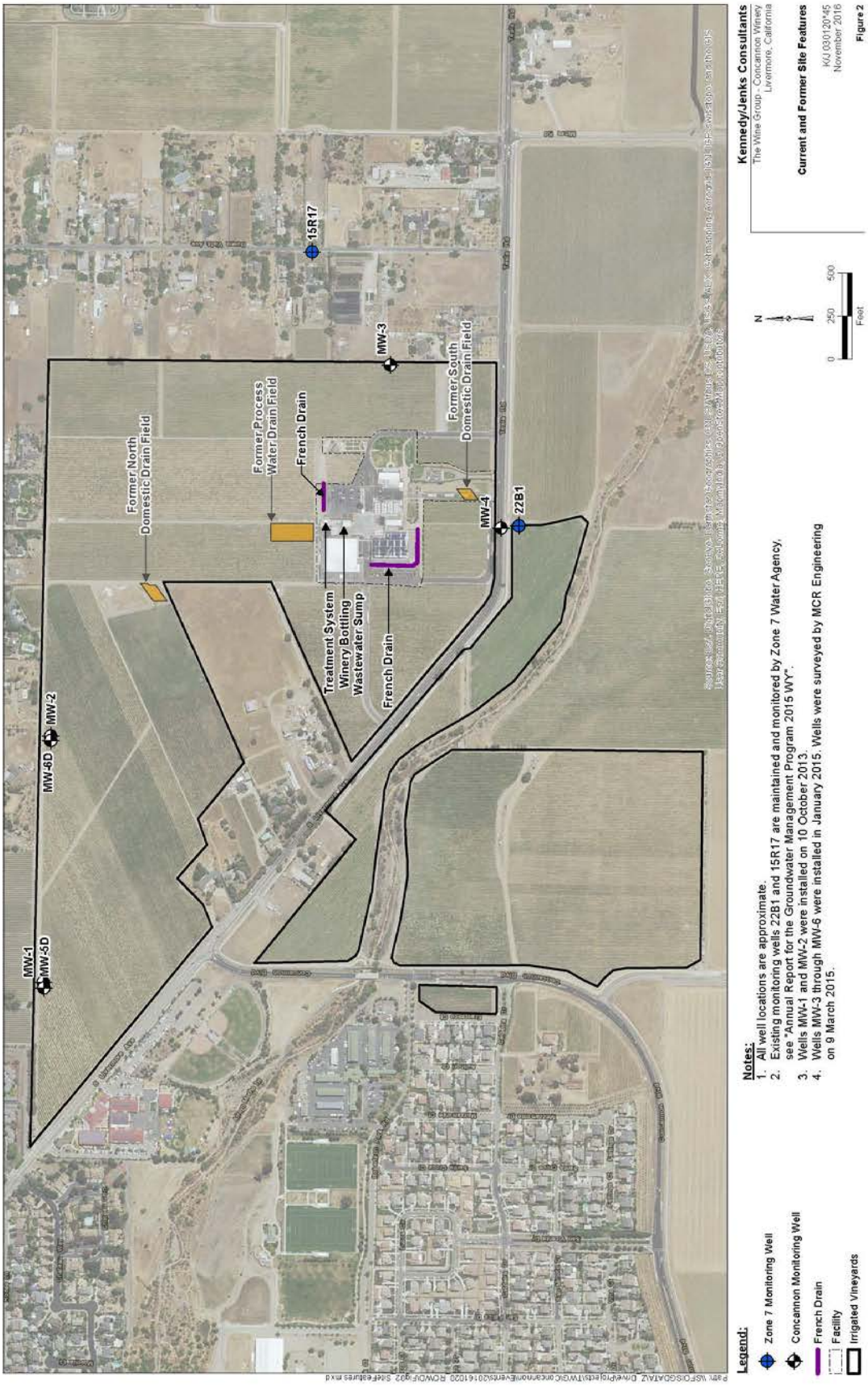

Figure 2 – Current and Former Site Features

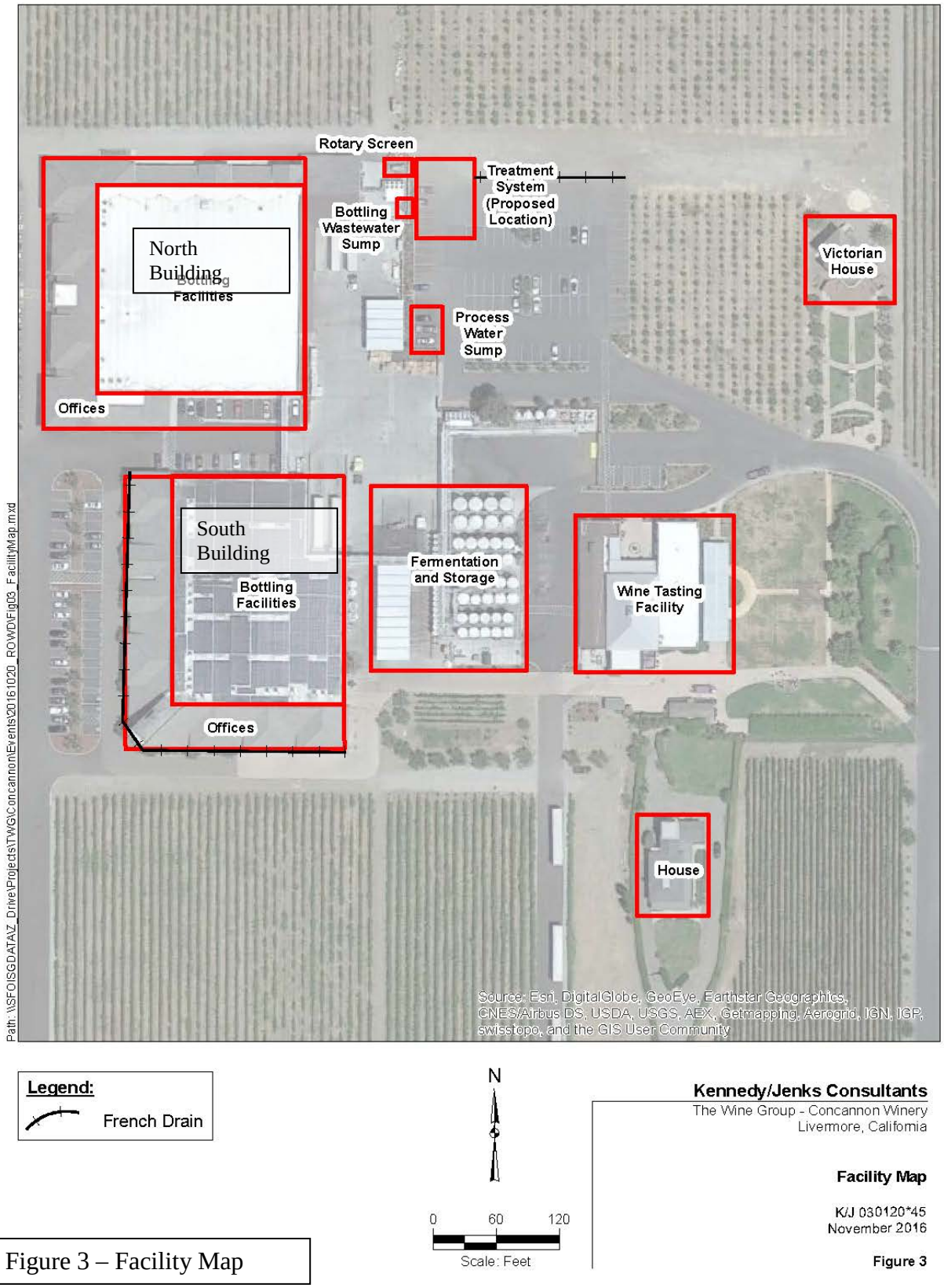

Figure 3 – Facility Map

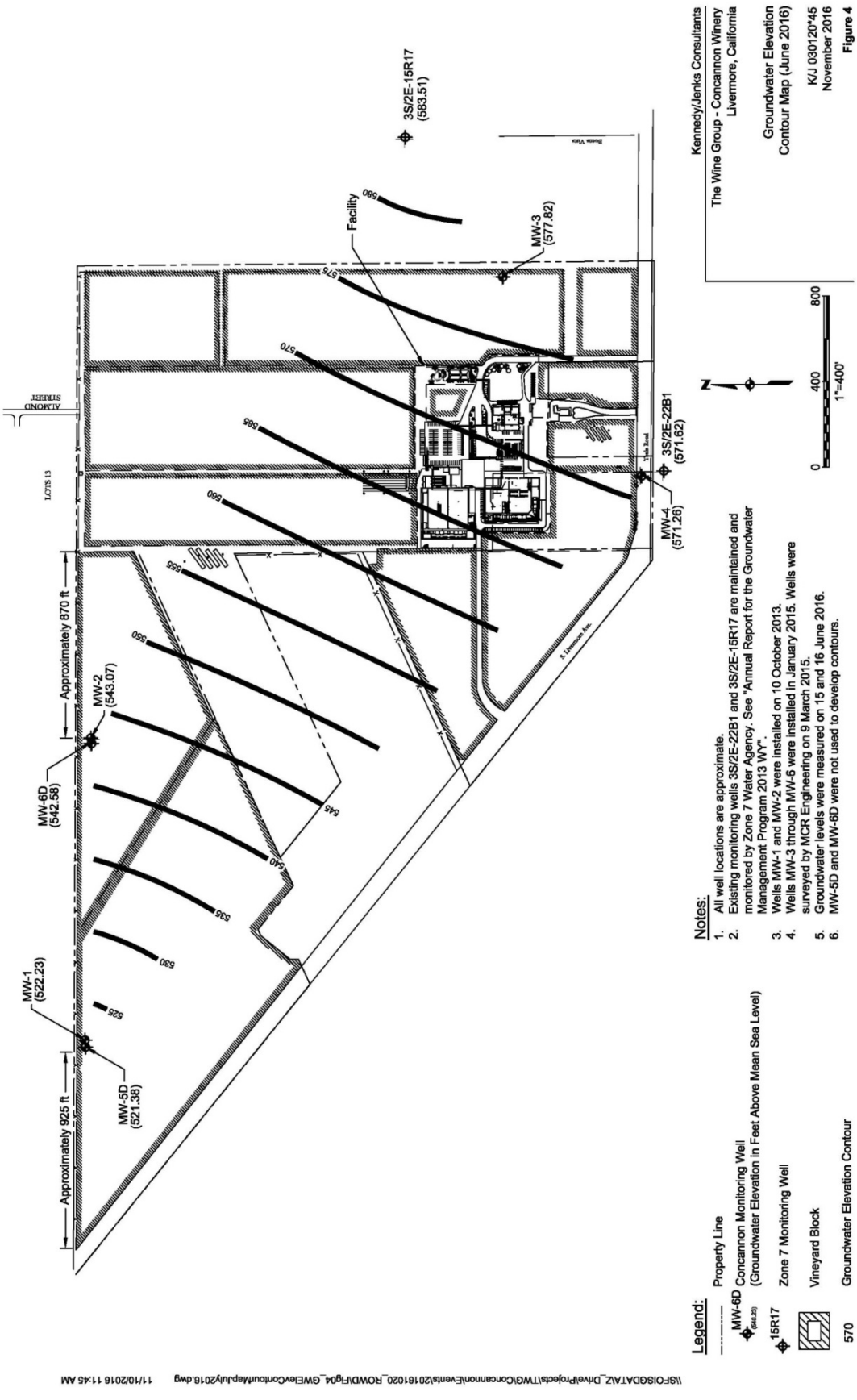

Figure 4 – Groundwater Elevation and Monitoring Well Locations

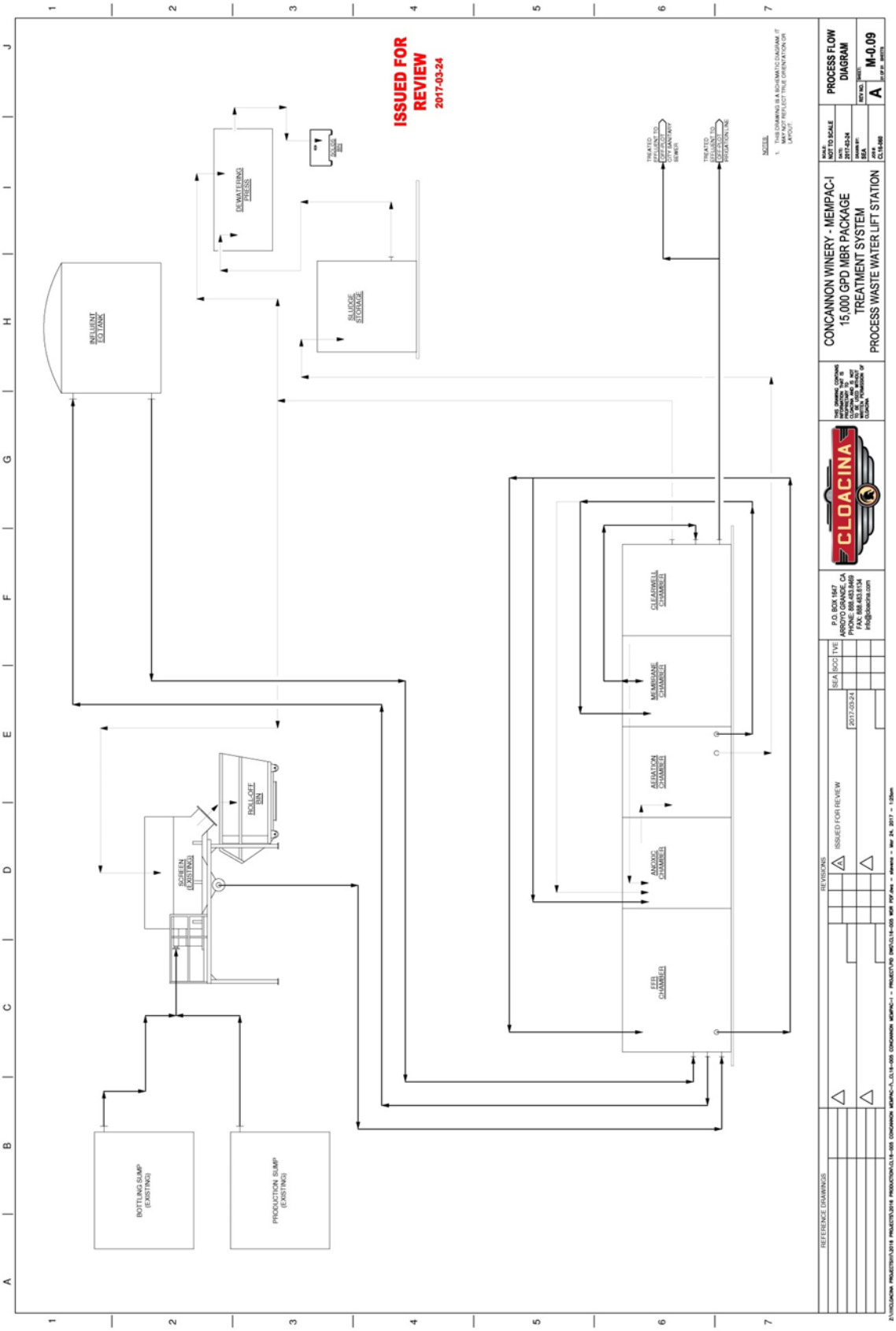

Figure 5 – Winery Wastewater Treatment System Schematic

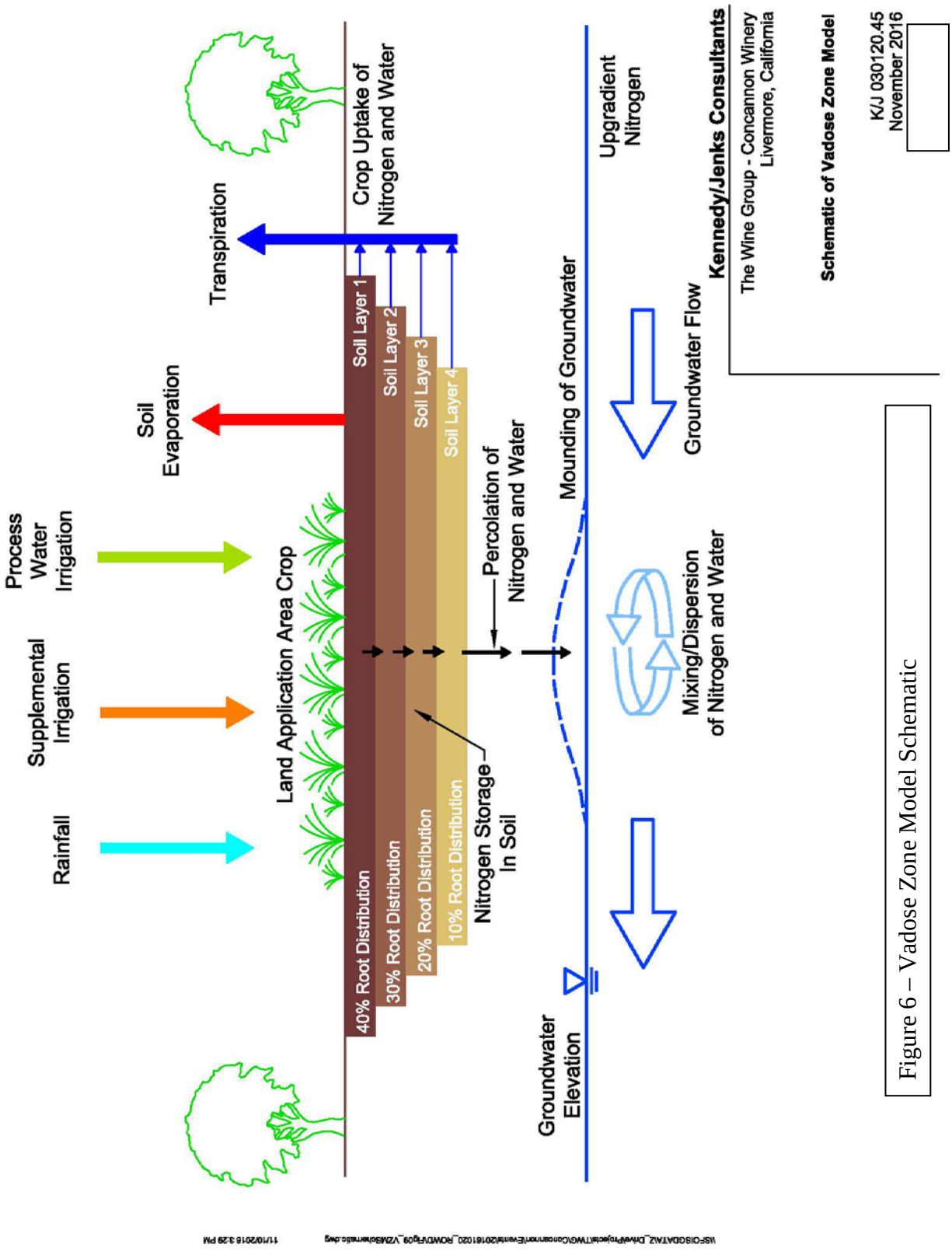

Figure 6 – Vadose Zone Model Schematic

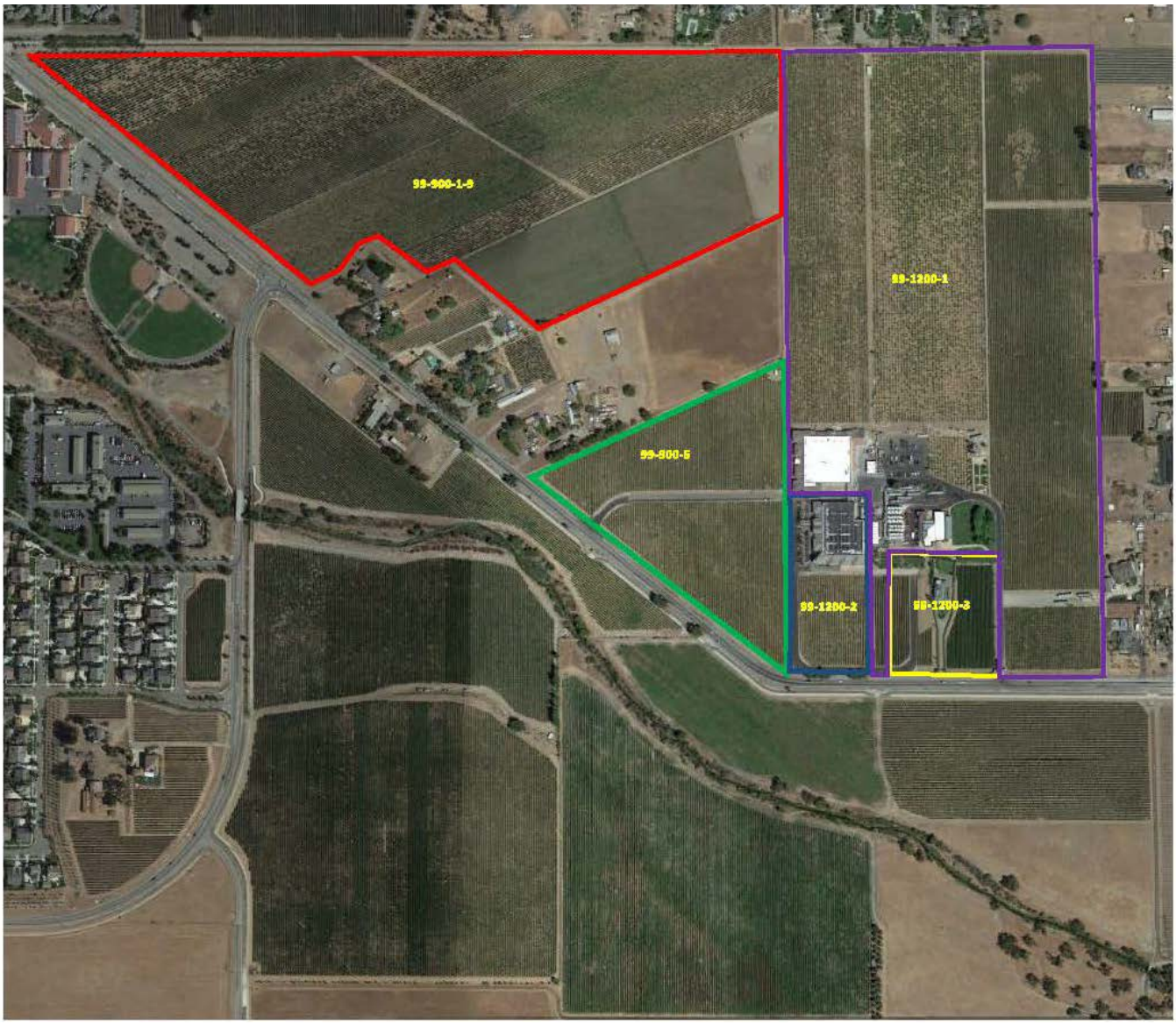

Figure 7 – Vineyards Designated for Irrigation with Treated Wastewater

Attachment A
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

for

THE WINE GROUP, LLC - CONCANNON WINERY
at
4596 TESLA ROAD, LIVERMORE, ALAMEDA COUNTY

for

ORDER No. R2-2017-0XXX

CONTENTS:

I. PURPOSE

A. GENERAL

1. This monitoring program is for waste discharge requirements adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board).

2. The principal purposes of a monitoring program by a waste discharger, also referred to as a Self-Monitoring Program (SMP), are:

a. To document compliance with waste discharge requirements and prohibitions established by the Water Board; and

b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution or potential threats to water quality arising from waste discharges.

3. Reporting responsibilities of waste dischargers are specified in sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code, and Water Board Resolution No. 73-16.

II. SAMPLING and ANALYTICAL METHODS

1. Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR 136), or other methods approved and specified by the Executive Officer of the Water Board (Executive Officer).

2. Water and waste analyses shall be performed by a laboratory approved for these analyses by the California Department of Public Health (CDPH), or by a laboratory waived by the Executive Officer from obtaining a CDPH certification for these analyses, or as otherwise specified in this SMP.

3. The director of the laboratory whose name appears on the certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed, shall supervise all analytical work including appropriate quality assurance/quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Water Board.

4. Measurements by use of portable analytical equipment (field instruments) is acceptable for selected parameters, given the following conditions:

a. The analytical equipment is appropriate for the given analysis, reporting limits, and water or waste;

b. The analytical equipment is properly maintained and calibrated to ensure accuracy of measurements;

c. The equipment user is knowledgeable of proper sampling and equipment use practices; and

d. Written notification of the intended use has been provided in advance to the Water Board and the Discharger has verified that the Executive Officer has not stated any objections.

III. DEFINITION of TERMS

The following are definitions and explanations of terms used in this monitoring program. Additional descriptions are given in in the findings of this Order.

A. FACILITY AND WASTEWATER SYSTEM

