

Protecting California's Water

STATE WATER RESOURCES CONTROL BOARD ORDER WQ 201Y-XXX-DWQ

GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

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STATE WATER RESOURCES CONTROL BOARD REGIONAL WATER QUALITY CONTROL BOARDS

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ACRONYMS AND ABBREVIATIONS			
AGR	Agricultural Supply		
Antidegradation Policy	State Water Board Resolution 68-16		
AQUA	Aquaculture		
Basin Plan	Water Quality Control Plan		
BOD	Biochemical Oxygen Demand		
BPTC	Best Practicable Treatment or Control		
Cal. Code Regs. or CCR	California Code of Regulations		
CalOES	California Office of Emergency Services		
CEQA	California Environmental Quality Act		
CFR	Code of Federal Regulations		
CIP	Clean In Place		
DDW	State Water Board, Division of Drinking Water		
DE	Diatomaceous Earth		
EC	Electrical Conductivity		
e.g.	Latin exempli gratia (for example)		
ELAP	Environmental Laboratory Accreditation Program		
eNOI	Electronic Notice of Intent		
ESJA	Eastern San Joaquin Agricultural		
FDS	Fixed Dissolved Solids		
FSC	Facility Salinity Criterion		
FEMA	Federal Emergency Management Agency		
FRESH	Fresh Water Replenishment		
General Order	General Waste Discharge Requirements Order		
gpd	gallons per day		
GWR	Groundwater Recharge		
i.e.	Latin <i>id est</i> (that is)		
ILRP	Irrigated Land Regulatory Program		
IND	Industrial Service Supply		
К	Hydraulic Conductivity		
КОН	Potassium Hydroxide		
LAA Land Application Area			
DA Limited Dispersal Area			
MCL Maximum Contaminant Level			
mg/L Milligrams per liter			
Mgal	Million gallons		
MRP	Monitoring and Reporting Program		
MUN	Municipal Supply		
N	Nitrogen		
NaOH	Sodium Hydroxide		
NOA	Notice of Applicability		

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ACRONYMS AND ABBREVIATIONS			
NOT	Notice of Termination		
NPDES	National Pollutant Discharge Elimination System		
NTU	Nephelometric Turbidity Unit		
O ₂ , O ₃	Oxygen, Ozone		
OWTS Policy	Onsite Wastewater Treatment System Policy		
pdf	Portable Document Format		
PROC	Industrial Process Supply		
REC-1	Water Contact Recreation		
Regional Water Board	Regional Water Quality Control Board		
RV	Recreational Vehicle		
RWD	Report of Waste Discharge		
SGMA	Sustainable Groundwater Management Act		
SNMP	Salt and Nutrient Management Plan		
SOPs	Standard Operating Procedures		
State Water Board	State Water Resources Control Board		
TDS	Total Dissolved Solids		
TMDL	Total Maximum Daily Load		
TSS	Total Suspended Solids		
µmhos/cm	Micromhos/centimeter (electrical conductivity)		
USEPA	United States Environmental Protection Agency		
UV	Ultraviolet (radiation)		
Wat. Code	California Water Code		
WILD	Wildlife Habitat		
WDRs	Waste Discharge Requirements		
§ or §§	Section or Sections		

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BACKGROUND INFORMATION

Findings:

The State Water Resources Control Board (State Water Board) finds that:

- The wine industry in California is an important economic engine. Wine America, a trade association, commissioned an economic analysis of the American wine industry, including a state-by-state breakdown. The analysis reported the industry's total national annual impact of \$219.9 billion with \$71.2 billion annual impact to California's economy.¹ The analysis reported:
 - a. The production, distribution, sales, and consumption of wine in California benefits many sectors of the state's economy. This economic activity preserves agricultural land, provides jobs, attracts tourists, generates taxes, and enhances the quality of life. The broader economic impact affects industries as varied as farming, banking, accounting, engineering, manufacturing, packaging, transportation, printing, advertising, and retail.
 - b. Approximately 4,581 wineries exist in the state and approximately 560,000 acres of vineyards produce a variety of grapes for the wineries. The climate, soils, and regional geographic differences produce ideal growing conditions unique to California.
 - c. The California wine industry directly employs as many as 259,600 people, and generates an additional 90,100 jobs in supplier and ancillary industries, which supply goods and services to the industry, and whose sales depend on the wine industry's economic activity. Ultimately, 485,050 jobs are created and supported by the wine industry.
 - d. The California wine industry provides jobs paying an average of \$51,600 in annual wages and benefits. The total wages generated by direct, indirect, and induced economic activity driven by the wine industry are \$25.0 billion.
 - e. The California wine industry is a magnet for tourists and produces tourism-driven expenses. California's "wine country" regions generate 23.6 million tourist visits and \$9.7 billion in annual tourism expenditures, benefiting local economies and tax bases.
 - f. The California wine industry generates sizeable tax revenues at the local, state, and national levels. In 2017, the industry will pay nearly \$4.4 billion in state and local taxes, and \$6.4 billion in federal taxes for a total of \$10.8 billion. In addition, the industry generates approximately \$145.8 million federal consumption taxes and \$578.2 million in state consumption taxes, which include excise and sales taxes.
- 2. Discharge of winery process water is an activity subject to the California Water Code (Water Code). This general waste discharge requirements (WDRs) order (General

¹ Wine America webpage accessed March 16, 2018. <<u>http://wineamerica.org/wp-content/the</u> mes/wineamerica/pdfs/impact/reports/California-Report.pdf>

Order) provides a streamlined method to address the activity. This General Order addresses wineries, wine distilleries, and facilities that perform similar activities related to the production of wine (e.g., facilities that provide bulk storage of wine or grape juice that will later be transferred for further processing or packaging at a different location). Hereafter such facilities are referred to as "winery" or "facility." Discharge of winery process water without authorization is a violation of the Water Code because winery process water meets the definition of a waste under Water Code section 13050(d) and the discharge of winery process water could affect the quality of waters of the state (Water Code section 13260(a)).

TIER RANKING DETERMINATION

3. This General Order classifies wineries in tiers based on the number of cases of wine produced, gallons of wine produced, or for storage facilities the gallons of grape juice or wine stored per year. Wineries and/or grape juice storage facilities that containerize (tank and haul) all process water and dispose of it at a Regional Water Board-permitted facility (e.g., a municipal wastewater treatment facility) may be any size. If any portion of the tank and haul process water is applied to land on-site, the facility is classified consistent with the schedule presented in Table 1.

Tier	Cases of Wine (cases/year) ¹	Approximate Gallons of Wine (Gallons/year)	Approximate Winery Process Water Generation (gal/year) ²
Tier 1	>84,000	>200,000	>1,000,000
Tier 2	25,201 - 84,000	60,001 - 200,000	300,001 - 1,000,000
Tier 3	8,401 - 25,200	20,001 - 60,000	100,001 - 300,000
Tier 4	≤8,400	≤20,000	≤100,000
Tier 5	NA	NA	Tank and Haul ³

Table 1: Tier Ranking Determination

^{1.} A case is defined as 12 750-mL bottles or approximately 9.0 liters (2.38 gallons) of wine.

² Winery process water generation rate estimated to be 12 gallons of process water per case of wine. (Approximately 5 gallons of winery process water per gallon of wine produced.) Numbers for "Gallons of Wine" and "Winery Process Water Generation" are rounded.

^{3.} Tier 5 facilities may be any size but must containerize all process water and properly dispose of the process water at a Regional Water Board-permitted facility.

WINERY PROCESS WATER CHARACTERIZATION

- 4. For the purposes of this General Order, the term "winery process water treatment system" shall mean the collection system, treatment equipment, pumping stations, treatment or storage ponds, land application areas, and other systems associated with the collection, treatment, storage, and disposal of winery process water.
- 5. Only winery process water treatment systems that discharge to land are eligible for coverage under this General Order. An owner and/or operator of a winery that includes a winery process water treatment system is hereafter referred to as "Discharger" in this General Order.

- 6. Process water is generated at wineries during production and sanitation activities. There is also domestic wastewater generated by employees and if applicable, visitors. In most cases, it is desirable to keep the process and domestic waste streams separated due to the additional requirements imposed to address pathogens in domestic wastewater. Wineries that commingle wastewater in a way that makes the discharge subject to the Uniform Water Recycling Criteria (Cal. Code Regs., tit. 22, Div. 4) are not eligible for coverage under this General Order. Wineries that are allowed to discharge to process water percolation ponds (Tiers 1, 2, 3, and 4) or limited dispersal areas (Tiers 3 and 4) may commingle waste streams if they comply with the other applicable requirements.
- 7. Process water at wineries is generated from the following activities: crushing and pressing operations, distilling, tank and/or pipe washing, plate and frame filter cleaning, filter sanitation, centrifuges/decanters cleaning, barrel washing, bottling, spent water softener regenerant, boiler water blowdown, cooling tower blowdown, surface/floor cleaning, and evaporative condenser bleed. Process water tends to have three waste constituents of primary concern: nitrogen, biochemical oxygen demand (BOD), and salinity. Wineries operating a distillery produce process water with significantly elevated concentrations of nitrogen, biochemical oxygen demand (BOD), and salinity.
 - a. Nitrogen is present in grape juice and wine. Nitrogen in the winery process water may originate from residual juice or wine collected during sanitation activities, chemicals used for sanitation purposes such as quaternary ammonium, or source water. Nitrogen is a concern because excessive application of nitrogen to land over time can result in nitrate groundwater degradation and may affect water quality of drinking water sources relied upon by communities. Application of nitrogen to land at appropriate rates is protective of water quality as described below.²
 - i. Nitrogen is a primary plant nutrient that is taken up by plants as nitrate or ammonium ions. Nitrate is mobile in the environment and can move with soil water to plant roots where uptake can occur; ammonium nitrogen is adsorbed to soil particles and has limited mobility in the environment. All forms of nitrogen can be converted to nitrate under the proper conditions of temperature, aeration, moisture, etc. by microbial activity.
 - ii. Nitrogen or nitrogen compounds may be lost to the atmosphere by the process of denitrification or by ammonia volatilization. Nitrate may be leached below the root zone by percolation. Erosion of nitrogen containing materials may transport nitrogen containing materials to surface water.
 - iii. The rate of nitrogen uptake by crops changes during the growing season. For planning and nutrient balances, the rate of nitrogen uptake can be approximately correlated to the rate of plant transpiration. Consequently, the pattern of nitrogen uptake is subject to many environmental and management variables and is crop specific.