1. **Facility** - The Facility includes operations at 4596 Tesla Road, Livermore, and surrounding land on which The Wine Group, LLC - Concannon Winery (Concannon Winery) operates, consisting of Alameda County Assessor's parcel numbers 99-1200-001, 99-1200-002, 99-1200-003, 99-0900-005, 99-0900-001-09, 99-0801-014, 99-0850-002-02, 99-0850-003, 99-0801-006, and 99-0850-007.

2. **Winery Wastewater System** - The winery wastewater system is all equipment at the Facility used for collection, conveyance, treatment, storage, dispersal, and management of wastewater and wastewater solids from the Facility wine production and wine bottling systems. The treated wastewater is discharged to land in the winery wastewater discharge system (see description under III.A.3. below). Discharges from the sanitary wastewater system at the Facility are not authorized by this SMP.

3. **Land Application Area** - The Land Application Area is comprised of Facility vineyards that are designated for application of treated wastewater. The designated vineyards of the Land Application Area include Parcels 99-0900-005, 99-0900-001-09, 99-1200-1, 99-1200-2, and 99-1200-3.

4. **Livermore POTW** - The Livermore POTW is the publically-owned treatment works that treats sanitary wastewater from the Facility and is available to treat winery wastewater as needed by the Discharger.

5. **Winery Wastewater Discharge System** - The winery wastewater discharge system is the portion of the facility used to convey treated wastewater to the Land Application Area.

B. TYPES OF SAMPLES

1. **Flow Measurement** - Flow measurement is the accurate measurement of the flow volume over a given period of time using a properly calibrated and maintained flow measuring device. Flow determination from a properly calibrated and maintained automated pump-use recording device, such as a pump dose event counter, for a properly calibrated and maintained pump, is acceptable.

2. **Grab Sample** - A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples are used primarily in determining compliance with instantaneous maximum or minimum limits, and also for bacteriological limits. Grab samples represent only the condition that exists at the time the sample is collected.

3. **Composite Sample** - A composite sample is defined as a sample composed of individual grab samples, typically of uniform volumes obtained at specified time intervals evenly distributed over the sampling period. The sampling period for all composite samples is 24 hours, unless specified otherwise.

4. **Groundwater Level** - Groundwater level is the water surface of observed groundwater. For reporting, groundwater level shall be reported as both (a) depth below ground surface - the vertical distance between the groundwater level and the overlying ground surface, and (b) groundwater elevation - the elevation of the groundwater level with respect to a single common reference elevation for which there is an identified fixed stable elevation reference station at the Facility.