² Western Fertilizer Handbook, 9th edition

- iv. Generally, young plants absorb ammonium more readily than nitrate; however, as the plant ages the reverse is true. Soil conditions that promote plant growth (warm and well-aerated) also promote the microbial conversion of ammonium to nitrate. As a result, nitrate is generally more abundant when growing conditions are most favorable.
- v. Published crop uptake values serve as an interim nitrogen limit in this General Order; the final limit will be implemented when crop-specific nitrogen removal values and application rates are approved by the Regional Water Board. Compliance with the requirements in this General Order and implementation of the attached BPTC measures (e.g., prohibiting process water runoff and limiting irrigation application to minimize percolation) will provide adequate protection of water quality.
- b. Winery process water contains biodegradable organic matter, measured as biochemical oxygen demand (BOD), from grape juice and wine. Additional BOD may be added through chemical use at the winery. Excessive BOD loading of ponds or land application areas (LAAs) may result in nuisance odors or anaerobic conditions, which are not favorable biological treatment conditions.
 - i. Excessive application of BOD to LAAs can mobilize soil constituents or generate nuisance odors. Limiting the BOD loading rate to 300 pounds per acre, per day (lbs/acre/day) and 100 lbs/acre/cycle, with a minimum five-day application cycle, will generally control the generation of nuisance odors and provide adequate treatment.³
 - ii. Excessive application of BOD to a winery process water pond will cause low dissolved oxygen concentrations and nuisance odor generation. In general, maintaining a minimum dissolved oxygen concentration of 1.0 mg/L in the upper foot (measured from the pond water surface to a depth of one foot) will control nuisance odors.
- c. Salinity is a measure of dissolved solids in water. Salinity exists in grape juice and facility source water. However, the majority of salinity in winery process water originates in sanitation chemicals used in cleaning activities. Excessive salinity can affect the beneficial uses of water. Groundwater salinity can be affected by the discharge of winery process water with elevated concentrations of total dissolved solids (TDS). TDS consists of both volatile (organic) and fixed (inorganic) fractions, where the fixed fractions are measured as fixed dissolved solids (FDS). In a well-operated land application system, volatile dissolved solids (VDS) in percolate will be reduced to negligible concentrations. Therefore, FDS is the primary salinity constituent of concern.
 - i. Some salinity constituents can be replaced with more environmentally acceptable substitutes. For example, excessive sodium concentrations can have deleterious effects on soil quality and chloride is very mobile in the environment. Chemical

³ Crites and Tchobanoglous, 1998, Small and Decentralized Wastewater Management Systems, Chapter 10 Land Treatment Systems.

substitution can reduce the environmental impact of the constituents but may result in higher FDS concentrations in process water due to the analytical (gravimetric) method of determining FDS. For example, replacing sodium based chemicals with potassium based chemicals results in higher FDS concentrations because potassium is heavier (higher atomic weight) than sodium. However, the increase of FDS can be an acceptable trade-off to achieve the benefits obtained through chemical substitution.

- ii. Various sanitation chemicals are used at wineries that contribute to the salinity in the process water, such as caustic chemicals (sodium or potassium hydroxide) for removing deposits within tanks and/or pipelines, and disinfectants (sodium hypochlorite or similar). The best approach for addressing salinity is through source control activities. A number of chemical replacements for sodium-based chemical compounds are available that can reduce the salinity of the winery process water. This General Order requires Tier 1 wineries to compare their process water effluent salinity to the facility salinity criterion (FSC). If the winery process water exceeds the FSC, the Regional Water Board Executive Officer can require the Discharger to prepare and submit a Salinity BPTC Evaluation and Implementation Report.
- iii. The FSC is based on typical salinity increases observed in domestic wastewater use and allows a higher increase for reasonable industrial use. Typical increases for TDS (FDS and VDS) for septic tank effluent range from 200-400 mg/L; increases for municipal wastewater (without commercial or industrial discharges) range from 150-300 mg/L.⁴ A portion of the values includes VDS, which is effectively treated using land discharge BPTC measures. Water conservation measures will increase the concentration of waste constituents without increasing the constituent loading (the pounds of waste constituent discharged). Many wineries have implemented significant water conservation measures at their facilities. This General Order includes an FDS FSC that if exceeded, indicates further evaluation of the practices at the winery is warranted. Based on the range of salinity increase observed in septic tank effluent and municipal wastewater, the FDS FSC is 400 mg/L above source water as a flow-weighted annual average. The annual flow-weighted average shall be calculated and reported in the annual report. Sampling shall be performed as described in the monitoring and reporting program.
- 8. Domestic wastewater is generated by the employees at the winery and if applicable, visitors. For large wineries, domestic wastewater is generally separated from the winery process water. Typically, the domestic wastewater systems are permitted by a local agency. See the Winery Process Water Treatment and Disposal section of this General Order for more information on use of septic tanks for winery process water and when commingled winery process water and domestic wastewater is allowed.

⁴ Crites and Tchobanoglous, Small and Decentralized Wastewater Management Systems, McGraw-Hill, New York, NY.

9. Untreated and treated winery process water quality varies depending upon source water quality, the activities generating the winery process water, water conservation efforts, and treatment technology. The strength (the concentration of waste constituents) and volume of winery process water varies throughout the year based on site activities. The highest flow rates typically occur when grapes are being crushed; the highest strength also typically coincides with the crush period but is highly dependent on the size and practices of the winery. Typical untreated winery process water characteristics are presented in Table 2, for wineries that do not operate a distillery. Values presented as treated process water come from a variety of treatment methods and may not represent adequately-treated process water that is protective of water quality and/or prevents nuisance conditions. Typical untreated stillage (wine distilling waste) characteristics are presented in Table 3. Published winery process water studies and/or United States Environmental Protection Agency (USEPA) winery process water publications may also be used to characterize winery process water characteristics.

		Non-Crush Season ^{1, 2}		Crush Season ^{1, 2}	
Constituent	Units	Untreated PW	Treated PW	Untreated PW	Treated PW
BOD	mg/L	1,390 (41,000)	107 (3,330)	1,790 (15,400)	577 (7,760)
рН	su	7.1 (3.6-11.3)	8.0 (4.4-11.0)	6.9 (3.6-12.9)	7.8 (4.6-9.6)
EC	µmhos/cm	970 (3,260)	880 (2,400)	1,320 (9,700)	1,170 (4,660)
Calc. TDS ³	mg/L	621 (2,090)	563 (1,540)	845 (6,210)	749 (2,980)
Chloride	mg/L	23 (143)	22.5 (115)	48.8 (1,050)	44 (541)
Sulfate	mg/L	109 (1,290)	45 (592)	99.7 (1,080)	58.7 (374)
TKN	mg/L	1-25	NA	5-70	NA
Nitrate	mg/L	0.48 (6.4)	1.1 (23.1)	3.0 (15.8)	5.0 (48.8)
Phosphate	mg/L	17.1 (237)	12.5 (209)	17 (100)	17.5 (67.7)
Sodium	mg/L	86.6 (714)	65.9 (409)	137 (3,060)	99.5 (351)
Potassium	mg/L	133 (1,270)	115 (888)	176 (772)	162 (568)
Magnesium	mg/L	27.4 (117)	43.8 (393)	31.2 (219)	60.5 (746)
Calcium	mg/L	69.1 (248)	61.2 (159)	75.5 (356)	79.5 (268)

^{1.} All data shown as mean data with maximum concentration shown in parentheses except pH, which shows mean value with pH range.

All data from, "A California Winery Wastewater Survey: Assessing the Salinity Challenge for Wastewater Reuse" available at: http://www.ajevonline.org/content/early/2015/06/12/ajev.2015.14110>, except total Kjeldahl nitrogen data from "Winery Wastewater Management & Recycling Operational Guidelines" available at: https://www.wineaustralia.com/WineAustralia/Media/WineAustralia/PDF/Growing-and-making/Winery-wastewater-management/Operational-Guidelines.pdf>.

^{3.} Calc. TDS is a calculated value based on an EC to TDS conversion (1.56 µmhos/cm _{EC} = 1.0 mg/L _{TDS}) mg/L denotes milligrams per liter, su denotes standard pH units, µmhos/cm denotes micromhos per centimeter, NA denotes not available, TDS denotes total dissolved solids, TKN denotes total Kjeldahl nitrogen, PW denotes process water.

Constituent	Units	Concentrations (range) ¹	
BOD	mg/L	2,400 - 27,000	
рН	su	3.5 - 5.0	
Calculated TDS ²	mg/L	1,000 - 12,000	
Total Nitrogen	mg/L	150 - 330	
 All data from USEPA, <i>Pilot Scale Treatment of Wine Stillage</i>, EPA-660/2-75-002, February 1975. Calculated TDS is a calculated value from Total Solids and Suspended Solids. mg/L denotes milligrams per liter, su denotes standard pH units 			

Table 3: Summary of Stillage Characteristics

- 10. Hard water exists in many locations and can naturally occur at a winery. Although water hardness usually measures only the total concentrations of calcium and magnesium (the two most prevalent divalent metal ions), iron, aluminum, and manganese can also be present at elevated levels in some locations. Hard water can be treated using ion exchange technology; however, discharge of regenerative ion exchange brine often comprises a significant portion of the FDS concentration in process water. Hard water can also be treated with membrane technologies, which have the advantage of not adding additional FDS to process water. Membrane technologies are classified by the particle size that can pass through the membrane. As membranes operate, contaminants in the feed water accumulate and foul the membrane. When the performance has deteriorated to a specified level, the membrane is backwashed or cleaned chemically. Nanofiltration and reverse osmosis are technologies capable of reducing the hardness of water.
- 11. Standard operating procedures are developed by companies to ensure uniformity in process, elimination of waste, defects, duplication of tasks, etc. Standardization of processes can reduce the amount and strength of winery process water discharged to the process water system. A number of process management approaches are available, or a winery can develop their own processes. This General Order requires Tier 1 wineries to develop written standard operating procedures for all activities that generate significant amounts of winery process water. All other tier wineries are strongly encouraged to develop standard operating procedures. Alternatives include sustainable practices developed by academic, governmental, industry, or private organizations.

WINERY PROCESS WATER TREATMENT AND DISPOSAL

- 12. Winery process water treatment and disposal will occur by different methods. It may be percolated from ponds or basins, biologically treated, used to irrigate LAAs with agricultural crops, or discharged to a subsurface dispersal area such as a leach field. The choice of disposal method will depend upon the amount of winery process water generated, the value of the winery process water for irrigation, and the receiving environment.
- 13. Winery process water discharged to a pond provides equalization, biological treatment of BOD, and limited nitrogen reduction. However, any winery process water discharged

to a pond or basin can result in groundwater degradation or nuisance odors. (Basins that are hydraulically loaded with process water sufficient to result in extended time periods of ponded process water or saturated conditions are defined as process water ponds in this General Order.)