5. **Groundwater Sample** - A groundwater sample is a sample of groundwater obtained from a groundwater monitoring well for analytical characterization. Sampling of groundwater shall be conducted in accordance with current accepted standard practices for groundwater sampling.

6. **Observations** - Observations are primarily visual observations and inspection of conditions. Observations may include recording measurements from monitoring devices such as freeboard determined from a water-level gauge or precipitation determined from a rain gauge.

C. SAMPLING FREQUENCY

1. **Continuous.** Continuous monitoring.
2. **Daily.** One time each calendar day.
3. **Weekly.** One time per calendar week, with sampling intervals of at least five days.
4. **Monthly.** One time per calendar month, with sampling intervals of at least three weeks.
5. **Quarterly.** One time per calendar quarter, at sampling intervals of about three months within a one year period.
6. **Semiannual.** Two times per calendar year, with sampling intervals of about six months within a one year period.
7. **Annual.** One time per calendar year.

D. MONITORING PERIODS

For purposes of monitoring, reporting and compliance determinations relevant to requirements specified in this Order and SMP, the following time periods apply:

1.Daily. The Daily time period is a 24-hour period associated with a calendar day. The 24-hour period may overlap calendar days (e.g., 8 am of one day to 8 am of the next), but shall be consistent from one sampling event to the next.

2.Weekly. The Weekly period is a 7-day calendar week.

3.Monthly. The Monthly time period is each respective calendar month.

4.Annual. The Annual time period is the calendar year.

5.Grape Crush Season. The period when grape crushing and other wine production operations occur outdoors, typically from August to October or sometimes November.

E. ABBREVIATIONS USED IN TABLE 1, SCHEDULE FOR MONITORING

1. Type of Sample Abbreviations.

C = Composite Sample
F = Flow measurement
G = Grab Sample
GL = Groundwater level measurement
O = Observation.

2. Parameter Abbreviations.

BOD_5 20^oC	=	Biochemical Oxygen Demand, 5-day, at 20 C
TSS	=	Total Suspended Solids
pH	=	Hydrogen potential
Nitrogens	=	Total Kjeldahl-nitrogen, Ammonia-nitrogen, and Nitrate-nitrogen, and Total Nitrogen (calculated from the sum of Total Kjeldahl-nitrogen and Nitrate-nitrogen.

3. Unit Abbreviations.

F or C	=	Fahrenheit or Celsius
mg/L	=	milligrams per liter
MPN/100 ml	=	Most Probable Number, per 100 milliliters
N	=	Nitrogen

4. Sampling Frequency Abbreviations.

D	=	Daily
W	=	Weekly
M	=	Monthly
Q	=	Quarterly
2/M	=	Twice per Month
A	=	Annual
Event	=	Each service or discharge event
Cont.	=	Continuous
D&M	=	Continuous monitoring; Record and Report Daily & Monthly values

5. Other Abbreviations.

WW = Wastewater

IV. DESCRIPTION of MONITORING STATIONS

A. GENERAL

1. Monitoring Station Definitions. Stations to be used for sampling and observations in this SMP are described in this section. Each station is identified by a station code and station description. The station code is a reference code for station identification in this SMP and in recording and reporting of monitoring data. The station description is a description of the water, wastewater, point of the wastewater system, or land area where specified monitoring is to be conducted.

2. Monitoring Station Changes. Changes to the monitoring stations defined in this SMP may be authorized by the Executive Officer in order to accommodate changes in the wastewater system or wastewater system operations or to provide improved monitoring. Requests for changes to the monitoring stations must be submitted to the Water Board in writing, with a detailed explanation of the purpose of the proposed station changes. Proposed changes to monitoring stations must be approved in writing from the Executive Officer prior to implementation.

3. Site Plan Showing All Monitoring Stations. The Discharger shall develop a scaled and legible plan view drawing of the Facility that clearly shows the locations of all major components of the wastewater system, all monitoring stations identified in this SMP, and relevant land use features

such as buildings, access roads, property boundaries, and surface water drainage systems. A copy of this drawing shall be included with all reports submitted in response to this SMP.

B. WASTEWATER SYSTEM MONITORING STATIONS

1. Wine Production Wastewater Flow

a. Station Code: 1

b. Station Description: Wastewater at a point in the winery wastewater system following the wine production sump and prior to the rotary screen. The Cloacina Mempac-1 Process Water Treatment Plant plans of October 10, 2016, Sheet M-0.03 identifies this station as the FM001 flow meter.

c. Purpose: The purpose of this station is for flow measurement of wine production wastewater influent to the rotary screen component of the winery wastewater system.

2. Winery Wastewater Flow after Rotary Screen

a. Station Code: 2

b. Station Description: Wastewater at a point in the winery wastewater system following the rotary screen and prior to the roughing filter. The Cloacina Mempac-1 Process Water Treatment Plant plans of October 10, 2016, Sheet M-0.03 identifies this station as the FM002 flow meter.

c. Purpose: The purpose of this station is for flow measurement, of winery wastewater leaving the rotary screen component of the winery wastewater system.

3. Winery Wastewater Quality after Rotary Screen

a. Station Code: 3

b. Station Description: Wastewater at a point in the winery wastewater system after, and downstream from the rotary screen, and prior to the roughing filter. The Cloacina Mempac-1 Process Water Treatment Plant plans of October 10, 2016, Sheet M-0.03 identifies this station as the FM002 flow meter.

c. Purpose: The purpose of this station is for sampling and analytical characterization of the quality of the winery wastewater influent to the roughing filter component of the winery wastewater system that will be discharged to surface irrigation systems. No wastewater quality sample is required at this station during calendar months when no treated wastewater is discharged to surface irrigation systems.

4. Treated Winery Wastewater Quality

a. Station Code: 4

b. Station Description: Wastewater at a point in the winery wastewater system after, and downstream from the Clearwell Chamber, prior to discharge to the Facility irrigation system, where all wastes tributary to the discharges are present.

c. Purpose: The purpose of this station is for sampling and analytical characterization of the quality of the treated winery wastewater discharged to surface irrigation systems.

5. Treated Winery Wastewater Flow

a. Station Code: 5

b. Station Description: Wastewater at a point in the winery wastewater system after, and downstream from the Clearwell Chamber, prior to discharge to the Facility irrigation system or the Livermore POTW, where all wastes tributary to the discharges are present.

c. Purpose: The purpose of this station is for measuring the flow of treated winery wastewater discharged for surface irrigation systems or to the sanitary sewer.

6. Treated Winery Wastewater Diversion Valve

a. Station Code: 6

b. Station Description: The diversion valve and related control equipment used to direct treated winery wastewater to either to surface irrigation systems or to the sanitary sewer.

c. Purpose: The purpose of this station is for recording whether treated winery wastewater is discharged to surface irrigation systems or to the sanitary sewer.

7. Winery Process Area Stormwater Diversion Valve

a. Station Code: 7

b. Station Description: The diversion valve and related control equipment used to direct stormwater from the outdoor process area to either the winery wastewater discharge system or to the 2,820-foot- long, three-foot- wide french drain, located adjacent to the south and west sides of the South Building.

c. Purpose: The purpose of this station is for recording when stormwater from the outdoor processing area is sent to the winery wastewater system and when it is sent to the french drain system.

8. Facility Precipitation

a. Station Code: 8

b. Station Description: Point on the Facility suitable for measurement of precipitation.

c. Purpose: The purpose of these stations is for measurement of precipitation.

9. Winery Wastewater Irrigation System Diversion Valves

a. Station Code: 9

b. Station Description: The diversion valve or valves, and related control equipment, used to direct winery wastewater discharges to one part or the other of the vineyard irrigation system.

c. Purpose: The purpose of this station is for monitoring which specific vineyard areas of the irrigation system are in active use for discharges and all dates and times when the flow stream is changed.

10. Winery Wastewater Irrigation System Observations

a. Station Code: 10

b. Station Description: Vineyard Areas designated for irrigation by treated wastewater.

c. Purpose: The purpose of these observations is to document that the irrigation of treated wastewater is not 1) causing runoff to any area beyond the Facility boundary; 2) causing the creation of ponds outside of the areas designated for treated wastewater irrigation areas; or 3) causing the creation of ponds that extend beyond the compacted soil between vines within the areas designated for treated wastewater application.

C. GROUNDWATER MONITORING STATIONS

1. Downgradient Well 1.

a. Station Code: MW-1
b. Station Description: Groundwater at a monitoring well located downgradient from the Winery Wastewater System and the former South Domestic Wastewater System, along the northern boundary of the Facility and about 850 feet east from the western corner of the Facility.
c. Purpose: The purpose of these stations is for observation and measurement of groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

2. Downgradient Well 2.

a. Station Code: MW-2
b. Station Description: Groundwater at a monitoring well located downgradient from the North Domestic Wastewater system, along the northern boundary of the Facility and about 2,800 feet east from the western corner of the Facility.
c. Purpose: The purpose of this station is for observation and measurement of groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

3. Upgradient Well 3.

a. Station Code: MW-3
b. Station Description: Groundwater at a monitoring well located upgradient from the french drains and inactive drain fields for process water and sanitary wastewater, along the eastern boundary of the Facility and about 600 feet north from Tesla Road.
c. Purpose: The purpose of these stations is for observation and measurement of background groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

4. Upgradient Well 4.

a. Station Code: MW-4
b. Station Description: Groundwater at a monitoring well located upgradient from the former South Domestic Drain Field for process water and sanitary wastewater, along the northern side of Tesla Road and about 280 feet west of the main entrance road to the Facility.
c. Purpose: The purpose of these stations is for observation and measurement of background groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

5. Downgradient Deep Well 5D.

a. Station Code: MW-5D
b. Station Description: Groundwater at a monitoring well located downgradient from the Winery Wastewater System and the former South Domestic Wastewater System, along the northern boundary of the Facility and about 850 feet east from the western corner of the Facility. The well is co-located with MW-1 and screened from 45.3 to 75.3 feet below ground surface to sample groundwater that is below the screen for MW-1.
c. Purpose: The purpose of these stations is for observation and measurement of groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

6. Downgradient Deep Well 6D.

a. Station Code: MW-6D

b. Station Description: Groundwater at a monitoring well located downgradient from the former North Domestic Wastewater system, along the northern boundary of the Facility and about 2,800 feet east from the western corner of the Facility. The well is co-located with MW-2 and screened from 40 to 70 feet below ground surface to sample groundwater that is below the screen for MW-2.

c. Purpose: The purpose of this station is for observation and measurement of groundwater levels and for obtaining samples of groundwater for analytical characterization of groundwater quality.

V. MONITORING SCHEDULE and SPECIFICATIONS

A. MONITORING SCHEDULE

1.Table 1, 2 and 3. The Discharger is required to perform sampling, analyses and observations according to the schedule tabulated in Schedule for Monitoring tables (Tables 1, 2, and 3) of this SMP, and the associated Monitoring Specifications given in Section V.B. below.

2.Table 1, 2, and 3 References. Tables 1, 2, and 3 include references given in parentheses to the right of the parameter name. These references correspond to monitoring specifications given below in Section V.B. or V.C below.

B. WASTEWATER MONITORING

1. Flow Monitoring and Reporting

a. All flows shall be monitored continuously in a manner sufficient to measure, record, and report the daily flow volume for each day of operation and the monthly flow volume for each calendar month.

b. Flows shall be reported as Daily Flow in gallons, for each day when flow occurs, and Monthly Flow in gallons, for each calendar month.

c. EVENT flow monitoring is to characterize flows into or out of the wastewater system during special events such as service or repair or replacement of components.

2. Additional Monitoring May be Needed

The monitoring requirements established in this SMP are minimum requirements. Additional monitoring for any parameter may be necessary and prudent to assure proper wastewater system performance and compliance with these waste discharge requirements.

3. Winery Wastewater Monitoring

a. Outside of the grape crush season, winery wastewater monitoring frequency shall be monthly for the constituents listed in Table 1.

b. During the grape crush season, winery wastewater monitoring frequency shall be conducted twice per month for the constituents listed in Table 1.

4. Nitrogens

a. The parameter ‘Nitrogens’ in this SMP means all of the following parameters:

1) Ammonia as Nitrogen,
2) Nitrate as Nitrogen,
3) Total Kjeldahl Nitrogen, and
4) Total Nitrogen.

b. Analytical results for the above nitrogen parameters shall be reported as mg/L as nitrogen.
c. Determination of compliance with the limit specified in this SMP for Total Nitrogen shall be made against the sum of the analytical results for Nitrate Nitrogen and Total Kjeldahl Nitrogen.

5. Precipitation

Precipitation (rainfall) monitoring shall be continuous and recorded and reported as total rainfall for each calendar day and as the total for each calendar month. Precipitation monitoring shall be representative of precipitation falling on the Land Application Areas, and can be collected on the Facility or at nearby weather stations (either the California Department of Water Resources (DWR) California Irrigation Management Information System (CIMIS) Pleasanton Station #191 or the National Weather Service METAR Livermore Municipal Airport Station).

6. Winery Process Area Stormwater Diversion Valve Operation

For each event when the valve is operated, for any reason, the following shall be reported:

a. Calendar date and time of the event;
b. Actions taken;
c. Person that made the change and operator in charge; and
d. New status, after changes are completed, e.g., final destination of wastewater passing through the valve - either to the winery wastewater system or to the stormwater system.

7. Treated Winery Wastewater Diversion Valve Operation

For each event when the valve is operated, for any reason, the following shall be reported:

a. Calendar date and time of the event;
b. Actions taken;
c. Person that made the change and Operator in charge; and
d. New status, after changes are completed, e.g., final destination of wastewater passing through the valve - either to the Land Application Area or to the Livermore POTW.