- a. Process water percolated from a pond to the subsurface has the potential to degrade groundwater quality with nitrogen or dissolved solids to an unacceptable extent. Reducing the amount of process water percolated by lining a pond or basin with a synthetic or low permeability liner can control the percolation rate but requires an alternative method of process water dispersal. Land application is typically selected.
- b. Overloading a process water pond or basin with BOD constituents can result in nuisance odor generation and bacterial reduction of oxidized compounds. Soluble manganese, iron, and arsenic can be formed.⁵ Source control of BOD constituents, additional pretreatment prior to discharge to the pond or basin, or mechanical aeration of process water in the pond are typically used to prevent a pond or basin from generating nuisance odors. Maintaining a minimum dissolved oxygen concentration of 1.0 mg/L in the surface layer (measured from the pond water surface to a depth of one foot) prevents generation of nuisance odor conditions in most circumstances.
- c. Ponds and basins can be vulnerable to damage caused by burrowing animals. Burrowing animals can result in rapid failure of a containment berm. This General Order requires the Discharger to control the population of burrowing animals and requires repairs to the containment system to be completed as soon as possible.
- d. Use of a process water pond, either for treatment or storage of treated process water, requires evaluation of the pond for continued use acceptability. The process for evaluating process water ponds is provided in Attachment **<C>**, which is attached and made part of this General Order by reference.
- 14. Winery process water can be treated with biological methods such as activated sludge, trickling filters, and other methods. Biological methods can be effective at treating the organic (BOD) waste constituents, and if configured for nutrient removal, nitrogen control. Dischargers can employ any treatment method they prefer to comply with the BOD and nitrogen loading rates criteria. Use of activated sludge, trickling filters, etc. requires a means to handle, treat, and dispose of the treated process water and solids generated in the process. Application of the treated process water and solids to land application areas is typically selected. Dischargers that want to land apply solids that contain any amount of domestic wastewater associated solids must seek additional authorization from the Regional Water Board for that activity. Facilities that commingle domestic wastewater with the winery process water are subject to the requirements in 40 Code of Federal Regulations (CFR) Part 503.

⁵ California League of Food Producers, Manual of Good Practice for Land Application of Food Processing/Rinse Water (2007).

- 15. When land application of process water is employed, adequate acreage must be available to allow application rates that will not create nuisance conditions (e.g., vectors, nuisance odors, off-site discharge), will not cause exceedances of water quality objectives, and will not cause water quality degradation inconsistent with the antidegradation findings in this General Order. Depending upon the loading rate, land application may provide adequate treatment to comply with this General Order's requirements. Generally, wineries that do not have adequately-sized treatment/storage ponds, apply process water to land year-round. This General Order requires the Discharger to implement practices to prevent off-site discharges of process water from land application areas.
 - a. Crops are grown and harvested from an LAA to take up process water constituents such as nitrogen and dissolved solids, as well as maintain roots which promote water infiltration rates. When climatic conditions are favorable, double cropping an LAA can increase the uptake of process water constituents.
 - b. Hydraulic loading of an LAA must be controlled to prevent off-site process water discharge; storm water that falls on the LAA must be contained to prevent the potential migration of pollutants off-site. LAAs are sometimes equipped with a tailwater control system that allows for reapplication of process water to the LAA or returning tailwater to a process water pond. In some cases, storm water that falls on an LAA cannot be contained on-site. In those cases, application of process water must be timed to prevent precipitation events from mobilizing process water constituents off-site.
 - c. This General Order contains LAA hydraulic process water loading limits for Tiers 2, 3, and 4. Wineries classified as Tier 2, 3, and 4 are limited to application of 100,000 gallons of process water per acre, per year. The loading limit results in approximately 3.7 inches of process water applied per year, per acre. The loading rate is relatively low compared to the evapotranspiration needs of crops in most wine making areas of the state. (Annual evapotranspiration in wine making areas commonly exceeds 50 inches/year.)⁶ Substantial supplemental irrigation water will be necessary to maintain crop health. Because the process water/irrigation water ratio is low, the activity is relatively low threat and monitoring required to demonstrate beneficial uses are protected is limited.
 - d. This General Order requires Tier 1 wineries to evaluate the ratio of applied winery process water to the sum of supplemental irrigation water and precipitation. Excessive hydraulic loading of an LAA with winery process water can result in excessive application of salinity constituents. Typically, sufficient winery process water is not generated to supply all the LAA crop evapotranspiration needs; supplemental irrigation water is used to maintain crop health. Wineries that apply higher ratios of winery process water to supplemental irrigation water are more likely to impact groundwater quality below the LAA. This General Order requires Tier 1 wineries that apply winery process water consisting of at least 30 percent of the total

⁶ California Department of Water Resources, California Irrigation Management Information Service webpage accessed March 30, 2018.

<https://cimis.water.ca.gov/App_Themes/images/etozonemap.jpg>

applied water, to install groundwater monitoring wells. Wineries that collect storm water with their winery process water are required to use the average (mean) design seasonal precipitation values in the water balance to determine the process water/irrigation water⁷ ratio.

- i. Some wineries irrigate relatively small acreage landscaped areas exclusively with process water. Replumbing the landscape to allow supplemental irrigation water to be used is inappropriate considering the threat to water quality originating from the small area. When process water is applied at agronomic rates, small acreage landscaped areas (less than one acre in aggregate) are inherently a low threat to water quality. Such small acreage landscaped areas are exempt from the requirement to evaluate the need for groundwater monitoring and if the facility is a Tier 2, 3, or 4 facility, they are also exempt from the 100,000 gallon/acre/year application limit in Discharge Specification B.2.c.i when the facility has an appropriate LAA or other means to dispose of winery process water.
- e. Overloading an LAA with BOD can result in nuisance odor generation or anaerobic conditions, causing crop and aerobic treatment process failure. Prolonged periods of oxygen deficiency can lead to bacterial reduction of oxidized compounds. Soluble manganese, iron, and arsenic can be formed. Source control of BOD constituents, additional pretreatment prior to process water application to the LAA, or lower loading rates are typically used to control LAA nuisance odors. By cycling the application of winery process water to LAAs using irrigation zones, the BOD loading rate can be managed to prevent odors and optimize process water treatment. Typically, loading rates of less than 300 lbs/acre/day and less than 100 lbs/acre/cycle (minimum 5-day cycle) will prevent generation of nuisance odors.
- f. Some wineries that commingle domestic wastewater and winery process water may discharge the treated wastewater (recycled water) to an LAA or other beneficial or controlled use. Use of recycled water is subject to the Uniform Water Recycling Criteria contained in CCR Title 22. Because the use of recycled water requires additional authorization from the Regional Water Board and State Water Board Division of Drinking Water, wineries that produce recycled water subject to Title 22 are not eligible for coverage under this General Order. [NOTE: State Water Board staff is currently evaluating the feasibility of expanding the scope of this draft winery General Order to include water recycling requirements but does not yet have a recommendation for the Board. Any change will be subject to public review and comment before any Board action is taken.]
- 16. Some wineries are allowed to use an onsite wastewater treatment system (OWTS) and a subsurface limited dispersal area (LDA) for winery process water or commingled

⁷ Irrigation water includes all water that is applied to the LAA except process water, mixtures of process water, or recycled water delivered to the facility. Irrigation water includes water sourced from groundwater extraction wells, municipal supplied potable water, irrigation canals, and precipitation that falls directly on the LAA (not precipitation that falls on the facility, is combined with wastewater, and is applied to the LAA).

process water/domestic wastewater. An LDA consists of a subsurface dispersal area of limited areal extent. LDAs are generally designed to accommodate hydraulic loading. Properly designed and operated OWTS discharging to an LDA can be effective in treating pathogens (when domestic wastewater is commingled) and BOD. However, LDAs provide limited treatment of nitrogen and FDS process water constituents. Therefore, this General Order only allows smaller, lower threat to water quality wineries to use subsurface LDAs for winery or commingled process water/domestic wastewater. [NOTE: State Water Board staff is currently evaluating the feasibility of allowing the use of subsurface LDAs for winery process water or commingled process water/domestic wastewater at larger wineries but does not yet have a recommendation for the Board. Any change will be subject to public review and comment before any Board action is taken.]

- a. This General Order allows winery process water or commingled process water/domestic wastewater in an OWTS with discharge to an LDA as follows:
 - i. Tier 4 wineries may discharge process water or commingled process water/domestic waste streams to an LDA year-round with implementation of salinity source control in the facility.
 - ii. Tier 3 wineries may discharge process water or commingled process water/domestic waste streams in winter months (when precipitation exceeds evapotranspiration values)⁸ with implementation of salinity source control in the facility. Except as described below, during non-winter months, the Tier 3 wineries must separate the process water and apply it to an LAA or process water pond (if a pond is allowed pursuant to the Discharge Specifications for Process Water Ponds in this General Order).
 - iii. Tier 3 wineries may commingle process water and domestic waste streams yearround if the activity is determined to be protective of water quality as determined by the Limited Dispersal Area Evaluation (Attachment <D>), which is attached and made part of this General Order by reference, the analysis indicates continued use is appropriate, and salinity source control in the facility is implemented.
- b. Process water dispersal can be improved using a dosing pump and pump controller. Dosed systems use relatively small diameter pipe to distribute the process water to zones within the dispersal area. Even in well-operated systems, some suspended solids will be pumped into the distribution piping. Cleanouts or a flushing system on the distribution piping are required to remove the solids that will accumulate if the emitters are small enough diameter to prevent suspended solids from passing through the distribution equipment. Gravel-less trench systems which do not use

⁸ Precipitation and evapotranspiration values shall be determined using the California Department of Water Resources California Irrigation Management Information System available at https://cimis.water.ca.gov/ or the California Data Exchange Center available at http://cdec.water.ca.gov/snow_rain.html.

gravel and typically use distribution piping and a dosing system, should be constructed with cleanouts or a flushing system as needed to prevent clogging.

- c. Protection of subsurface dispersal areas and the replacement area should be managed to prevent disturbance or compaction of the dispersal area.
 - i. Only shallow rooted plants to prevent erosion and provide for uptake of process water nutrients shall be planted at the dispersal area; trees and shrubs should be removed to prevent roots from damaging the leach field.
 - ii. To prevent compaction vehicles, heavy equipment, and large animals shall be excluded from the area.
 - iii. Dispersal areas shall not be paved or covered with plastic sheeting or other materials that limit oxygen transfer.
 - iv. Adequate land shall be reserved to provide not less than 100-percent dispersal replacement area if the original system cannot absorb all of the process water or other failure occurs.
- 17. Setbacks from process water/wastewater treatment areas, dispersal areas, and/or LAAs from domestic wells, flowing and/or ephemeral streams, lakes/reservoirs, and property lines are provided in this General Order. Setbacks are included as a means of reducing pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g., water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions. Fine grained (silt or clay) soil particles reduce the rate of groundwater transport and therefore are generally less likely to transport pathogens; coarse grained soil particles or fracture flow groundwater conditions may be more likely to transport pathogens. Setbacks also provide attenuation of other wastewater constituents through physical, chemical, and biological processes. The setbacks provided in this General Order are based on the California Well Standards, the OWTS Policy, the California Plumbing Code, and commonly imposed setbacks by regulatory agencies.

SOLIDS MANAGEMENT

- 18. Wine-making generates solid waste, primarily pomace (grape skins, seeds, stems, etc.) and diatomaceous earth (DE) (the silicon-based fossilized remains of diatoms). The materials may contain nitrogen, dissolved solids, and BOD constituents that can degrade water quality if the waste constituents are allowed to migrate to groundwater or surface water.
 - a. Storage of pomace or DE results in residual liquid, which is either leached from the material or is generated when precipitation falls on uncovered material. This General Order requires the Discharger to minimize infiltration to groundwater of any leachate formed.
 - b. Composting results in the release of water from the materials being composted as biological decomposition occurs. The released water becomes leachate and if sufficient in volume, will drain from the compost pile. Precipitation that falls on, or water that is applied to compost piles, may also result in liquid draining from the compost piles.

- c. Dischargers can minimize the generation of leachate by immediately applying uncomposted pomace and/or DE to land as a soil amendment. Alternatively, Dischargers can store all pomace and/or DE on a paved (concrete or asphalt) area equipped with a sump to collect and return to the process water system any leachate and/or storm water that falls on the area. Dischargers may also construct roofed areas to prevent storm water from falling on pomace and/or DE, or use other measures to prevent storm water from falling on pomace.
- d. Composting of solids originating at the winery may be performed if consistent with this General Order's requirements. Importing compostable materials not associated with winery processes (e.g., manure) cannot be covered by this General Order and the Discharger must seek additional authorization from the Regional Water Board.

GENERAL ORDER APPLICATION PROCESS

- 19. Dischargers seeking coverage under this General Order shall file <an online application using the electronic Notice of Intent (eNOI) form available at http://... and> OR <a Notice of Intent (NOI) with the appropriate Regional Water Board. The NOI is included in Attachment <F>, which is attached and made part of this General Order by reference. Some Regional Water Boards may provide procedures for electronic submittal of the NOI. The Discharger shall also provide the following:>
 - a. An application fee that serves as the first annual fee. Fees are based on the tier category for the winery. The fees for the different tiers are defined in the fee schedule listed in California Code of Regulations, title 23, section 2200 and also available at: http://www.waterboards.ca.gov/resources/fees/water_quality/#wdr.

Upon review of the NOI, Regional Water Board staff will determine if coverage under this General Order is appropriate. The Regional Water Board's Executive Officer will issue a Notice of Applicability (NOA) when coverage under this General Order has been authorized. The NOA will contain the necessary site-specific monitoring and reporting requirements.

- 20. Dischargers covered by another administrative mechanism may continue discharging under that authority until notified of the need to update their coverage by the State Water Board or Regional Water Board.
- 21. The State Water Board intends for this General Order to be the primary permitting mechanism for wineries in the state. Although a Discharger may be eligible for coverage under this General Order, the appropriate Regional Water Board Executive Officer may determine that the discharge would be better regulated by individual WDRs, an individual waiver of WDRs, an enforcement order, or a National Pollutant Discharge Elimination System (NPDES) Permit. The Executive Officer shall support the need for a revised project, design, operation, or coverage under a different order by making one or more of the following findings in the NOI response letter.
 - a. The project will result in water quality degradation that is not consistent with the antidegradation analysis contained in this General Order. The degradation may be from salinity, nitrogen compounds, or other substances.

- b. The project will result in pollution or nuisance, or will otherwise fail to comply with the applicable Basin Plan or State Water Board or Regional Water Board plans or policies.
- c. The project does not implement mitigation measures in a California Environmental Quality Act (CEQA) document.
- d. The project is not consistent with a total maximum daily load (TMDL) waste load allocation or load allocation, or implementation plan as adopted by the Regional Water Board and made part of the Regional Water Board's Basin Plan.
- e. The project is not consistent with the Basin Plan provisions for implementing a salt and nutrient management plan (SNMP).
- f. The project does not comply with the ILRP WDRs or conditional waiver of WDRs that are applicable for the project as noticed by the Regional Water Board Executive Officer.
- g. The project is subject to the requirements of CCR Title 22 water recycling criteria and therefore is ineligible for coverage under this General Order.
- 22. Dischargers who wish to terminate coverage under this General Order shall submit the Notice of Termination (NOT) found in Attachment **<G>**, which is hereby attached and made part of this General Order, at least 90 days prior to the desired termination date. The NOT shall be submitted to the appropriate Regional Water Board and if applicable, the Discharger shall send a copy of the NOT to the local agency providing oversight. Termination of coverage under this General Order is not final until the Regional Water Board approves the NOT. Until the NOT is approved, the Discharger is responsible for any permit fees associated with enrollment under this General Order. The Regional Water Board, State Water Board, and/or local agency (if applicable) may elect to conduct an inspection of the winery prior to terminating coverage under this General Order.

GENERAL ORDER ELIGIBILITY

- 23. Dischargers seeking coverage under this General Order shall comply, if applicable, with the following in order to be eligible for coverage:
 - State Water Board Order 2014-0057-DWQ General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES No. CAS000001) and any future updates;
 - b. Regional Water Board ILRP, as directed by the Regional Water Board or the Regional Water Board Executive Officer;
 - c. SNMPs as directed by the Regional Water Board or the Regional Water Board Executive Officer.

LOCAL AGENCY OVERSIGHT PROGRAM

24. Some Regional Water Boards have developed relationships with County Environmental Health programs and allowed the local agency oversight responsibilities related to winery process water issues. Continuation of local oversight for low threat activities allows the Regional Water Boards to devote limited resources to higher threat to water quality issues. This General Order allows local agencies to apply for oversight of Tier 2, 3, 4, and 5 wineries. A Regional Water Board may further limit the tiers or process water treatment processes eligible for local agency oversight. *[NOTE: State Water Board staff is currently evaluating the feasibility of allowing local agency oversight of Tier 1 wineries but does not yet have a recommendation for the Board. Any change will be subject to public review and comment before any Board action is taken.]*

- 25. The Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy) adopted by the State Water Board in June 2012, authorizes permitting wastewater authority to local agencies and contains a conditional waiver of WDRs for dischargers that waives the requirement to pay fees, submit a report of waste discharge (RWD), and obtain WDRs for certain discharges. The OWTS Policy limits the permitting authority and conditional waiver applicability for local agencies to domestic wastewater.
- 26. Local agencies seeking oversight responsibilities for disposal of process water from wineries must demonstrate adequate resources to implement a program and must have legal authority to address issues that may arise at a winery. Local agencies seeking authorization to administer this General Order must submit a description of the local agency plan, as outlined in Attachment <E>, which is attached and made part of this General Order by reference. Authorization to implement a local plan is not granted until the Regional Water Board approves the local agency plan and the Executive Officer issues an authorization letter.
- 27. This General Order does not contain a conditional waiver that delegates authority for local agency oversight. Local agencies that obtain oversight responsibility will administer this General Order. Wineries that enroll in local oversight programs must also obtain authorization to discharge winery process water from the Regional Water Board by submitting an NOI to comply with the requirements of this General Order. The State Water Board and Regional Water Boards retain enforcement authority over all Dischargers regardless of participation in a local agency oversight program.
 An NOI is provided in Attachment <F>, which is attached and made part of this General Order.>

OTHER WINERY ACTIVITIES

- 28. Some wineries have developed public assembly facilities for weddings, corporate meetings, retreats, or concerts. Those activities generate wastewater that is not covered under this General Order. Based upon the wastewater flow rate and quality, those discharges will be permitted either by a local agency or the Regional Water Board.
- 29. Some wineries may allow recreational vehicles (RV) to visit their facilities or use portable toilets to accommodate well attended events. Discharges from RV holding tanks or portable toilets may contain chemicals that can pollute groundwater quality. Some commercially available products used to control holding tank/portable toilet odors may contain chemicals such as formaldehyde, methyl alcohol, zinc, phenol, or other harmful chemicals. These chemicals can kill the bacteria in the wastewater treatment system and cause wastewater to be inadequately treated. Inadequately treated wastewater may cause additional problems such as leach field/seepage pit failure,

surfacing wastewater, and potential exposure and health risks. Discharge of these chemicals to groundwater that creates pollution may result in enforcement activities requiring groundwater remediation. This General Order prohibits the discharge of RV holding tank wastewater or portable (chemical) toilet waste to an on-site wastewater treatment system without separate WDRs issued by the Regional Water Board addressing the waste.