8. Winery Wastewater Irrigation System Diversion Valves Operation

For each event when the valve is operated, for any reason, the following shall be reported:

a. Calendar date and time of the event;
b. Actions taken;
c. Person that made the change and operator in charge; and
d. New status after changes are completed, e.g., which discharge system area is in active use and which area is in no-discharge/"rest" mode.

9. Standard Observations - Winery Wastewater System

a. Check (smell) area for odors.
b. Check area for evidence of any ponded water that extend beyond compacted soil between vines.
c. Check for evidence of mosquitoes breeding within the area due to standing water.
d. Check all visible distribution system components for proper condition and hydraulic integrity.

e. Check Land Application Area runoff containment systems (berms and/or subsurface drains) for proper condition and integrity. Note and record any evidence of any wastewater escaping the Land Application Area.
f. Check perimeter for integrity and proper condition of all discharge control and monitoring systems.

10. "Startup" Monitoring: Monitoring frequencies shown in Table 1 are intended to indicate routine standard monitoring frequencies. Additional monitoring may be necessary or appropriate for any parameter depending on conditions at the time. During any time when a wastewater system routine operation is changed, including partial or complete shut-down for equipment or process operation and maintenance and subsequently returned to routine operation, monitoring shall be conducted in the "Startup" mode. "Startup" mode includes (a) Increased Monitoring Frequency as given in section D below, and (b) continuing for at least two months after system restart or continuing longer if necessary until stable operations are achieved.

11. Wastewater System Tank, Fixture, and Drain Inventory

a. Inventory: The Discharger shall complete an inventory of all tanks, drains, and plumbing fixtures within the facility used for the control of wastewater. The inventory shall include as-built, installed tank locations and characteristics. Location information shall include a cross-reference to a current Facility plan, drawing, or map, and map coordinates of each tank access port. Characteristics shall include dimension and capacities, inlets and outlets, origin, manufacturer, purpose, and date of installation and dates, and times of any changes.
b. Report: The Discharger shall submit a technical report to the Water Board with the complete results of the inventory described in 12.a above.
c. Report Schedule: The report described in 12.b above shall be submitted to the Water Board no later than 30 days after the commencement of discharge to land as described in this Order.

C. GROUNDWATER MONITORING PROGRAM

The Discharger is required to implement a program of groundwater monitoring in the vicinity of the wastewater Land Application Areas in accordance with the following. The groundwater monitoring system consists of performance wells and groundwater monitoring wells:

1. Groundwater Monitoring Wells

a. Groundwater is monitored at two upgradient and four downgradient monitoring wells:

i. Downgradient wells: Wells MW-1, MW-2, MW-5D, and MW-6D, owned and maintained by the Discharger.

ii. Upgradient wells: Wells MW-3, and MW-4, owned and maintained by the Discharger.

b. Downgradient and upgradient monitoring wells shall be monitored by the Discharger as follows:

Constituents	Units	Type of Sample	Frequency[(a)]
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation	0.01 feet	Calculation	Quarterly
Gradient	feet/feet	Calculation	Quarterly
pH	pH units	Grab	Quarterly
Dissolved Oxygen	mg/L	Grab	Quarterly
Specific Conductivity	µmhos/cm	Grab	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly

Total Nitrogen	mg/L	Calculated	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
Ammonia as Nitrogen	mg/L	Grab	Quarterly
General Minerals[(b)]	mg/L	Grab	Annually

[(a)]Sample dates shall coincide with upgradient monitoring events.
[(b)]The parameter General Minerals includes the following: calcium, magnesium, sodium, chloride, potassium, sulfate, total alkalinity (including alkalinity series), and total hardness.

D. INCREASED MONITORING FREQUENCY

If any monitoring indicates a violation of waste discharge requirements or unstable wastewater system operation or performance, or if any specified samplings or analyses are not completed as required, then the monitoring for the parameter(s) and monitoring station(s) in concern shall immediately and henceforth be conducted at twice the frequency identified in Table 1 of this SMP. This increased monitoring frequency shall be maintained for at least two sampling events and until such time as the results of monitoring indicate violations are no longer occurring or the problem has been corrected and the wastewater system has returned to stable operation and performance.

E. MONITORING BY USE OF AUTOMATED INSTRUMENTS

Selected parameters may be monitored by the use of automated analytical instruments, provided such instruments are properly maintained and calibrated to ensure accurate measurements, and that these instruments and their use is documented in the Operation and Maintenance Program Manual and written approval by the Executive Officer has been provided.

F.MODIFICATION OF MONITORING PRACTICES

Modifications of the monitoring practices specified in this SMP may be authorized by the Executive Officer, in consideration of acceptable accumulated data and acceptable alternate means of monitoring. Factors to be considered include: data quality, adequate characterization of the identified water or wastewater system process, consistency of system performance, compliance with waste discharge requirements, and acceptable means for providing equivalent and adequate monitoring of the identified water or wastewater system process. Requests for modification of monitoring practices must be submitted to the Water Board in writing, with a technical report that includes evaluation of accumulated data, and a complete description of proposed alternate means of monitoring. Proposed modifications of monitoring practices must be approved in writing from the Executive Officer prior to implementation.

VI. REPORTS to be SUBMITTED to the WATER BOARD

A. MONITORING REPORTS

The Discharger shall submit to the Water Board monitoring reports documenting the wastewater system operation and performance, and compliance with waste discharge requirements, in accordance with the following:

1. Report Schedule.

a. Monthly Reports. Written reports shall be prepared for each calendar month and shall be submitted to the Water Board by the last day of the month following the monitoring period.

b. Annual Reports. Written reports shall be prepared for each year and shall be submitted to the Water Board by the last day of the second month following the monitoring period.

c. Future Quarterly Reports. The Discharger may request that the monthly report schedule be changed to a quarterly report schedule after a period of at least one year of successful demonstration of wastewater system operation maintenance and monitoring in accordance with this SMP and monthly reporting schedule. The request shall be made by letter to the Executive Officer. Approval, if warranted, shall be made by written correspondence from the Executive Officer. Quarterly reports shall be submitted for each calendar quarter and submitted to the Water Board by the last day of the month following the monitoring period.

2. Transmittal Letter.

A letter of transmittal shall accompany each monitoring report submitted to the Water Board. The transmittal letter shall include the following:

a. Identification. Identification of the following:

1) The discharge facility by name and address;
2) The monitoring period being reported;
3) The name and telephone number of a person familiar with the report and the current status of the wastewater system, for follow-up discussions as may be needed; and
4) The name of the Water Board staff case handler.

b. Operation and Maintenance Activities. Discussion of all significant wastewater system operation and maintenance activities that occurred during the reporting period (e.g., repair of irrigation lines, replacement of system equipment), including dates and reasons for such activities.

c. Violations or Problems. Discussion of any violations of waste discharge requirements, and any problems or unusual conditions, that occurred during the reporting period. This shall include reporting of the following information:

1) Date and time of occurrence;
2) Location of occurrence, shown on a scaled plan drawing of the Facility;
3) Description of the violation, problem, or unusual condition;
4) Corrective actions taken or planned to correct the violation, problem, or unusual condition and a time schedule for implementation of these actions. Actions may include increased monitoring and any changes to wastewater system equipment or operations.

If a report describing corrective actions and/or a time schedule for implementation of those actions was previously submitted to the Water Board, then reference to that report is satisfactory. References to other reports shall include the date, title or subject, and author of the referenced report.

d. Transmittal Letter Signature(s). The transmittal letter shall be signed by: 1) the Discharger's principal executive officer, ranking elected official, or duly authorized representative, and 2) the wastewater system chief plant operator, with the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that

qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

3. Results of Analyses and Observations.

Each report shall include results of analyses and observations in accordance with the following:

a. Monitoring Results. Each monitoring report shall include tabulations of results from all required analyses, measurements and observations specified in this SMP for the reporting period, including:

1) Date of sampling or observation;
2) Location of sampling or observation (sample station);
3) Parameter of analysis (e.g., pH, dissolved oxygen, etc.); and
4) The result of the analysis, measurement or observation.

b. Data Presentation. In reporting monitoring data, the data shall be arranged in tabular form so that the data are clearly discernible. The data shall be summarized in a manner to illustrate clearly whether the discharge is in compliance with waste discharge requirements and this SMP. Reporting shall include maximum, minimum and monthly average values for each parameter for which more than one sample result is obtained during the monitoring period.

c. Sample Analysis Data. For all sample analyses, include the following:

1) Date of analysis;
2) Individual or contract laboratory conducting the analysis;
3) Analytical procedure or method used, and test method detection level; and
4) Copies of laboratory analysis result reports for all analyses conducted by a contract laboratory.

d. Reporting Results Below Detection Limits. For all analytical characterizations (laboratory tests) for which results are identified as below limits of detection of the test procedure, data reporting shall include the limit of detection. In other words, reporting a sample test result as only “ND”, or “not detected” or similar, is not acceptable; the actual numeric value of the detection limit must also be reported. It is acceptable to use notations of non-detection - “ND” or similar - in data tables, provided that the corresponding limit of detection is clearly identified elsewhere in the table or as a footnote of the table.

e. Additional Monitoring Results. If any parameter is monitored more frequently than is required by this SMP, then the results of such monitoring shall be included in the monitoring reports and in any calculations of statistical values.

4. Identification of Monitoring Stations.

Each report shall include a scaled and legible plan view drawing of the Facility that shows the locations of all monitoring stations at which monitoring is required by this SMP.

5. Monitoring During Wastewater System Modifications.

Whenever any modifications to the wastewater system occur, the monitoring report shall include a description of work that has occurred during the monitoring period, any impacts to the wastewater system operations, and, if work is incomplete, the anticipated completion schedule.

6. Annual Monitoring Reports.

The annual monitoring report shall include the following:

a. Tabular summaries of the monitoring data obtained during the period being reported, and graphical summaries of the key constituents of concern, namely BOD, TN, and TSS.
b. A discussion of wastewater system performance and record of compliance with the requirements specified by this SMP, including monitoring and reporting requirements.
c. A complete discussion of groundwater monitoring results, including evaluation of groundwater movement, changes in groundwater levels and quality, and evaluation of any observed changes with respect to the wastewater discharges.
d. For any event of non-compliance with requirements specified by this SMP, including monitoring and reporting requirements, the report shall include description of corrective actions taken or planned to achieve full compliance, and a time schedule of when those actions were or will be taken.

B. REPORTS OF VIOLATIONS

If the Discharger violates or threatens to violate waste discharge requirements or this SMP due to:

1. Maintenance work, power failure, or breakdown of wastewater system equipment;
2. Accidents caused by human error or negligence; or
3. Other causes such as acts of nature, then:

the Discharger or Discharger's agent(s) shall notify the Water Board office by telephone as soon as the Discharger or Discharger's agent(s) have knowledge of the incident. Written notification shall be submitted within two weeks of the date of the incident, unless directed otherwise by Water Board staff. The written notification shall include pertinent information explaining reasons for the non-compliance and what steps were taken to correct the problem, and the dates thereof, and what steps are being taken to prevent the problem from recurring.

C. WATER BOARD ADDRESS and PHONE NUMBER

This Water Board's current office mailing address and phone number is given below. This is the address to be used for submittal of reports and correspondence to the Water Board:

1. Address: California Regional Water Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400, Oakland, CA 94612

2. Phone number: (510) 622-2300; Fax: (510) 622-2460.

VII. REPORTS to be SUBMITTED to OTHER ENTITIES

A. Alameda County

1. The Discharger shall notify the Alameda County Department of Environmental Health at least 180 days before making any material change in the character, location, or volume of the discharges or discharge facilities as described in this SMP, except for emergency conditions.

2. The Discharger shall submit to the Alameda County Department of Environmental Health a copy of the Annual Monitoring Report as specified in Part VI.A.6.

B. Zone 7 Water Agency

The Discharger shall submit to the Zone 7 Water Agency a copy of the Annual Monitoring Report as specified in Part VI.A.6.

VIII. MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Water Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements for the subject wastewater systems.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.