ANTIDEGRADATION ANALYSIS

- 30. State Water Board Resolution 68-16, the *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (hereafter the Antidegradation Policy) requires that disposal of waste into the waters of the state be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state. The quality of some waters is higher than established by adopted policies and that higher quality water shall be maintained to the maximum extent possible consistent with the Antidegradation Policy. The Antidegradation Policy requires the following:
 - a. Higher quality water will be maintained until it has been demonstrated to the state that any change will be consistent with the maximum benefit to the people of the state, will not unreasonably affect present and anticipated beneficial uses of the water, and will not result in water quality less than that prescribed in the policies.
 - b. Any activity that produces a waste and discharges to existing high quality waters will be required to meet WDRs that will result in the BPTC of the discharge necessary to assure pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
- 31. The Antidegradation Policy requires maintenance of high-quality waters of the state unless limited degradation is consistent with the maximum benefit to the people of the state. This General Order requires implementation of BPTC measures consistent with an implementation schedule. Implementation consistent with this General Order will maintain the highest water quality consistent with the maximum benefit to the people of the state.
- 32. This General Order allows discharges to numerous groundwater bodies, each with its own chemical characteristics. There are not sufficient data to determine which receiving waters are high quality waters. To the extent a discharge covered under this General Order may be to high quality waters, this General Order authorizes limited degradation consistent with the Antidegradation Policy as described in the findings below.
- 33. This General Order includes BPTC requirements, an implementation (compliance) schedule, loading rate limits, and monitoring and reporting requirements. BPTC measures are defined for all tiers. Low risk tiers have fewer required BPTC measures than high risk tiers. Nothing in this General Order prevents the Discharger from implementing more than the minimum BPTC measures required for each tier.
- 34. Limited degradation of groundwater by some waste constituents associated with winery process water, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. This General Order is designed to prevent winery process water discharges from impairing access to safe and reliable drinking water. The economic prosperity of communities

and associated industry is of maximum benefit to the people of the state and provides sufficient justification for allowing the limited degradation of high quality waters that may occur pursuant to this General Order provided the terms of the applicable Basin Plan, and other applicable State Water Board and Regional Water Board policies are consistently met. Implementation of BPTC measures to reduce water quality degradation, protect present and anticipated beneficial uses, and maintain the highest water quality is consistent with the maximum benefit to the people of the state.

- 35. Constituents of concern that have the potential to degrade water quality include BOD, salinity, and nitrogen compounds. Each of the winery process water constituents of concern are discussed in the Winery Process Water Treatment and Disposal section of this General Order.
 - a. This General Order includes BOD loading limits for land application areas and prohibits the discharge to ponds or subsurface disposal areas from creating or contributing to nuisance conditions.
 - b. This General Order includes BPTC measures that must be implemented to reduce salinity in the winery process water, allows the Regional Water Board Executive Officer to require Tier 1 facilities that exceed the FSC to submit additional evaluation of their process water quality, and allows the Regional Water Board Executive Officer to require participation in salt and nutrient management planning processes.
 - c. This General Order includes a total nitrogen application rate for land application areas, and requires discharges to ponds or subsurface dispersal areas to not cause or contribute to groundwater pollution above the nitrate maximum contaminant level or water quality objectives in the Regional Water Board Basin Plan.
- 36. This General Order includes discharge specifications for various types of disposal methods, including land application areas, ponds, and subsurface dispersal, but allows Dischargers to develop site-specific methods for compliance.

BPTC MEASURES AND IMPLEMENTATION SCHEDULE

- 37. This General Order includes BPTC measures and an implementation schedule. Because all wineries covered by this General Order may not comply immediately, an implementation (compliance) schedule is provided in Attachment ****, which is hereby attached and made part of this General Order. Lower threat to water quality wineries are required to implement fewer BPTC measures than higher threat to water quality wineries; however, source control is an important BPTC measure at all wineries regardless of size. Larger wineries that discharge more winery process water are inherently a higher threat to water quality than smaller wineries. BPTC measures generally consist of improved housekeeping practices, source control, treatment improvements, chemical replacement, or process optimization or replacement.
 - a. Housekeeping requirements are processes that all wineries can implement immediately. Housekeeping requirements will result in less winery process water being generated and lower strength process water. In addition to the housekeeping BPTC requirements contained in this General Order, some Dischargers may elect to participate in a sustainability program that will provide guidance on additional improvements that can be implemented at the winery. Sustainability programs may

be developed by academic, governmental, industry, or private organizations. In addition to other winery practices, sustainability programs identify BPTC measures that prevent, control, or treat waste constituent discharges that degrade water quality.

- b. Housekeeping practices may include reduced water use, use of squeegees or brooms rather than washing materials down the drain, using high pressure low flow water nozzles, installing automatic shut-off nozzles on all hoses, vigilant maintenance practices, and use of "pigs" for pipeline cleaning or wine/grape juice transfers rather than visual cut-offs. Organics and solids can be reduced by sweep/squeegee, grates over drains, or in-line filtration. Reusing water in the facility can be performed based on site-specific conditions. Reusing cleaning chemicals can be performed in many facilities by "daisy-chaining" the cleaning activities.⁹
- c. Water softening is removal of calcium, magnesium, and various other cations from an aqueous solution. Softening is performed for a variety of reasons including hard water, preconditioning water prior to a facility process, reducing scale formation, improving action of detergents, protecting and extending the life of industrial equipment, etc. Water softening in wineries is often performed using ion exchange resin beds, which exchange calcium and magnesium ions for sodium or potassium ions, or using membrane treatment.
 - i. Ion exchange resin beds can be regenerated in place using a concentrated solution (regeneration brine) of sodium or potassium chloride, or can be cartridge resin beds that can be removed from the facility and regenerated at an off-site location. Regeneration brine typically has a concentration of 8-12 percent (80,000 to 120,000 mg/L) and is often a significant source of salinity in winery process water. Because regeneration brine is a relatively low volume waste stream, isolating the regeneration brine for off-site disposal can result in significant salinity discharge reductions.
 - ii. This General Order includes a schedule to phase out the discharge of water softening ion exchange regeneration brine to the winery process water system. Dischargers can contain the brine for off-site disposal, contract with a service company that provides regeneration of cartridge ion exchange vessels off-site, discontinue water softening ion exchange practices, or replace the ion exchange system with a nanofiltration membrane or reverse osmosis system. Other alternatives may also exist.
- d. Clean in place (CIP) systems use a system of pumps, piping, tanks, and controls to automate cleaning processes. Typical CIP system processes include rinse, caustic wash, water rinse, and disinfectant rinse. CIP systems can be optimized to use less water and cleaning chemicals by configuring the system to reuse and restrengthen

⁹ Winery Wastewater Management and Recycling, Operational Guidelines, published by Grape and Wine Research and Development Corporation, Adelaide, SA, 2011, available at: <<u>https://www.wineaustralia.com/getmedia/72627da6-d28a-42f2-b600-</u> 28fdd5a6c85c/Operational-Guidelines.pdf> accessed July 9, 2018.

between cleaning cycles. Optimization measures can include recycling/reusing caustic solutions, recycling/reusing CIP chemical solutions, optimizing standard operating procedures to decrease chemical doses or cleaning times, using a tiered reuse system for cleaning water, or substituting disinfection agents with ozone or other disinfectants.

- e. Chemical replacement is substitution of chemicals for those with a lower environmental impact. A number of chemical substitutions are available at a winery.
 - i. Tank and pipeline cleaning typically uses sodium hydroxide as the cleaning agent to remove tartrate crystals that form on the surfaces. Replacing sodium hydroxide with potassium hydroxide reduces the damaging effect that sodium has on soil properties and because potassium is a plant nutrient, it is more likely to be taken up by crops when applied to land. Potassium has a higher atomic weight than sodium, which results in a higher FDS concentration; however, the higher FDS loading rate is offset by the crop uptake.
 - ii. Peracetic acid, ozone, or physical treatment can be used in place of sodium hypochlorite. The replacement processes can be used to reduce the salinity of CIP system-related winery process water.
 - a) Peracetic acid is a disinfectant that has been used in the food processing industry since the 1950's. Peracetic acid mixed with water will disintegrate to hydrogen peroxide and acetic acid, which further degrades to water, oxygen, and carbon dioxide.
 - b) Ozone is a highly unstable gas that consists of three oxygen molecules (O₃) and is a disinfectant that degrades quickly; therefore, it must be generated on site. Ozone degrades to the common oxygen molecule in the atmosphere (O₂).
 - c) Ultraviolet (UV) light can be used as a disinfectant within some winery equipment. However, UV light can only be used to disinfect clean equipment because the UV light lacks the ability to penetrate large particles.
 - iii. Steam cleaning can replace some chemical usage. However, if a boiler is used to produce steam, the boiler feed water treatment, which frequently involves ion exchange water softening, can result in a net increase of salinity in the winery process water.

TITLE 27 EXEMPTIONS

38. The process water treatment, storage, and disposal activities described in this General Order are exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste* in California Code of Regulations, title 27, division 2, Subdivision 1, section 20005, et seq. The activities are exempt from the requirements of title 27 so long as the activity meets, and continues to meet, all preconditions listed below. (Cal. Code Regs., tit. 27, § 20090.)

 a. Sewage—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to California Code of Regulations, title 23, division 3, chapter 9, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludge or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable State Water Board promulgated provisions of this division. (Cal. Code Regs., tit. 27, § 20090(a).)

- b. Wastewater—Discharges of process water/wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leach fields if the following conditions are met:
 - i. The applicable Regional Water Board has issued WDRs, reclamation requirements, or waived such issuance;
 - ii. The discharge is in compliance with the applicable water quality control plan; and
 - iii. The process water does not need to be managed according to, California Code of Regulations, title 22, division 4.5, chapter 11, as a hazardous waste. (Cal. Code Regs., tit. 27, § 20090(b).)
- c. Soil Amendments—Use of nonhazardous decomposable waste as a soil amendment pursuant to applicable best management practices, provided that Regional Water Boards may issue waste discharge or reclamation requirements for such use. (Cal. Code Regs., tit. 27, § 20090(f).)
- d. Reuse—Recycling or other use of materials salvaged from waste, or produced by waste treatment, such as scrap metal, compost, and recycled chemicals, provided that discharges of residual wastes from recycling or treatment operations to land shall be according to applicable provisions of this division. (Cal. Code of Regs., tit. 27, § 20090(h).)
- e. Fully Enclosed Units—Waste treatment in fully enclosed facilities, such as tanks, or in concrete lined facilities of limited areal extent, such as oil water separators designed, constructed, and operated according to American Petroleum Institute specifications. (Cal. Code Regs., tit. 27, § 20090(i).)