3. Is effective on the following date: <date>, 2017.

_____
BRUCE H. WOLFE
Executive Officer

[Water Board electronic file number (CIWQS Place Number) for this facility: 771359] [Water Board staff author is Jack Gregg]

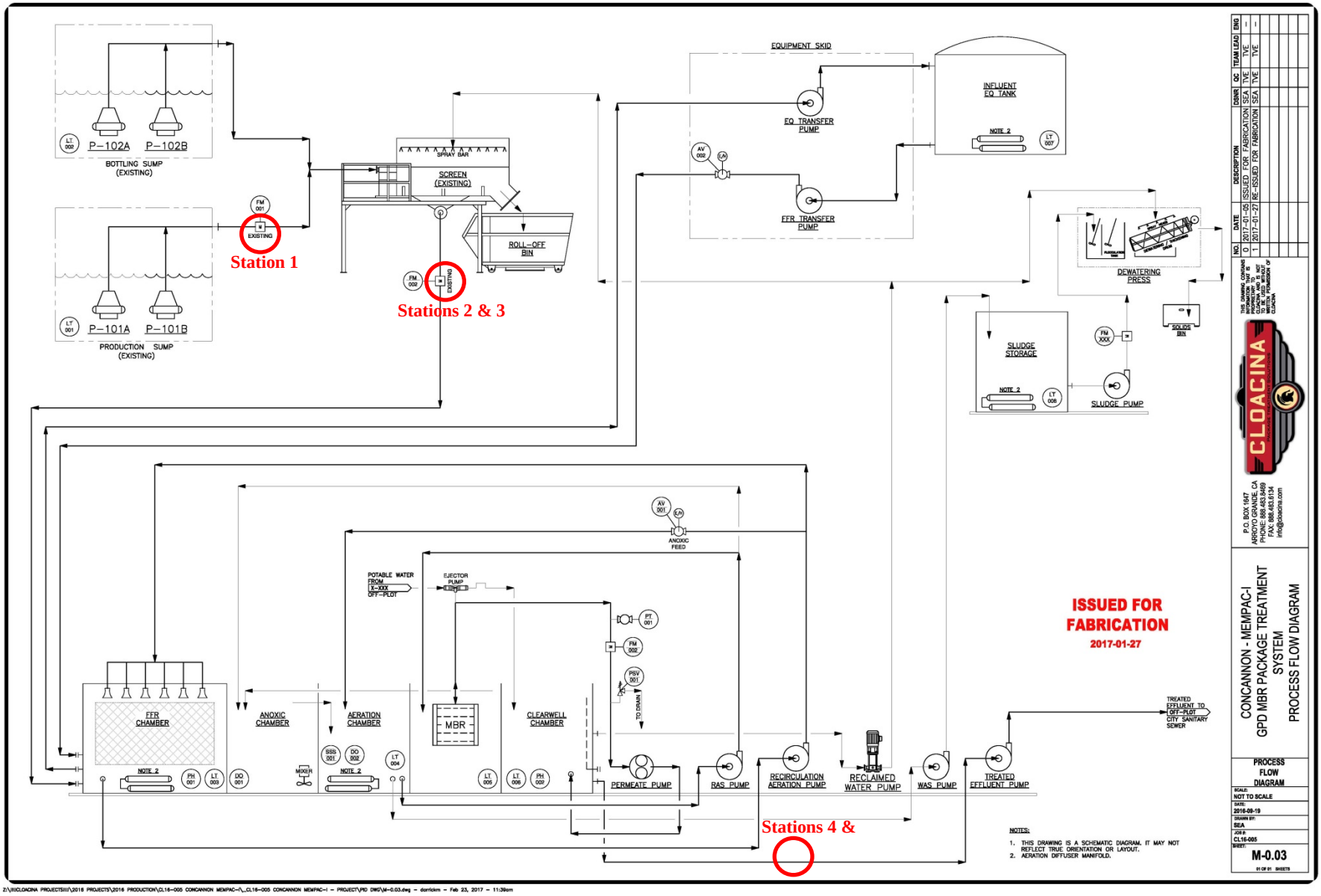

Figure A-1 – Winery Wastewater Treatment System Monitoring Stations

TABLE 1 - SCHEDULE for MONITORING - Wastewater

Monitoring Stations:	1	2	3	4	5	6	7
	Wine Process WW Flow	Winery WW Flow after Rotary Screen	Winery WW Quality after Rotary Screen	Treated Winery WW Quality	Treated Winery WW Flow	Treated Wastewater Valve	Winery Stormwater Valve
Type of Sample: Parameter (units)[Reference]	F	F	G	G	F	O	O
Flow Volume (gallons) [V.B.1]	D&M	D&M			D&M	Event	Event
$BOD_5 20^oC$ (mg/L) [V.B.3]			M	M			
Suspended Solids (mg/L)[V.B.3]			M	M			
Temperature (degrees F or C)			M	M			
pH (pH units)			M	M			
Dissolved Oxygen (mg/L)			M	M			
Nitrate-nitrogen (mg/L as N) [V.B.3 & 4]			M	M			
Ammonia-nitrogen (mg/L as N) [V.B.3 & 4]			M	M			
Total Kjeldahl-nitrogen (mg/L as N) [V.B.3 & 4]			M	M			
Total Nitrogen (mg/L as N) [calculated]			M	M			
Total Dissolved Solids(mg/L)			M	M			
Fixed Dissolved Solids(mg/L)			M	M			
Specific Conductivity (µmhos/cm)			M	M			
Diversion Valve Operation Application Area [V.B.6 & 7]						Event	Event
Service Event Data (Date, Time, etc.) [V.B.8]						Event	

TABLE 2 - SCHEDULE for MONITORING – Land Application Area

Monitoring Stations:	8 Facility Precipitation	9 Irrigation Diversion System	10 Irrigation System Observations
Type of Sample: Parameter (units)[Reference]	O	O	O
Application Area (acres)			D&M
Flow Volume (gallons) [V.B.1]			D&M
Wastewater Loading (in/day)			D&M
Supplemental Irrigation (in/day)			D&M
Precipitation (in/day)	D&M		
BOD Loading (lbs/ac/yr) [calculated]			D&M
Total Nitrogen Loading (lbs/ac/yr)[calculated]			M
Nuisance Conditions			D
Diversion System Operation [V.B.6 & 7]		Event	
Service Event Data (Date, Time, etc.) [V.B.8]		Event	
Observations of runoff or ponding of water that extends beyond the compacted soil between vines.			Event

TABLE 3 - SCHEDULE for MONITORING – Groundwater Monitoring Wells

Monitoring Stations:	MW-1	MW-2	MW-3	MW-4	MW-5D	MW-6D
	Downgradient Well 1	Downgradient Well 2	Upgradient Well 3	Upgradient Well 4	Downgradient Deep Well 5D	Downgradient Deep Well 6D
Type of Sample: Parameter (units)[Reference]	G, GL	G, GL	G, GL	G, GL	G, GL	G, GL
Depth to Groundwater (feet) [V.C.2]	Q	Q	Q	Q	Q	Q
Ground Elevation (feet) [V.C.2]	Q	Q	Q	Q	Q	Q
Gradient (feet/foot) [V.C.2]	Q	Q	Q	Q	Q	Q
Temperature (degrees F or C)	Q	Q	Q	Q	Q	Q
pH (pH units)	Q	Q	Q	Q	Q	Q
Dissolved Oxygen (mg/L)	Q	Q	Q	Q	Q	Q
Specific Conductivity (µmhos/cm)]	Q	Q	Q	Q	Q	Q
Total Dissolved Solids(mg/L)	Q	Q	Q	Q	Q	Q
Nitrate-nitrogen (mg/L as N) [V.B.3 & 4]	Q	Q	Q	Q	Q	Q
Ammonia-nitrogen (mg/L as N) [V.B.3 & 4]	Q	Q	Q	Q	Q	Q
Total Kjeldahl-nitrogen (mg/L as N) [V.B.3 & 4]	Q	Q	Q	Q	Q	Q
Total Nitrogen (mg/L as N) [calculated]	Q	Q	Q	Q	Q	Q
General Minerals [V.C.2]	A	A	A	A	A	A

Appendix B
Comment Letters

ALAMEDA COUNTY COMMUNITY DEVELOPMENT AGENCY

PLANNING DEPARTMENT

Chris Bazar
Agency Director

Albert Lopez
Planning Director

224 West Winton Ave
Room 111

Hayward, California
94544-1215

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510.670.5400
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www.acgov.org/cda

March 15, 2017

Jack H. Gregg, PhD, PG
Engineering Geologist, Enforcement Unit
San Francisco Bay Water Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Dr. Gregg:

Thank you for the opportunity to comment on the Concannon Winery Discharge Permit which will be considered by the Regional Water Quality Control Board on April 12, 2017. The County is in full support of the permit, which will establish waste discharge requirements that will result in improved groundwater quality in the area. The County asks that the Water Board also consider and attempt to minimize any potential impacts, such as odor and noise, that may adversely affect neighboring properties as a result of the operation of the wastewater treatment system. We appreciate the Board's consideration of these potential impacts.

Sincerely,

Albert Lopez
Planning Director

THE WINE GROUP

March 24, 2017

San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: Jack Gregg, Engineering Geologist, Enforcement Unit

Re: Written Comments – Draft Discharge Permit – The Wine Group, LLC Concannon Winery Wastewater Systems, 4596 Tesla Road, Livermore, Alameda County

Mr. Gregg,

Please find included within this letter, written comments on the above referenced draft Waste Discharge Requirements (WDR) sent on behalf of Concannon Winery (the discharger/facility) and our representing contactors (Kennedy Jenks Consultants and Cloacina LLC).

Concannon 2017 Tentative WDR Comments:

Pg 14 – Prohibitions – No. 11:

The facility does operate one small water softener to soften water used in the packaging lines. The discharged volume for regen is a very small component of the total waste flow with a yearly average of 350 to 400 gallons per week, which typically equates to less than 1% of the weekly wastewater flow. It is anticipated that this small volume of regen discharge will have no impact on the wastewater treatment system nor on the quality of discharge. As such, the facility requests that the language for this prohibition be rewritten to allow for the submittal of a report, at our discretion, detailing the actual resulting loading to land application based upon volumes and concentrations of regeneration cycles discharged from the water softener system for evaluation by the Executive Officer (EO). If reviewed and approved by the EO, the discharge from the water softener system would then be included in the permitted winery wastewater stream that flows through the treatment system and is land applied.

Pg 14 – Discharge Specifications – 1.a. – Peak Daily Flow:

Placing a peak daily flow on the inlet of the waste treatment system is not appropriate given the design and incorporation of an equalization tank (EQ) in the system after the

rotary screen and roughing filter (refer to the updated Process Flow Diagram supplied from Cloacina). Placing a limit of 25,000 gallons a day on the influent has the potential to limit the treatment capability of the system as the treatment process begins once the water enters the roughing filter and then enters the EQ where aeration begins. The wastewater in the EQ tank is then dosed into the rest of the treatment system as needed based on loading and oxygen levels. While not anticipated, it is possible that more than 25,000 gallons could enter through the rotary screen and roughing filter with the surge going into the EQ, which would then be used to steady the flow through and control the treatment process through the rest of the system. For this reason, it is more appropriate to place the peak daily flow limit at the discharge from the waste treatment system. The Facility does commit to not discharging more than a peak of 25,000 gallons per day treated effluent from the wastewater treatment system to land application.

Various pages (listed below) – Timing related to commencement of land application instead of adoption of the Order:

Current scheduling is expected to allow for the completion of various portions of the project at Concannon at the same time. However, the exact dates of all components (WWTP construction, irrigation system tie in, annexation into the COL, approval of COL POTW connection, physical connection to COL POTW) are not known and are dependent of a variety of factors (City Council approvals, weather, contractor scheduling, etc…). As such, it is requested that the time sensitive requirements in the Order that are currently related to the approval of the Order, be adjusted, as shown below, to be related to the start of land application discharge.

- Pg 18 – Provisions -7. Design Plans of Constructed Wastewater Systems – "The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Office, no later than 30 calendar days from *the commencement of discharge to land as described in this Order*, of final design…."
- Pg 19 – Provisions – 9.c. Operation and Maintenance Manual Submittal – "**Due Date:** No later than 30 days after *the commencement of discharge to land as described in this Order*."
- Pg A11 of the SMP – Monitoring Schedule and Specifications – 11.c – "Report Schedule: The report described in 11.b above shall be submitted to the Water Board no later than 30 days after *the commencement of discharge to land as described in this Order*."

Self-Monitoring Program Comments:

Pg A6 – IV. B. Wastewater System Monitoring Stations – 4. Treated Winery Wastewater Quality :

As the order will not regulate the quality of treated wastewater when it is conveyed to the City of Livermore POTW, we request that the description of proposed monitoring station 4 be modified to remove any reference to discharging to the Livermore POTW or the sanitary sewer system.

Pg A10 – V. Monitoring Schedule and Specifications – B. Wastewater Monitoring – 5. Precipitation:

Request that precipitation data for the local area be collected from publicly available government precipitation monitoring stations that are appropriate and applicable to the facility. Specifically, the California Department of Water Resources (DWR) California Irrigation Management Information System (CIMIS) Pleasanton Station #191 or the National Weather Service METAR Livermore Municipal Airport Station.

Pg A12 – VI. Reports to be Submitted to the Water Board – A. Monitoring Reports – 1. Report Schedule – a. Monthly Reports:

Request that the currently written two year period prior to requesting a reduction in reporting frequency be reduced to one year of monthly reporting. Quarterly reports vs monthly will not change the monitoring or reporting requirements of the facility as notification of any non-compliance situations is still required to be made to the Water Board both verbally and in writing within specific timeframes elsewhere in the Order.

Pg A15 – VI. A. 6. Annual Monitoring Reports – a.:

Request that the graphical summaries of monitoring data be specific to the effluent (monitoring station 4) discharges of BOD, TN, and TSS instead of all monitoring data obtained during the period being reported. This will significantly reduce the cost to the discharger and the volume of information that must be submitted to and handled by Water Board Staff. It is also believed that this limited subset of parameters for graphical representation will provide the most value for the purpose of performance and compliance review.

Additional Comments provided by Kennedy Jenks:

Pg A18 – TABLE 1 – Station 3:

Proposed Draft Paragraph on monitoring requirements for Station 3-Winery Wastewater Quality after Rotary Screen.

The routine laboratory monitoring and compliance reporting requirements for Station 3, which is the screened influent to the biological treatment process, can be limited to the key constituents of BOD, TSS and Total Nitrogen (TN). This is because there is supplemental online monitoring of pH, temperature, turbidity and dissolved oxygen included at key locations within the treatment process train itself. This approach allows the operator to assess overall treatment process performance and for troubleshooting purposes when the influent data, both laboratory and online, are compared to the required laboratory effluent monitoring which is of course more comprehensive.

In addition to the requested modification of sampling only for BOD, TSS, and TN at station 3, it is also requested that this station is only monitored for water quality when the treated wastewater is being land applied and not when it is being discharged to the COL POTW.

Suggested wording updates for Findings pertaining to discharge modeling:

Page 8, Finding 21.c.iv.

Treated winery wastewater may not be discharged to land in a manner that delivers more than 4.3 inches of wastewater per year to the root zone of any specified area. This Order limits gross application of wastewater to 4.8 inches per year to account for the irrigation efficiency based on local evapotranspiration rate ~~of ten percent or greater~~ and requires that the discharge of treated winery wastewater be spread evenly over an area of at least 25 acres to ensure that ~~this~~ maximum percolation rate will not be exceeded, based on modeling in the 2016 ROWD shown in Table 3.

Page 9, Finding 24.

24. Vadose Zone and Water Balance Models. The 2016 ROWD includes models of the fate of treated wastewater in the vadose zone and an overall water balance to evaluate the impacts of vineyard management practices on groundwater.

a. The vadose zone model (Figure 6) estimates the behavior of NO_3-N as it passes through the crop root zone within four soil depth layers. The four soil layers are used to account for the distribution of roots in the soil profile, which controls crop uptake of water and nutrients. In each layer, water flow, crop water uptake, and changes in total nitrogen concentration are calculated using a mass balance approach that is an acceptable method of modeling movement of water and wastewater for the Facility. Monthly calculations of water flow are made for each layer and ground surface evaporation, crop uptake, irrigation, precipitation, and percolation losses below the root zone are all incorporated. The annual percolation summary that results from the vadose zone model becomes an input to the water balance model *for groundwater*.

b. The *vadose zone* water balance model predicts that under average rainfall conditions (14.1 inches) an additional 24.*8*~~6~~ inches of water are needed to maintain healthy vines. Of this total, treated wastewater would make up 2.2 inches per year for 53.3 acres of vines, supplementing 22.6 inches of irrigation water (see the top line of Table 3 below) from the Zone 7 Water Agency. Under these conditions, the model predicts that a total of 9 inches per year would pass through the root zone with the potential to mix with groundwater. The rest of the applied water would be evaporated or taken up by roots.

c. This is a significant improvement over the wastewater percolation rates under the previous subsurface disposal system where percolation below the root zone was over 400 inches per year. That previous system discharged the same volume of winery wastewater into an area of less than one acre. In addition, the previous treatment system was not able to achieve reductions of total nitrogen, BOD or suspended solids that are required in this Order.

d. T he use of treated wastewater for surface irrigation provides nitrogen for the vineyards. The model predicts that most of the total nitrogen will be removed by uptake from roots. Under average rainfall conditions, the residual total nitrogen in water that percolates below the root zone is predicted to be 7.8 mg/L. Variability in rainfall and area of application change model results (Table 3).

i. Changes in rainfall affect the average concentration of total nitrogen in the water that percolates below the root zone. Under low rainfall conditions the model predicts a total

nitrogen concentration of 8.6 mg/L and under high rainfall conditions the model predicts 5.7 mg/L of total nitrogen.

ii. Changing the area of vineyard used for application of treated wastewater changes the amount and quality of percolated water (see last *section*~~line~~ of Table 3). At 25 acres *and average rainfall conditions*, the amount of wastewater applied increases to 4.8 inches per year and the total percolation below the root zone increase~~d~~ to 10.6 inches per year. The total nitrogen of the percolate increases to 7.9~~8.8~~ mg/L.

e. The Discharger proposes to apply treated wastewater anywhere within the 121 acres of vineyards designated as the Land Application Area (Finding 2*1*4 above). This Order prohibits the discharge of treated wastewater to less than 25 acres each year, and requires that the application rate not exceed 4.8 inches per year within the Land Application Area.

Additional Comments Provided by Cloacina LLC

Specific suggested wording changes related to the description of the treatment system process and equipment as designed and built by Cloacina LLC are provided below for accuracy:

18. Winery Wastewater Quality. Winery wastewater had the following constituent concentrations from July 2014 to July 2016: total nitrogen averaged 28 mg/L with a peak of 110 mg/L; biochemical oxygen demand (BOD) averaged 7,233 mg/L with a peak of 37,000 mg/L; and total suspended solids averaged 101 mg/L with a peak of 410 mg/L.

a. BOD reduction. The wastewater treatment system and pretreatment measures are designed to reduce BOD in wastewater to levels that will not adversely impact the beneficial uses of groundwater for potable uses. The wastewater treatment system reduces BOD by removing organic matter with the rotary screen, the roughing filter, and the membrane filtration unit. The rotary screen removes particulates larger than .020"~~2 millimeters~~. The roughing filter passes wastewater over fixed, cross-flow media that supports microbes which feed on digestible organic material (measured as BOD). The membrane filtration unit near the end of the treatment process ~~also supports~~ mechanically separates the microbes that reduce BOD.

19. Wastewater Treatment System Components. The wastewater treatment system is comprised of all equipment, control, and monitoring systems located at the Facility that provide collection, conveyance, treatment, storage, and discharge of wastewater. The winery wastewater treatment system is designed to reduce biochemical oxygen demand, total suspended solids, and total nitrogen in winery wastewater. Figure 5 is a flow diagram that illustrates the wastewater treatment and discharge processes and flows. The basic components of the treatment process are described below.

a. Pretreatment. The Discharger improved management practices at the Facility to reduce the amount of wine wastewater. The Discharger implemented programs to reuse excess wine

and to reduce wine waste generated by wine production and bottling (e.g., steam cleaning bottles).

b. Collection System. Wastewater is pumped out of collection system sumps and into the rotary screen by trash pumps. A collection system of trench floor drains and catch basins capture wine production wastewater, bottling wastewater, and stormwater that comes in contact with outdoor wine production, bottling equipment, or wastewater.

c. Rotary Screen. The rotary screen removes solids larger than .020"~~2 millimeter~~ when wastewater passes through a 4-foot-diameter, stainless steel, elevated rotary screen.

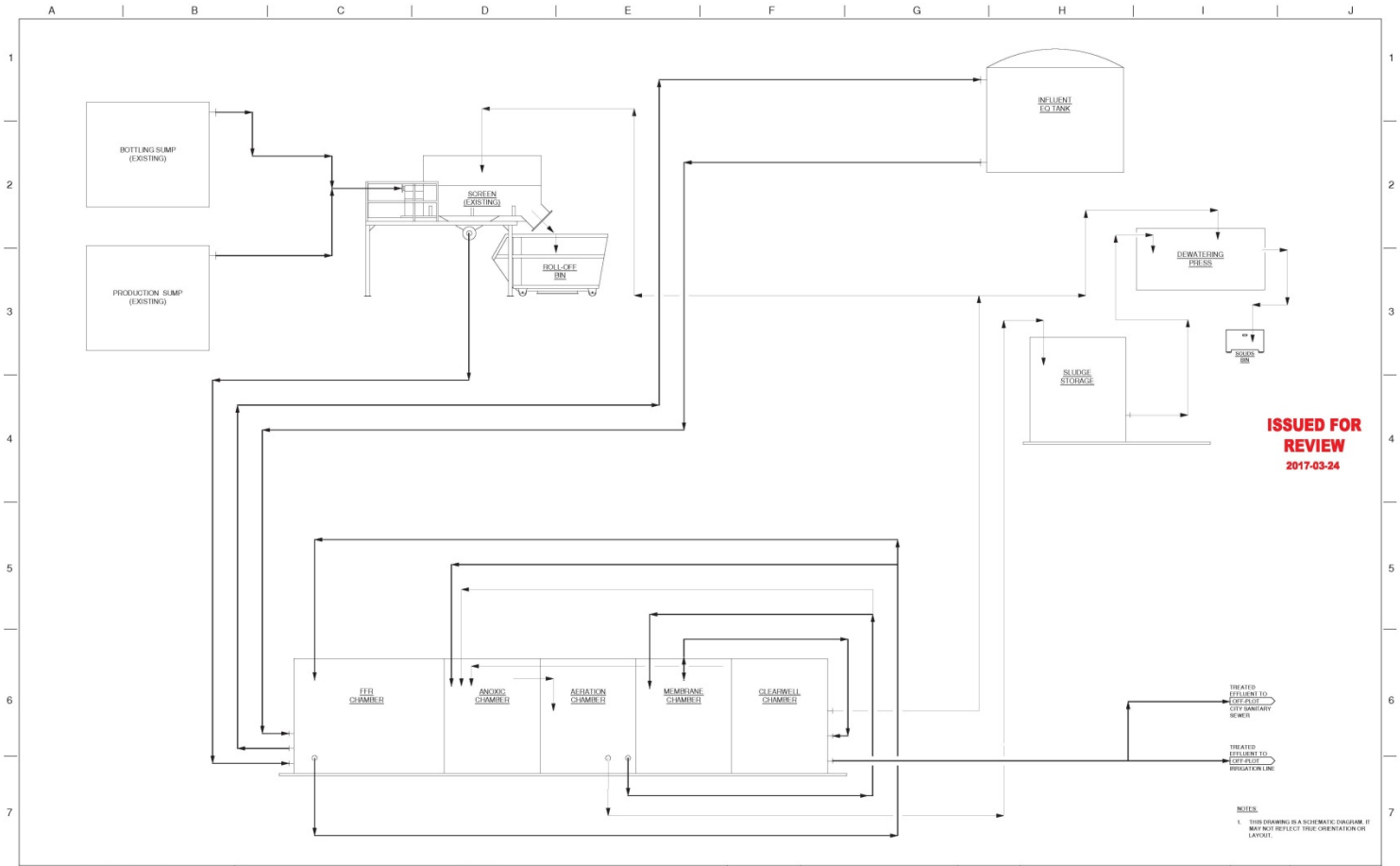
d. Roughing Filter. The roughing filter reduces influent BOD concentrations. Microorganisms attached to fixed, cross-flow media on a high-rate filter reduce BOD as wastewater is continually recirculated over the media. An automated valve opens to release primary-treated wastewater from the Roughing Filter Chamber to the Aeration Chamber based on inflow rates and condition of the wastewater.

e. Aeration Chamber. The aeration chamber removes waste activated sludge based on concentrations of suspended solid. The chamber is equipped with a positive displacement ~~centrifugal~~ blower, fine-bubble aeration diffusers distributed across the floor of the aeration chamber, and monitoring and control devices, including a dissolved oxygen sensor to maintain proper conditions. A transfer pump transfers wastewater from the aeration chamber to the anoxic chamber.

f. Anoxic Chamber. Nitrogen removal (denitrification) occurs in the anoxic chamber. To provide a carbon source for denitrification, some of the activated sludge from the membrane filtration process is mixed with some of the partially-treated wastewater from the roughing filter and sent to the anoxic chamber to lower oxygen levels and provide the carbon necessary for nitrogen removal.

g. Membrane Filtration. Additional removal of nutrients, BOD and particulates occurs in the membrane filtration unit. The membrane unit is comprised of two ~~three~~ chambers. The first chamber is equipped with a membrane cassette~~, the second chamber is used for additional aeration ,~~ and the ~~third~~ second chamber is used as a clear well. ~~If necessary, all three chambers can be equipped with membrane cassettes.~~ Waste activated sludge is removed from the membrane chambers using a dedicated sludge pump and taken offsite to a regulated disposal facility.

Included below, updated Process Flow Diagram (PFD) intended to replace Figure 5 on page 28 of the draft WDR:



REFERENCE DRAWINGS

REVISIONS

A	ISSUED FOR REVIEW	2017-03-24	SEA	

P.O. BOX 1847
ARROYO GRANDE, CA
PHONE: 888.483.8469
FAX: 888.483.8134
info@cloacina.com

CLOACINA

CONCANNON WINERY - MEMPAC-I
15,000 GPD MBR PACKAGE
TREATMENT SYSTEM
PROCESS WASTE WATER LIFT STATION

PROCESS FLOW DIAGRAM

SCALE: NOT TO SCALE
DATE: 2017-03-24
DRAWN BY: SEA
JOB #: CL16-000
REV NO.: A
SHEET: M-0.09
IN OF IN SHEETS

Should you require any additional information or have any questions regarding these comments, please contact me at kyle.schmidt@thewinegroup.com or at (209)-599-0451.

Thank you for your consideration in this matter,

Kyle Schmidt
Director of Environmental Services
The Wine Group
17000 E Hwy 120
Ripon, CA 95366

Appendix C
Response to Comments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESPONSE TO WRITTEN COMMENTS

on Tentative Order for
The Wine Group, LLC Concannon Winery Wastewater Management Systems
Livermore Valley, Alameda County

The Regional Water Board received written comments from the following parties on a tentative order distributed on February 28, 2017, for public comments over a 30-day period:

1. Alameda County Community Development Agency, Albert Lopez, Planning Director, verbal communication on February 28, 2017.
2. Alameda County Community Development Agency, Albert Lopez, Planning Director, letter received on March 20, 2017.
3. The Wine Group, Kyle Schmidt, Director of Environmental Services, letter received on March 27, 2017.

Regional Water Board staff has summarized the comments shown below in *italics* (quoted where possible, or paraphrased for brevity), and followed each comment with staff's response. For the full content and context of the comments, please refer to the original comment letters.

This document also contains staff-initiated revisions.

All revisions to the Tentative Order are shown with underline text for additions and strikethrough ~~text~~ for deletions.

---

1. Alameda County Community Development Agency, Albert Lopez, Planning Director, verbal communication on February 28, 2017.

Alameda County verbal comment - Comment 1:

Alameda County staff requested that we make the following clarification to the Tentative Order circulated for public review:

34. California Environmental Quality Act

a. The California Environmental Quality Act (CEQA) requires all discretionary projects approved by public agencies to be in full compliance with CEQA. The County of Alameda, as lead agency, has approved construction of additional water treatment facilities on a 2,400 square foot cement pad located in an area that is currently bare pavement, conditioned on approval of this Order.

Response: We appreciate this clarification and agree with it. We will make the change as requested.

2. Alameda County Community Development Agency, Albert Lopez, Planning Director, letter received on March 20, 2017.

Alameda County letter - Comment 1:

Thank you for the opportunity to comment on the Concannon Winery Discharge Permit which will be considered by the Regional Water Quality Control Board on April l2, 2017. The County is in full support of the permit, which will establish waste discharge requirements that will result in improved groundwater quality in the area.