Table 4: Summary of Winery Process Water Systems and California Code of Regulations, Title 27 Exemptions

Winery Process Water System Element/Activity	Potentially Applicable Exemption(s)
Winery process water collection, treatment, storage, and disposal systems.	Section 20090 (a) Sewage, domestic wastewater, and treated effluent
Applying winery process water to evaporation ponds, storage ponds, percolation ponds, rapid infiltration basins, leach fields, land application areas, spray fields, etc.	Section 20090 (b) Winery process water discharges to land
Application of treated winery process water containing suspended solids to a land application area. Application of pomace or DE, or similar solids to land at agronomic rates.	Section 20090 (f) Soil amendments, nonhazardous decomposable waste
Application of composted solids to a land application area.	Section 20090 (h) Reuse, compost

Winery Process Water System Element/Activity	Potentially Applicable Exemption(s)
Winery process water collection, flow equalization, and treatment in a septic tank, Imhoff tank, sand/media filter, package treatment tank, aeration basin, clarifier, sludge holding/thickening tank, pumping sumps, lined sludge drying beds, etc.	Section 20090 (i) Waste treatment in fully enclosed facilities

CALIFORNIA ENVIRONMENTAL QUALITY ACT

- 39. This General Order is intended to cover both new and existing wineries.
 - a. The adoption of this General Order for existing winery process water treatment systems involving negligible or no expansion is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to California Code of Regulations, title 14, section 15301 (ongoing or existing projects). Negligible expansion is typically defined as less than a 10 percent increase over the existing activity.
 - b. The State Water Board considered the environmental impacts associated with the adoption of this General Order and prepared an Initial Study in accordance with California Code of Regulations, title 14, section 15063. Analysis in the Initial Study and early consultation with the responsible and trustee agencies <did not identify any significant impacts on the environment.> Therefore, a <Mitigated> Negative Declaration was prepared. The State Water Board adopted the <Mitigated> Negative Declaration (Resolution 201X-XXXX) on <DATE>.
 - c. New or expanding wineries (typically defined as greater than a 10-percent increase over the existing activity) are subject to further CEQA evaluation on a site-specific basis by local agencies performing CEQA evaluations of proposed projects. The potential significant environmental impacts from discharges of winery process water can be mitigated to less than significant impacts by compliance with this General Order, the NOA, and any mitigation measures adopted by local agencies.
 - d. <Add finding regarding AB 52> As required by CEQA section 21080.3.1, the State Water Board provided notice of an opportunity for a tribal cultural resource consultation opportunity on <date>. <Tribe names> OR <No> tribes requested formal consultation. <The State Water Board transmitted a project description and draft initial study to the tribes and...>

OTHER REGULATORY ISSUES

- 40. California agriculture is extremely diverse and spans a wide array of growing conditions from northern to southern California. Discharges from agricultural operations can affect water quality.
 - a. Some Regional Water Boards have adopted or will adopt Irrigated Lands Regulatory Program (ILRP) WDRs or conditional waivers of WDRs that address discharges from agricultural activities. Irrigation of an LAA authorized under this General Order may be consistent with the activities addressed in an ILRP order. To be eligible for

coverage under this General Order, Dischargers shall comply with an ILRP WDRs order or conditional waiver of WDRs order if required by the Regional Water Board.

- b. Application of winery process water and supplemental irrigation water to an LAA is a practice consistent with the activities the ILRP regulates. Therefore, compliance with the nitrogen management procedures in the precedential Eastern San Joaquin Agricultural (ESJA) General WDRs (Order WQ 2018-0002) is appropriate. The ESJA General WDRs requires reporting of applied nitrogen divided by the amount of removed nitrogen. Until a numeric nitrogen application rate is established under an ILRP and approved by the Regional Water Board, published crop uptake rates in textbooks or USEPA publications will be the basis of nitrogen loading limits under this General Order.
- 41. Some wineries will compost pomace on site. The State Water Board adopted General Waste Discharge Requirements for Composting Operations (Order WQ 2015-0121-DWQ) on August 4, 2015. Order WQ 2015-0121-DWQ does not require composting operations to apply for coverage if they are at a facility covered under individual or general WDRs that include composting requirements. This General Order contains solid waste requirements that are consistent with Order WQ 2015-0121-DWQ and are protective of water quality. However, a Regional Water Board may require a Discharger to obtain coverage under Order WQ 2015-0121-DWQ for cause. Non-winery based materials (e.g., manure, food scraps, etc.) are not covered by this General Order and additional authorization from the Regional Water Board may be required.
- 42. Land application of compostable materials (e.g., pomace) is regulated by California Code of Regulations, title 14, Division 7. Application to land of compostable materials authorized by this General Order is not likely to be subject to the requirements of Compostable Materials Handling Operations and Facilities Regulatory Requirements, as set forth in California Code of Regulations, title 14, section 17852(a)(24.5)(B)(4), which states:

"This subdivision (a)(24.5) does not apply to:

[T]he final deposition of agricultural by-products material spread on land as authorized by the State Water Resources Control Board or a Regional Water Quality Control Board pursuant to Waste Discharge Requirements, a Waiver of Waste Discharge Requirements, a Resolution, or other issued requirements from the State Water Resources Control Board or a Regional Water Quality Control Board having jurisdiction, provided this final deposition does not adversely affect public health and safety or the environment."

The determination of whether the requirements of subdivision (a)(24.5) apply shall be made by the solid waste enforcement agency.

a. Agricultural by-product material means post-harvest agricultural by-products separated at a processing facility. Agricultural by-product materials include, but are not limited to, solid or semi-solid materials from fruit processing facilities such as stems, leaves, seeds, peels, and off-grade, over-ripe, or under-ripe produce. At some facilities, agricultural by-product materials will be returned to the cropped area where the commodity originated. Application of agricultural by-product materials consistent with the requirements in this General Order is protective of public health and safety or the environment.

43. California Department of Water Resources standards for the construction and destruction of groundwater wells are described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code Section 13801, apply to all monitoring wells.

CALIFORNIA WATER CODE

- 44. Water Code section 13260(a) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, that could affect the quality of the waters of the state, file an RWD to obtain coverage under WDRs or a waiver of WDRs. "Waste" is defined in Water Code section 13050(d). The **<NOI in Attachment F of this General Order / eNOI>** is equivalent to an RWD.
- 45. Consistent with Water Code section 13241, the State Water Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:
 - a. Past, present, and probable future beneficial uses of water.
 - b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
 - c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
 - d. Economic considerations.
 - e. The need for developing housing within the region(s).
 - f. The need to develop and use recycled water.

46. Water Code section 13263(i) states:

"The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:

- (1) The discharges are produced by the same or similar operations.
- (2) The discharges involve the same or similar types of waste.
- (3) The discharges require the same or similar treatment standards.

(4) The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements."

Discharges to land from winery process water treatment systems have certain common characteristics, such as similar constituents, concentrations of constituents, disposal techniques, flow ranges, and they require the same or similar treatment standards. Individual WDRs are not necessary because the discharges are similar and discharge requirements would be similar if individual WDRs were issued. These types of discharges are appropriately regulated under a General Order.

47. Technical and monitoring reports specified in this General Order are required. (Wat. Code, § 13267.) Failing to furnish the reports by the due date, or falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the Discharger. Water Code section 13267 states, in part:

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

The technical reports required by this General Order, the NOA, and the monitoring and reporting program (MRP) are necessary to ensure compliance with this General Order. The burden and cost of preparing the reports is reasonable and consistent with the interest of the state in maintaining water quality.

- 48. Water Code section 13225(c) allows the Regional Water Board to require, where necessary, that any local agency investigate and report on any technical factors involved in water quality control, or to obtain and submit analyses of water. This General Order allows local agencies, with approval from the Regional Water Board, to provide oversight to wineries in their jurisdiction. (Wineries under local agency oversight are required to apply for coverage under this General Order.) This General Order requires local agencies with an oversight program to report any enforcement, inspection, and compliance evaluation activities to the Regional Water Board.
- 49. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This General Order promotes that policy by including discharge specifications and prohibitions, and requiring that, consistent with an implementation schedule, discharges not cause or contribute to exceedances of water quality objectives that have been developed to protect municipal and domestic water supplies. Further, this General Order requires implementation of BPTC measures to control discharges that may degrade waters with quality high than water quality objectives.
- 50. This General Order does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
- 51. The State Water Board has notified potential Dischargers and all other known interested parties of the intent to prescribe WDRs as described in this General Order.

52. The State Water Board, in a public meeting, has heard and considered all comments pertaining to the proposed discharge.

REGIONAL WATER BOARD BASIN PLANS

- 53. Beneficial uses for groundwater are determined by each Regional Water Board and are listed in their respective Basin Plans. Beneficial uses for groundwater include: municipal supply (MUN), industrial service supply (IND), industrial process supply (PROC), fresh water replenishment (FRESH), aquaculture (AQUA), wildlife habitat (WILD), water contact recreation (REC-1), agricultural supply (AGR), and groundwater recharge (GWR). Some beneficial uses only apply to certain geographic areas within regions.
- 54. Basin Plans establish water quality objectives to protect beneficial uses. The objectives may be narrative, numerical, or both. This General Order requires the Discharger to comply with those objectives in receiving groundwater. All WDRs must implement the applicable Regional Water Board's Basin Plan for the region in which the discharge occurs; therefore, this General Order requires Dischargers to comply with all applicable Basin Plan requirements, including any prohibitions and/or water quality objectives, governing the discharge. In the event of a conflict between the requirements of this General Order and the Basin Plan, the more stringent requirement prevails.
- 55. Compliance with the General Order, the NOA, and any mitigation measures will ensure compliance with the applicable Basin Plan.
- 56. Some Regional Water Boards require development of, or participation in, a salt and nutrient management plan (SNMP). SNMPs may require implementation of site-specific BPTC measures or participation in basin-wide offset programs. Some Regional Water Boards may require both short-term, site-specific BPTC measures and participation in long-term basin planning efforts. This General Order requires the Discharger to comply with the SNMP requirements of the Regional Water Board in order to be eligible for coverage.

SUSTAINABILITY CERTIFICATION PROGRAMS

[NOTE: State Water Board staff is currently evaluating the feasibility of a fee reduction and/or other regulatory incentive for wineries enrolled in a sustainability certification program that requires water quality protection practices comparable to this draft winery General Order. Staff does not yet have a recommendation for the Board. Any change will be subject to public review and comment before any Board action is taken.]

IT IS HEREBY ORDERED

IT IS HEREBY ORDERED that pursuant to Water Code section 13263 and 13267, the Discharger, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

For Dischargers that cannot immediately comply with certain prohibitions or discharge specifications as indicated in Discharger's NOI, the Regional Water Board Executive Officer will issue a notice of applicability (NOA) that includes an implementation (compliance)

schedule for any BPTC measures in Attachment **** that are not immediately complied with. All compliance dates are determined from the date of NOA issuance.

A. Prohibitions

Prohibitions apply to all wineries covered under this General Order regardless of tier, unless otherwise specified.