Response: Thank you for this comment.

Alameda County letter - Comment 2:

The County asks that the Water Board also consider and attempt to minimize any potential impacts, such as odor and noise, that may adversely affect neighboring properties as a result of the operation of the wastewater treatment system.

Response: Thank you for this comment.
The Tentative Order already prohibits treatment, storage, or disposal of wastewater that causes or contributes to a condition of pollution or nuisance in Prohibition 12 of the Tentative Order.

3. The Wine Group, Kyle Schmidt, Director of Environmental Services, letter received on March 27, 2017.

The Wine Group Comment 1 - Prohibition 11. Water Softener Brine, page 14:

"*The facility does operate one small water softener to soften water used in the packaging lines. The discharged volume for regen is a very small component of the total waste flow with a yearly average of 350 to 400 gallons per week, which typically equates less than 1% of the weekly wastewater flow. It is anticipated that this small volume of regen discharge will have no impact on the wastewater treatment system nor on the quality of discharge. As such, the facility requests that the language for this prohibition be rewritten to allow for the submittal of a report, at our discretion, detailing the actual resulting loading to land application based upon volumes and concentrations of regeneration cycles discharged from the water softener system for evaluation by the Executive Officer (EO). If reviewed and approved by the EO, the discharge from the water softener system would then be included in the permitted winery wastewater stream that flows through the treatment system and is land applied."*

Response: We agree with this comment.
It is possible that the water softener brine, combined and treated with the winery wastewater, would have no adverse impacts to waters of the State, but staff cannot evaluate the potential impacts to waters of the State without additional information on the brine constituents, average and minimum dilution by winery wastewater, or how the additional loading and concentration of salt in the treated wastewater will compare to water quality objectives in the Basin Plan or the

Zone 7 Water Agency Salt Management Plan (2004). Additional analysis by The Wine Group is required to consider discharging water softener brine to the treatment system.

Prohibition 11 was included in the Tentative Order as a general prohibition because of the potential for adverse impacts of water softener brine discharged to land. We modified the Tentative Order to allow the Discharger to combine brine from water softening with the winery wastewater for treatment subsequent to the Discharger's submittal of a technical report, acceptable to the Executive Officer, that documents that the brine will not adversely impact waters of the State or cause the discharge to exceed or otherwise violate effluent limitations. The following changes will be made to the Tentative Order:

Page 14

~~11. The discharge of any water softening ion exchange regeneration brine in the onsite wastewater treatment system is prohibited.~~

Page 20

PROVISIONS

C.10. Water Softener Brine

The discharge of any water softening ion exchange regeneration brine in the onsite wastewater treatment system is not authorized by this permit unless the Discharger submits a technical report, acceptable to the Executive Officer, that documents that the water softener brine will not adversely impact waters of the state. The technical report must provide information on the brine constituents, average and minimum dilution by mixing brine with winery wastewater, and how the additional loading and concentration of salt in the treated wastewater will meet water quality objectives in the Basin Plan or the Zone 7 Water Agency Salt Management Plan (2004).

The Wine Group Comment 2- Discharge Specification 1.a Peak Daily Flow, page 14:

"Placing a peak daily flow on the inlet of the waste treatment system is not appropriate given the design and incorporation of an equalization tank (EQ) in the system after the rotary screen and roughing filter (refer to the updated Process Flow Diagram supplied from Cloacina). Placing a limit of 25,000 gallons a day on the influent has the potential to limit the treatment capability of the system as the treatment process begins once the water enters the roughing filter and then enters the EQ where aeration begins. The wastewater in the EQ tank is then dosed into the rest of the treatment system as needed based on loading and oxygen levels. While not anticipated, it is possible that greater than 25,000 gallons could enter through the rotary screen and roughing filter with the surge going into the EQ, which would then be used to steady the flow and control the treatment process through the rest of the system. For this reason, it is more appropriate to place the peak daily flow limit at the discharge from the waste treatment system. The Facility does commit to not discharging more than a peak of 25,000 gallons per day treated effluent from the wastewater treatment system to land application."

Response: We agree with this comment.
Because the 23,000 gallon equalization tank will be used to control the flow of wastewater to the treatment system and during peak flows, more than 25,000 gallons per day may be conveyed to the roughing filter (FFR chamber on Figure 5) and the equalization tank. Nevertheless, the design

maximum flow rate of wastewater into the membrane filtration chamber is 25,000 gallons per day. In addition, the system has no option to bypass the membrane filtration chamber, so flow limits into that chamber also limit the daily discharge to land.

The Tentative Order limits the flow rate of wastewater into the treatment system by its other discharge specifications, such as annual limits on the application of treated wastewater to land (Discharge Specification 2.b), and limits on the concentrations of contaminants of concern (Discharge Specification 3).

We revised Discharge Specification 1.a to limit the maximum daily flow of wastewater into the membrane filtration chamber to 25,000 gallons per day, as specified in the Wine Group's email of March 29, 2017. In addition, Discharge Specification 1.b is revised to limit the annual average daily flow into the membrane filtration chamber to 11,250 gallons per day. Finally, to ensure that the Discharger does not exceed the design specifications of the wastewater system, an additional discharge specification (1.c) will be added. The following changes were made to the Tentative Order:

22. Authorized Wastewater Flows ~~Influent to the Winery Wastewater System~~

a. **Peak Daily Flow.** Inflow of winery wastewater into the ~~winery wastewater system~~ membrane filtration chamber shall not exceed the design peak daily flow rate of 25,000 gallons per day.

b. Annual Average Daily Flow. Inflow of winery wastewater into the ~~winery wastewater system~~ membrane filtration chamber shall not exceed the design annual average daily flow rate of 11,250 gallons per day.

c. Design Specifications. The Discharger shall not exceed the design specifications of the wastewater system.

The Wine Group Comment 3 - Provision C.7 Design Plans of Constructed Wastewater Systems, page 19:

"Current scheduling is expected to allow for the completion of various portions of the project at Concannon at the same time. However, the exact dates of all components (WWTP[3] construction, irrigation system tie in, annexation into the COL, approval of COL POTW connection, physical connection to COL POTW) are not known and are dependent of a variety of factors (City Council approvals, weather, contractor scheduling, etc…). As such, it is requested that the time sensitive requirements in the Order that are currently related to the approval of the Order, be adjusted, as shown below, to be related to the start of land application discharge.

> *The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Office, no later than 30 calendar days from the commencement of discharge to land as described in this Order ~~date of adoption of this Order~~, of final design plans for the constructed wastewater systems, including "As-Built" drawings …."*

Response: We agree with this comment.
We understand that there is some uncertainty about the startup date of the wastewater treatment

[3] Acronyms used by The Wine Group: WWTP=wastewater treatment plant; COL=City of Livermore; POTW=publically owned treatment works.

system. In the interest of coordination with the Alameda County permitting process and reducing barriers to completion of the wastewater treatment system, we are willing to accept submittal of the current design plans for the constructed wastewater systems, clearly showing any changes to the design plans that were submitted in 2016, no later than 30 calendar days from the date of adoption of this order, and accept the "as-built" drawings no later than 30 days after commencement of discharge to land. We made the following changes to the Tentative Order Provision C.7:

> **Design Plans of Constructed Wastewater Systems**
>
> The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, no later than 30 calendar days from the date of adoption of this Order, of ~~final~~ current design plans for the constructed wastewater systems, clearly showing any changes to the design plans that were submitted in 2016.
>
> The Discharger shall submit design plans including "as-built" drawings and narrative descriptions, as appropriate, of the completed ~~to date~~ wastewater treatment and discharge systems within 30 days of the commencement of discharge to land. All plan drawings shall be of scale at least one inch equals 40 feet, properly labeled, and legible.

The Wine Group Comment 4 - Provision C.9.c Operation and Maintenance Manual Submittal, page 20:

… it is requested that the time sensitive requirements in the Order that are currently related to the approval of the Order, be adjusted, as shown below, to be related to the start of land application discharge:

> *"Operation and Maintenance Manual Submittal - Due Date: No later than 30 days after the commencement of discharge to land as described in this Order. ~~the date of adoption of this Order.~~"*

Response: We partially agree with this comment.
We understand that there is some uncertainty about the startup date of the treatment plant. In the interest of coordination with the Alameda County permitting process and reducing barriers to completion of the wastewater treatment system, we are willing to accept submittal of a draft final Operation and Maintenance Manual no later than 30 calendar days from the date of adoption of this order, and accept the final Operations and Maintenance Manual no later than 30 days after commencement of discharge to land. The following changes have been made to Tentative Order Provision C.9.c:

> **Operation and Maintenance Manual Submittal**
>
> 1. The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, comprised of a complete copy of the Draft Final Operation and Maintenance Manual, identification of the person(s) responsible for the implementation of the Operation and Maintenance Program, and contact information for those persons.
>
>   **Due Date:** No later than 30 days after the date of adoption of this Order.

2. The Discharger shall submit to the Water Board a technical report, acceptable to the Executive Officer, comprised of a complete copy of the Final Operation and Maintenance Manual, identification of the person(s) responsible for the implementation of the Operation and Maintenance Program, and contact information for those persons.

   Due Date: No later than 30 days after the commencement of discharge to land as described in this Order. ~~**Due Date:** No later than 30 days after date of adoption of this Order.~~

The Wine Group Comment 5 – Self Monitoring Program – Wastewater System Tank, Fixture, and Drain Inventory, Item V.B.11.c, Report Schedule, page A11:

… it is requested that the time sensitive requirements in the Order that are currently related to the approval of the Order, be adjusted, as shown below, to be related to the start of land application discharge:

> *"The report described in 11.b above shall be submitted to the Water Board no later than 30 days after the commencement of discharge to land as described in this Order. ~~adoption of this SMP.~~"*

Response: We partially agree with this comment.
We understand that there is some uncertainty about the startup date of the treatment plant. In the interest of coordination with the Alameda County permitting process and reducing barriers to completion of the wastewater treatment system, we are willing to accept submittal of the Wastewater System Tank, Fixture, and Drain Inventory 30 days after commencement of discharge to land. The requested change was made to the Tentative Order.

The Wine Group Comment 6 – Wastewater System Monitoring Stations – 4. Treated Winery Wastewater Quality, page A6:

"As the order will not regulate the quality of treated wastewater when it is conveyed to the City of Livermore POTW, we request that the description of proposed monitoring station 4 be modified to remove any reference to discharging to the Livermore POTW or the sanitary sewer system."

Response: We agree with this comment.
This Order will not regulate the quality of treated wastewater when it is conveyed to the City of Livermore (COL) publically-owned treatment works (POTW), so for any regulated period (month, week or 2 weeks) when the treated wastewater is discharged to the COL POTW and not discharged to land, there is no requirement to sample or report water quality from Station 4. If treated wastewater is discharged to land during a portion of a regulated period, then the sampling listed in Table 1 for Station 4 is required. We revised the text of item IV.B.4 on page A6 as follows:

4. Treated Winery Wastewater Quality

a. Station Code: 4
b. Station Description: Wastewater at a point in the winery wastewater system after, and downstream from the Clearwell Chamber, prior to discharge to the Facility irrigation system ~~or the Livermore POTW~~, where all wastes tributary to the discharges are present.

c. Purpose: The purpose of this station is for sampling and analytical characterization of the quality of the treated winery wastewater discharged to surface irrigation systems. ~~or the sanitary sewer~~

The Wine Group Comment 7 – V. Monitoring Schedule and Specifications – B. Wastewater Monitoring – 5. Precipitation, page A10:

"Request that precipitation data for the local area be collected from publicly available government precipitation monitoring stations that are appropriate and applicable to the facility. Specifically, the California Department of Water Resources (DWR) California Irrigation Management Information System (CIMIS) Pleasanton Station #191 or the National Weather Service METAR Livermore Municipal Airport Station."

Response: We agree with this comment.
Precipitation data from the identified government monitoring stations are acceptable. The text on page A10 is revised as follows:

5. Precipitation

Precipitation (rainfall) monitoring shall be continuous and recorded and reported as total rainfall for each calendar day and as the total for each calendar month. Precipitation monitoring shall be representative of precipitation falling on the Land Application Areas, and can be collected on the Facility or at nearby weather stations (either the California Department of Water Resources (DWR) California Irrigation Management Information System (CIMIS) Pleasanton Station #191 or the National Weather Service METAR Livermore Municipal Airport Station).

The Wine Group Comment 8 – VI. Reports to be Submitted to the Water Board – A. Monitoring Reports – 1. Report Schedule – a. Monthly Reports, page A12:

"Request that the currently written two year period prior to requesting a reduction in reporting frequency be reduced to one year of monthly reporting. Quarterly reports vs monthly will not change the monitoring or reporting requirements of the facility as notification of any non-compliance situations is still required to be made to the Water Board both verbally and in writing within specific timeframes elsewhere in the Order"

Response: We partially agree with this comment.
It is reasonable to have more frequent monitoring reported to Water Board staff during the startup and early stages of use of a new treatment system. The Tentative Order allows for the Discharger to request that monthly reporting be changed to quarterly reporting after a period of at least two years of successful demonstration of the wastewater system. The proposed treatment system will need to be closely monitored to achieve discharge specifications, and it is reasonable to consider less frequent reporting after one year instead of two years. The requirement (A. Monitoring Reports – 1. Report Schedule – c. Future Quarterly Reports, page A13) is changed as follows:

c. Future Quarterly Reports. The Discharger may request that the monthly report schedule be changed to a quarterly report schedule after a period of at least ~~two~~ one year of successful demonstration of wastewater system operation maintenance and monitoring in accordance with this SMP and monthly reporting schedule. The request shall be made by letter to the Executive Officer. Approval, if warranted, shall be made by written

correspondence from the Executive Officer. Quarterly reports shall be submitted for each calendar quarter and submitted to the Water Board by the last day of the month following the monitoring period.

The Wine Group Comment 9 – Item VI.A.6.a, Annual Monitoring Reports – page A15:

"Request that the graphical summaries of monitoring data be specific to the effluent (monitoring station 4) discharges of BOD, TN, and TSS instead of all monitoring data obtained during the period being reported. This will significantly reduce the cost to the discharger and the volume of information that must be submitted to and handled by Water Board Staff. It is also believed that this limited subset of parameters for graphical representation will provide the most value for the purpose of performance and compliance review."

Response: We agree with this comment.
We revised the text in this section as follows:

6. Annual Monitoring Reports.

The annual monitoring report shall include the following:

a. Tabular ~~and graphical~~ summaries of the monitoring data obtained during the period being reported, and graphical summaries of the key constituents of concern, namely BOD, TN, and TSS.

The Wine Group Comment 10 – Table 1, Station 3, page A18:

"Proposed Draft Paragraph on monitoring requirements for Station 3-Winery Wastewater Quality after Rotary Screen: The routine laboratory monitoring and compliance reporting requirements for Station 3, which is the screened influent to the biological treatment process, can be limited to the key constituents of BOD, TSS and Total Nitrogen (TN). This is because there is supplemental online monitoring of pH, temperature, turbidity and dissolved oxygen included at key locations within the treatment process train itself. This approach allows the operator to assess overall treatment process performance and for troubleshooting purposes when the influent data, both laboratory and online, are compared to the required laboratory effluent monitoring which is of course more comprehensive."

Response: We disagree with this comment.
The reason for requiring water quality information at Station 3 is to track the quality of wastewater entering the treatment system. Although water quality will be measured within the treatment system for treatment control purposes, the Tentative Order does not require reporting of water quality within the treatment system. No change was made to Table 1, Station 3, page A18.

The Wine Group Comment 10 – Table 1, Station 3, page A18 – part 2:

"In addition to the requested modification of sampling only for BOD, TSS, and TN at station 3, it is also requested that this station is only monitored for water quality when the treated wastewater is being land applied and not when it is being discharged to the COL POTW."

Response: We partially agree with this comment.
The reason for requiring water quality information at Station 3 is to track the quality of

wastewater entering the treatment system. During calendar months when no winery wastewater is discharged to surface irrigation systems, this permit does not require water quality samples at Station 3. We revised the text in this section as follows:

3. Winery Wastewater Quality after Rotary Screen

a. Station Code: 3

b. Station Description: Wastewater at a point in the winery wastewater system after, and downstream from the rotary screen, and prior to the roughing filter. The Cloacina Mempac-1 Process Water Treatment Plant plans of October 10, 2016, Sheet M-0.03 identifies this station as the FM002 flow meter.

c. Purpose: The purpose of this station is for sampling and analytical characterization of the quality of the winery wastewater influent to the roughing filter component of the winery wastewater system, that will be discharged to surface irrigation systems. No wastewater quality sample is required at this station during calendar months when no treated wastewater is discharged to surface irrigation systems.

The Wine Group Comment 11 – Finding 21.c.iv, page 8:

Treated winery wastewater may not be discharged to land in a manner that delivers more than 4.3 inches of wastewater per year to the root zone of any specified area. This Order limits gross application of wastewater to 4.8 inches per year to account for the irrigation efficiency based on local evapotranspiration rate ~~of ten percent or greater~~ and requires that the discharge of treated winery wastewater be spread evenly over an area of at least 25 acres to ensure that ~~this~~ maximum percolation rate will not be exceeded, based on modeling in the 2016 ROWD shown in Table 3.

Response: We agree with these comments and revised Finding 21.c.iv as follows:

> Treated winery wastewater may not be discharged to land in a manner that delivers more than 4.3 inches of wastewater per year to the root zone of any specified area. This tentative order limits gross application of wastewater to 4.8 inches per year based on the local evapotranspiration rate of ten percent[2] or greater and requires that the discharge of treated winery wastewater be spread evenly over an area of at least 25 acres at a time to ensure that this maximum percolation rate will not be exceeded, based on modeling in the 2016 ROWD (shown in Table 3 below).
>
> [2] Gross application of treated wastewater is limited to 4.8 inches per year, which results in net application of 4.3 inches per year after the minimum loss of ten percent of the applied water to evaporation.

The Wine Group Comment 12 – Finding 24, page 9:

24. Vadose Zone and Water Balance Models. The 2016 ROWD includes models of the fate of treated wastewater in the vadose zone and an overall water balance to evaluate the impacts of vineyard management practices on groundwater.

a. *….The annual percolation summary that results from the vadose zone model becomes an input to the water balance model for groundwater.*

b. *The vadose zone water balance model predicts that under average rainfall conditions (14.1 inches) an additional 24.8~~6~~ inches of water are needed to maintain healthy vines. ….*

d. *ii. Changing the area of vineyard used for application of treated wastewater changes the amount and quality of percolated water (see last section ~~line~~of Table 3). At 25 acres and average rainfall conditions, the amount of wastewater applied increases to 4.8 inches per year and the total percolation below the root zone increases~~d~~ to 10.6 inches per year. The total nitrogen of the percolate increases to 7.9~~8.8~~ mg/L.*

Response: We agree with these requested edits and revised the Tentative Order as requested.

The Wine Group Comment 13 – Finding 18.a, page 5:

18. a…The rotary screen removes particulates larger than .020" [inch]*~~2 millimeters~~. The roughing filter passes wastewater over fixed, cross-flow media that supports microbes which feed on digestible organic material (measured as BOD). The membrane filtration unit near the end of the treatment process ~~also supports~~ mechanically separates the microbes that reduce BOD.*

Response: We agree with this comment and revised the Tentative Order as requested.

The Wine Group Comment 14 – Finding 19.c, page 6:

c. Rotary Screen. The rotary screen removes solids larger than .020" [inch]*~~2 millimeter~~ when wastewater passes through a 4-foot-diameter, stainless steel, elevated rotary screen.*

Response: We agree with this comment and revised the Tentative Order as requested.

The Wine Group Comment 15 – Finding 19.e, page 7:

e. Aeration Chamber. The aeration chamber removes waste activated sludge based on concentrations of suspended solid. The chamber is equipped with a positive displacement ~~centrifugal~~ blower, fine-bubble aeration diffusers distributed across the floor of the aeration chamber, and monitoring and control devices, including a dissolved oxygen sensor to maintain proper conditions. A transfer pump transfers wastewater from the aeration chamber to the anoxic chamber.

Response: We agree with this comment and revised the Tentative Order as requested.

The Wine Group Comment 16 – Finding 19.g, page 7:

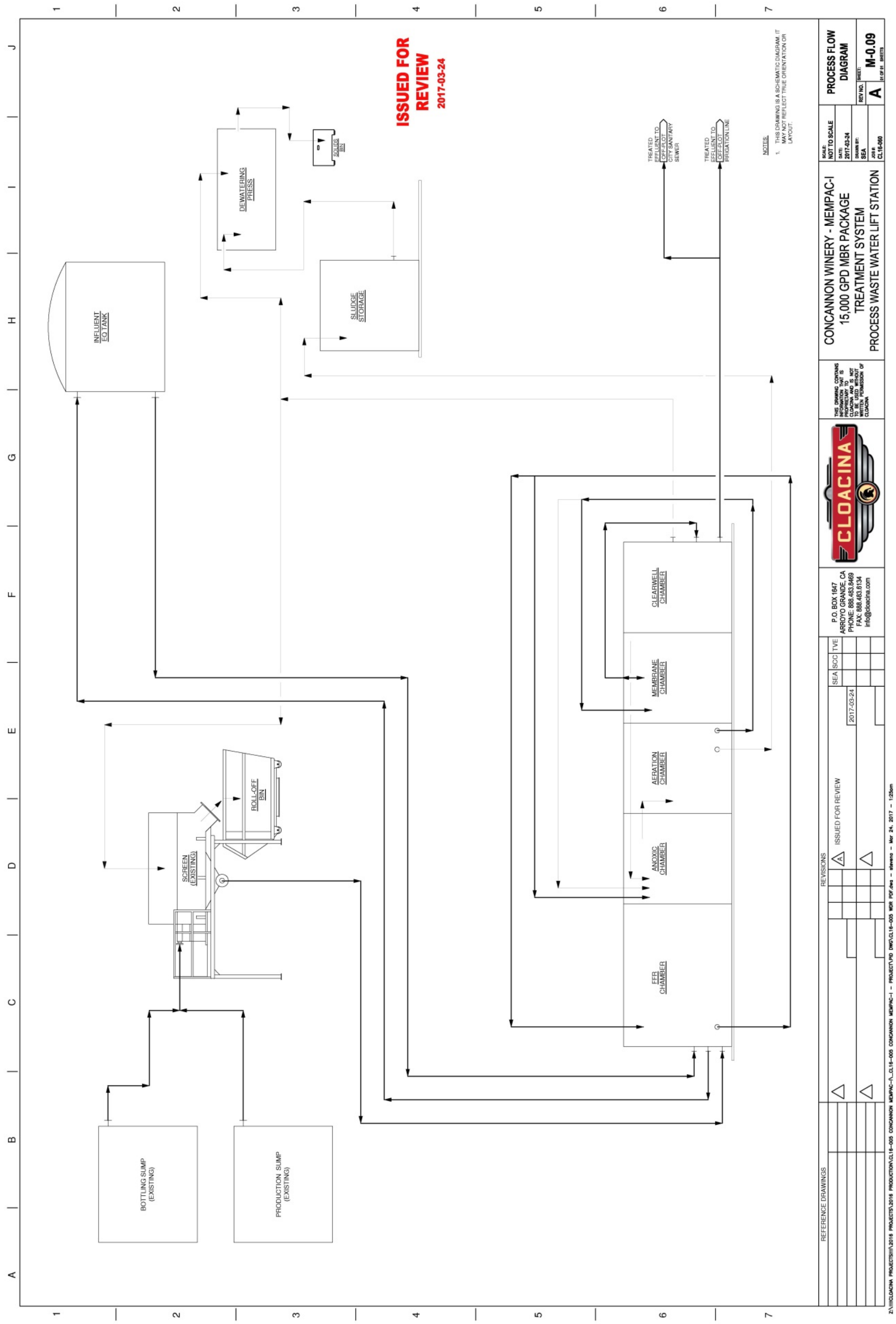
g. Membrane Filtration. Additional removal of nutrients, BOD and particulates occurs in the membrane filtration unit. The membrane unit is comprised of two ~~three~~ chambers. The first chamber is equipped with a membrane cassette, ~~the second chamber is used for additional aeration ,~~ and the ~~third~~ second chamber is used as a clear well. ~~If necessary, all three chambers can be equipped with membrane cassettes.~~ Waste activated sludge is removed from the membrane chambers using a dedicated sludge pump and taken offsite to a regulated disposal facility.

Response: We agree with this comment and revised the Tentative Order as requested.

The Wine Group Comment 17 – Replace Figure 5, page 28:

Included below, updated Process Flow Diagram (PFD) intended to replace Figure 5 on page 28 of the draft WDR:

Response: We agree that this figure better illustrates the treatment system and revised the Tentative Order as requested.


ISSUED FOR REVIEW
2017-03-24
INFLUENT EQ TANK
DEWATERING PRESS
SLUDGE STORAGE
SCREEN (EXISTING)
ROLL-OFF BIN
BOTTLING SUMP (EXISTING)
PRODUCTION SUMP (EXISTING)
EFR CHAMBER
ANOXIC CHAMBER
AERATION CHAMBER
MEMBRANE CHAMBER
CLEARWELL CHAMBER
TREATED EFFLUENT TO OFF-PLOT CITY SANITARY SEWER
TREATED EFFLUENT TO OFF-PLOT IRRIGATION LINE
NOTES:
1. THIS DRAWING IS A SCHEMATIC DIAGRAM. IT MAY NOT REFLECT TRUE ORIENTATION OR LAYOUT.
PROCESS FLOW DIAGRAM
M-0.09
NOT TO SCALE
2017-03-24
SEA
CL16-060
CONCANNON WINERY - MEMPAC-I
15,000 GPD MBR PACKAGE
TREATMENT SYSTEM
PROCESS WASTE WATER LIFT STATION
CLOACINA
P.O. BOX 1647
ARROYO GRANDE, CA
PHONE: 888.483.8469
FAX: 888.483.8134
info@cloacina.com
ISSUED FOR REVIEW
2017-03-24
REVISIONS
REFERENCE DRAWINGS

Regional Water Board Staff-Initiated Changes

In addition to minor wording and formatting changes, we made the following changes:

1. Finding 12, page 3: corrected the description of groundwater as impacted, not impaired. Added “annual average to the description of nitrate concentrations in the final sentence of this finding.
2. Table 2, page 6: corrected the description of the Maximum Contaminant Level from “nitrogen as nitrate” to “nitrate as nitrogen.”
3. Finding 21.c.iv, page 8: In addition to edits made in response to the Wine Group Comment 11, added “at a time” to clarify this finding.
4. Finding 34.c, page 13: added text to clarify history wastewater treatment on the facility.
5. Discharge Specification B.5.b, page 16 is modified to identify the correct Provision and use the active voice.
6. Table 4, page 16: corrected the description of the Maximum Contaminant Level from “nitrogen as nitrate” to “nitrate as nitrogen”. Clarified that the discharge limits for Total Suspended Solids, Total Nitrogen, and pH are applied as monthly averages.
7. Self-Monitoring Program (SMP), V.A. Monitoring Schedule, page A9: Clarification that the monitoring is specified in three tables.