- 1. The direct or indirect discharge of winery process water to surface waters or surface water drainage courses is prohibited.
- 2. The treatment, storage, and/or disposal of waste in or at the winery shall not cause or contribute to a condition of pollution, contamination, or nuisance as defined in Water Code section 13050.
- 3. The use of limited subsurface dispersal systems¹⁰ such as a leach field or dispersal bed to dispose of winery process water at Tier 1 or 2 wineries is prohibited. (See Discharge Specifications for Limited Dispersal Areas for additional discharge specifications that apply to the use of limited subsurface dispersal areas.)
- 4. Use of domestic wastewater or commingled wastewater (wastewater containing winery process water and domestic wastewater in any amount) that is subject to the requirements of the CCR Title 22 water recycling criteria is ineligible for coverage under this General Order and therefore is prohibited.
- 5. The application to land of any amount of domestic wastewater associated solids without additional authorization by the Regional Water Board is prohibited.
- 6. Bypass or overflow of treated or untreated waste is prohibited.
- 7. The discharge of waste to land not owned, operated, controlled, or under contractual agreement with the Discharger is prohibited.
- 8. Operating a recreational vehicle dump station that is available to the public (including clubs, winery membership, or similar) or disposing of portable (chemical) toilet waste at the winery without WDRs issued by the Regional Water Board addressing the waste is prohibited.
- 9. Discharge of waste at a location or in a manner different from that described in this General Order and the Discharger's NOA is prohibited.
- 10. The discharge of waste classified as hazardous (Cal. Code Regs., tit. 23, § 2521(a)), or designated (Wat. Code, § 13173) is prohibited.
- 11. The discharge of waste in violation of, or not consistent with, the applicable Regional Water Board's Basin Plan is prohibited.
- 12. The discharge of ion exchange regeneration brine on-site is prohibited.

¹⁰ The use of subsurface dispersal systems installed over larger areas, especially to provide more accurate irrigation water control to an LAA where a crop is grown, is exempt from this prohibition.

B. Discharge Specifications

1. Discharge Specifications for All Wineries

The following Discharge Specifications apply to all wineries covered under this General Order except for Tier 5, unless otherwise specified. (Tier 5 discharge specifications are contained in Section B.6.)

- a. Winery process water treatment and disposal systems shall be designed for the maximum daily flow of winery process water and organic loading generated, including flows from precipitation.
- b. The siting, design, construction, operation, maintenance, and monitoring of the winery process water system shall comply with the requirements of the applicable Regional Water Board's Basin Plan.
- c. Nuisance odors shall not be perceivable beyond the property line of the winery.
- d. Public contact with winery process water shall be deterred through such means as fences, signs, and other acceptable alternatives.
- e. The Discharger shall comply with any water quality related mitigation measures adopted in a CEQA document addressing the winery.
- f. Tier 1 wineries shall develop and implement written standard operating procedures for all activities that generate significant amounts of winery process water.
- g. Tier 1 wineries that discharge from a winery process water sump(s) to LAAs shall install a flow-weighted composite sampling device(s) to collect representative samples. Wineries that operate more than one sump shall contact the Regional Water Board to determine if a composite sampler is required at every sump.
- h. This General Order is not an NPDES permit issued pursuant to the federal Clean Water Act. Coverage under this General Order does not exempt a facility from the Clean Water Act.
- i. The Discharger shall comply with the implementation schedule included in the NOA for the BPTC measures listed in Attachment ****, which is attached and made part of this General Order.
- j. Discharges of winery process water and/or commingled domestic and winery process water are subject to setback requirements. The Discharger shall comply with the setbacks presented in Table 5. However, some existing sites may not comply with the setbacks provided herein. Such noncomplying sites may be permitted under this General Order if nuisance conditions do not result from the noncompliance. Expansion of a noncomplying process water/wastewater system shall trigger further evaluation of the setbacks. In some cases, more than one setback standard exists. The following procedure shall be implemented when determining the appropriate setback:
 - i. When the setback comes from the California Well Standards, a reduced setback may be allowed based on site-specific conditions; review the California Well Standards for clarification.

- ii. When the setback comes from the OWTS Policy, the setback may have been modified in an approved local agency management program. In addition, the Regional Water Board Executive Officer may allow a reduced setback based upon site-specific conditions (e.g., annular seal in a well, groundwater flow direction near water bodies, treatment/disinfection level of process water/wastewater, etc.).
- iii. When the setback comes from the California Plumbing Code, the Regional Water Board Executive Officer may not reduce the setback.
- iv. Setbacks that are not referenced to a requirement listed above are based on professional judgment and may be revised (increased or reduced) by the Regional Water Board Executive Officer based on site-specific conditions.

Discharges Containing Commingled Domestic and Winery Process Water				
Equipment or Activity	Domestic Well	Stream ¹	Property Line	Lake or Reservoir ²
Septic Tank (or similar equipment) or Collection System ³	150 ft⁴ 100 ft⁵ 50 ft ⁶	50 ft ⁶	5 ft ⁶	200 ft ⁷ 50 ft ⁶
Leach Field ⁸	100 ft ^{5,6}	100 ft ⁶	5 ft ⁶	200 ft ⁷ 100 ft ⁶
Discharges Containing Only Winery Process Water				
Septic Tank (or similar equipment) or Collection System ³	100 ft⁵	50 ft	5 ft	100 ft
Leach Field ⁸	100 ft⁵	50 ft	5 ft	100 ft
Land Application Area	50 ft	25 ft	25 ft	50 ft
Process Water Pond	150 ft	50 ft	50 ft	150 ft
¹ A stream shall be measured from the ordinary high-water mark established by fluctuations of water				

Table 5: Summary of Process Water/Wastewater System Setbacks

A stream shall be measured from the ordinary high-water mark established by fluctuations of water elevation and indicated by characteristics such as shelving, changes in soil character, vegetation type, presence of litter or debris, or other appropriate means.

^{2.} Lake or reservoir boundary measured from the high-water line.

^{3.} Septic Tank (or similar equipment) or Collection System addresses process water/wastewater treatment equipment located below ground or that impedes leak detection by routine visual inspection.

^{4.} Setback established by Onsite Wastewater Treatment System Policy, section 7.5.6, may be modified by a local agency management program.

- ^{5.} California Well Standards, part II, section 8. Site-specific conditions may allow reduced setback or require an increased setback. See discussion in Well Standards.
- ^{6.} Setback established by California Plumbing Code, Appendix H, Table H 1.7.
- ^{7.} Setback established by the Onsite Wastewater Treatment System Policy, section 7.5.5, may be modified by a local agency management program.
- ^{8.} Leach Field includes all subsurface dispersal systems and similarly purposed configurations.

ft refers to feet

2. Discharge Specifications for Land Application Areas (LAAs)

An LAA refers to an area where winery process water and/or storm water mixtures are applied to land for crop irrigation, process water treatment, and disposal. Mixtures of winery process water and storm water are referred to as winery process water. The following discharge specifications for LAAs apply to all wineries that apply winery process water (as applicable based on the facility configuration).

- a. Application of winery process water waste constituents to the LAA shall be at reasonable agronomic rates to preclude creation of a nuisance and/or pollution of groundwater, considering the crop, soil, climate, and irrigation management system. Nitrogen application limits include an interim limit (based on published crop uptake values) and a final limit (based on an ILRP determination of crop-specific nitrogen removal and application rates).
 - i. Interim Limit: Effective immediately, application of total nitrogen compounds (nitrogen in any chemical state) including the nitrogen in fertilizers and source water, shall not exceed the crop demand on an annual basis. Nitrogen application rates shall be consistent with published reference texts or USEPA publications.
 - ii. Final Limit: Effective upon Regional Water Board adoption of an ILRP order that incorporates numeric limitations for nitrogen application and removal, application of total nitrogen compounds (nitrogen in any chemical state) including the nitrogen in fertilizers and source water, shall be consistent with the requirements of the Regional Water Board ILRP order.
- b. Crops shall be grown and harvested from the LAA. Limited use of winery process water for dust control is acceptable. However, excessive use (more than reasonably necessary) of process water for dust control (a de facto disposal option) is not authorized by this general order.
- c. The Discharger shall not apply winery process water to the LAA in excess of the land's ability to infiltrate the water within 24 hours. In addition, the following maximum hydraulic loading rates apply:
 - i. For Tiers 2, 3, and 4 facilities, the winery process water hydraulic loading rate shall not exceed 100,000 gallons per acre per calendar year. Small acreage (less than one acre in aggregate) landscape irrigation, performed solely with agronomically applied process water is exempt from this limit.
 - ii. Tier 1 facilities must be designed to comply with the General Order and the LAA must be capable of accommodating the hydraulic load resulting from winery process water, precipitation, and other ancillary flows.
 - iii. Tier 1 wineries that apply winery process water consisting of at least 30 percent of the total applied water shall install groundwater monitoring wells to determine the potential impact of the winery process water application. The determination shall be made with a water balance that uses the annual (mean) design seasonal precipitation values to calculate the ratio of process water to supplemental

irrigation water plus direct fall precipitation on the LAA.¹¹ Provision F.1.d of this General Order specifies requirements for submittal of groundwater monitoring well installation documents. Small acreage (less than one acre in aggregate) landscape irrigation, performed solely with agronomically applied process water is exempt from this limit.

- d. The discharge to the LAA shall be distributed uniformly on adequate acreage to comply with Discharge Specification B.2.c.
- e. The discharge to the LAA shall not exceed 300 pounds of BOD per acre at any time and an average of 100 pounds of BOD per acre per cycle (minimum 5-day cycle).
- f. Winery process water shall not be applied to the LAA during precipitation events or within 24 hours of forecasted precipitation of at least 0.25-inch, with a greater than 50 percent probability of occurring. In all cases, winery process water shall not be applied to saturated soil. When storm water that falls on an LAA cannot be contained on the LAA, the Discharger shall manage application of process water to prevent storm water from mobilizing waste constituents off the LAA.
- g. The LAA shall be managed to mitigate breeding of mosquitoes including, but not limited to the following:
 - i. There shall be no standing water 24 hours after application of winery process water.
 - ii. Tailwater ditches must be maintained essentially free of emergent, marginal, or floating vegetation.
 - iii. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store winery process water.
 - iv. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.
- h. The LAA shall be inspected as frequently as necessary to ensure compliance with the requirements of this General Order and the NOA.
- i. Application of treated winery process water to the LAAs via flood irrigation shall only occur on furrows graded or irrigation checks configured to achieve uniform distribution, minimize ponding, and provide for tailwater control. Furrow runs and irrigation checks shall not be longer and slopes shall not be greater than what permits reasonably uniform infiltration and maximum practical irrigation efficiency.
- j. Process water application areas shall be allowed to dry for at least five days from the end of winery process water application before the next process water application.
- k. Discharge of treated winery process water, including runoff, spray or droplets from the irrigation system, shall not occur outside the boundaries of the LAAs. Treated winery process water application using sprinklers, flood, or drip irrigation is

¹¹ See the Winery Process Water Treatment and Disposal section of this General Order for precipitation and evapotranspiration data sources.
acceptable if the discharge complies with all requirements of this General Order. Land application of winery process water shall be managed to minimize erosion.

- All pesticides, fertilizers, and other chemicals shall be applied in accordance with the manufacturer's label. In addition, Dischargers shall implement proper handling, storage, disposal, and management of pesticides, fertilizers, and other chemicals to prevent or control the discharge of waste to waters of the state that cause or contribute to exceedances of water quality standards.
- m. Dischargers shall implement water quality protective management practices (e.g., source control or treatment) to prevent erosion, reduce storm water runoff quantity and velocity, and hold fine particles in place.

3. Discharge Specifications for Process Water Ponds

Wineries may operate ponds for process water treatment, stabilization, storage, or disposal purposes. Pond specifications apply to all wineries that employ ponds for any reason regardless of tier.

- a. Process water ponds may only be operated consistent with the Process Water Pond Evaluation requirements contained in Attachment **<C>**.
- b. The freeboard in each pond shall never be less than two feet to provide adequate storage capacity and prevent process water spills. Freeboard shall be measured vertically from the lowest elevation of the pond berm to the pond water surface.
- c. Ponds shall have sufficient capacity to accommodate process water, design seasonal precipitation, and wind driven waves. Design seasonal precipitation shall be based on the following precipitation criteria:
 - i. If process water spills do not occur, existing pond systems may continue to operate at their present size if they were previously permitted by individual WDRs, a general order, or a waiver of WDRs issued by a Regional Water Board. At the Executive Officer's discretion, local agency permitting programs may also be acceptable. If process water spills do occur, the Executive Officer may require the pond size requirement to be consistent with the specification defined in Discharge Specification for Process Water Ponds B.3.c.ii (below).
 - ii. For new or expanding pond systems covered under this General Order, seasonal precipitation used in the pond sizing water balance calculations shall be based on the following:
 - a) The 100-year return annual total precipitation value distributed monthly in accordance with average (mean) precipitation values. The calculations shall demonstrate adequate capacity to maintain two feet of freeboard in the pond(s).
 - b) The Executive Officer may allow a lower standard for the return annual total precipitation value, with approval of a technical report describing how operation of the process water system will not result in process water spills. In no case shall the Executive Officer allow less than a 25-year return annual total precipitation value. If the Discharger seeks relief from the 100-year return annual total precipitation value, the Discharger shall certify that the

Spill Prevention and Emergency Response Plan (Provision F.1.a) has been prepared, and is adequate to respond to forecast conditions using the 100-year return annual total precipitation value distributed monthly in accordance with average (mean) precipitation values. The calculations shall demonstrate adequate capacity to maintain two feet of freeboard in the pond(s).

- d. All ponds shall be managed to mitigate breeding of mosquitoes including, but not limited to the following:
 - i. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - ii. Weeds shall be minimized through control of water depth, a shoreline synthetic liner, harvesting, or herbicides.
 - iii. Dead algae, vegetation, and debris shall be removed from the water surface.
 - iv. Coordination with the local mosquito abatement or vector control district to supplement the measures described above in cases where other methods are infeasible.
- e. Objectionable odors shall not create nuisance conditions beyond the limits of the facility. A dissolved oxygen concentration less than 1.0 mg/L in the upper one foot of any winery process water disposal pond (measured from the pond water surface to a depth of one foot) shall be evidence of the potential to generate objectionable odors.
- f. Burrowing animals active in areas that may compromise the integrity of pond containment shall be promptly controlled and repairs to the containment completed as soon as possible.
- g. The Discharger shall maintain the integrity of all pond liners and repair all significant leaks as needed.
- h. Winery process water treatment ponds shall have a foundation or base capable of providing support for any structures, and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from at least the maximum probable earthquake, as certified by a California registered civil engineer.

4. Discharge Specifications for Limited Dispersal Areas

Limited dispersal areas (LDAs) are subsurface systems typically associated with septic tanks or other onsite treatment systems. The primary disposal mechanism for LDAs is percolation of clarified winery process water to groundwater.

- a. Tier 1, 2, and 5 facilities are not eligible to employ an LDA for disposal of process water. Tier 1 and 2 facilities shall divert winery process water from an LDA consistent with the compliance schedule in Attachment ****.
- b. Tier 3 and 4 wineries shall implement source control activities within the winery to minimize the concentration of FDS in the winery process water. The minimum source control activities required include good housekeeping practices to minimize

discharges (e.g., use brooms or mops to clean spills when possible rather than washing the floor), ceasing the on-site discharge of ion exchange (water softening) regeneration brine, and use of potassium hydroxide (KOH) in place of sodium hydroxide (NaOH). Dischargers can learn about additional source control activities through academic, governmental, industry, or private organizations.

- c. Tier 3 facilities that employ a limited subsurface dispersal area may either convert their system to divert winery process water from the LDA during typical irrigation months¹², or implement the LDA Evaluation provided in Attachment **<D>**. Tier 3 wineries that elect to divert winery process water from the LDA shall complete the conversion consistent with the schedule presented in Attachment ****.
- d. A subsurface dispersal system shall be designed for the hydraulic and winery process water characteristics; comply with the California Plumbing Code; and comply with a local agency siting, design, and building permit requirements.
- e. The subsurface treatment and dispersal system shall not generate objectionable odors that create nuisance conditions beyond the limits of the winery.
- f. LDAs shall maintain a minimum of five-feet between the bottom of the dispersal equipment (e.g., trench or bed bottom) and the first saturated interval (e.g., water table). Seepage pits shall not be used for winery process water disposal.
- g. All subsurface dispersal areas and the replacement area shall be managed to prevent disturbance or compaction of the dispersal area.
 - i. Only shallow rooted vegetation shall be planted at the dispersal area; trees and shrubs shall be removed to prevent roots from damaging the leach field.
 - ii. To prevent compaction, vehicles, heavy equipment, and large animals shall be excluded from the dispersal area.
 - iii. Dispersal areas shall not be paved or covered with plastic sheeting or other materials that limit oxygen transfer.
 - iv. Systems shall be designed to provide not less than 100 percent dispersal replacement area.
- h. Limited repairs may be performed by homeowners or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, section 7044 and/or section 7048). With certain exceptions, anyone performing construction work in California must be licensed by the California Contractors' State License Board. Repairs and service (repairs, pumping, etc.) shall be performed only by a California licensed General Engineering (A), Plumbing (C-36), or Sanitation System (C-42) contractor. The Discharger shall maintain a record of all service/repair activities for a minimum of five years. At a minimum, the record shall include the date, nature of service, service company name, and service company state contractor license number.

¹² Typical irrigation months are months when average evapotranspiration exceeds average precipitation on a monthly basis as described in the findings of this General Order.

- i. Subsurface disposal systems must comply with USEPA Underground Injection Control requirements when classified as a Class V well. Subsurface disposal systems with at least one of the following characteristics are classified as Class V wells:
 - i. The system has the capacity to serve 20 or more persons per day.
 - ii. The system receives process water other than domestic wastewater such as that generated by manufacturing, chemical processing, industrial fluid disposal, automotive repair, or recycling.
 - iii. The system receives sewage containing biological agents (such as wastewater from recreational vehicles or portable toilets).
 - iv. Disposal systems that are classified as Class V wells must be registered with USEPA by completing the online form at: <<u>https://www.epa.gov/uic/forms/underg</u> round-injection-well-registration-pacific-southwest-region-9> or contacting the USEPA UIC Program directly.
- j. Process water dosing systems that employ emitters with small enough diameters to prevent suspended solids from passing shall be constructed with cleanouts or a flushing system to prevent clogging.

5. Discharge Specifications for Septic Tanks and/or OWTS

Some wineries will employ septic tanks and/or onsite process water treatment systems (OWTS), which may include aerobic treatment units, activated sludge, or other treatment processes.

- a. Gauging and limited repairs may be performed by homeowners or contractors as allowed by the Business and Professions Code (Bus. & Prof. Code, section 7044 and/or section 7048). With certain exceptions, anyone performing construction work in California must be licensed by the California Contractors' State License Board. Septic tank, OWTS, and/or leach field service (repairs, pumping, etc.) shall be performed only by a California licensed General Engineering (A), Plumbing (C-36), or Sanitation System (C-42) contractor. The Discharger shall maintain a record of all service/repair activities for a minimum of five years. At a minimum, the record shall include the date, nature of service, service company name, and service company state contractor license number.
- b. Health and Safety Code sections 117400 117450 require septic tank pumping to be registered by the jurisdiction where work is performed. Such service providers may be exempt from the state contractor's licensing requirements if meeting the exceptions described in the Business & Professions Code section 7044 and/or 7048.
- c. Septic tanks shall be pumped when any one of the following conditions exists:
 - i. The combined thickness of sludge and scum exceeds one-third of the tank depth of the first compartment.
 - ii. The scum layer is within 3 inches of the outlet device.
 - iii. The sludge layer is within 8 inches of the outlet device.

- d. For activated sludge processes including aerobic treatment units, the tank shall be pumped consistent with the manufacturer's recommendations or when the sludge, biosolids, or scum interferes with the operation of the system.
- e. Septage is the liquid, solid, and semisolid material that results from wastewater treatment in a septic tank, which must be pumped, hauled, treated, and disposed of properly. Commingled wastewater discharged to a septic tank and/or OWTS are also subject to the requirements in 40 CFR Part 503. Septage disposal, whether generated by commingled flow or not, shall only be to a legal disposal site that has been issued WDRs by a Regional Water Board allowing septage disposal. Septage shall be handled in such a manner as to prevent its reaching surface waters or watercourses. Some wineries exist near the California and Oregon state line. Those wineries may dispose of septage in Oregon and shall report the disposal as required in the MRP.
- f. Tier 3 and 4 wineries shall implement salinity source control activities within the winery to minimize the concentration of FDS in the winery process water. The minimum source control activities required include good housekeeping practices to minimize discharges (e.g., use brooms or mops to clean spills when possible rather than washing the floor), ceasing the on-site discharge of ion exchange (water softening) regeneration brine, and use of potassium hydroxide in place of sodium hydroxide. Dischargers can learn about additional source control activities through an industry group, local appellation group, or from a sustainability program designed for wineries.

6. Discharge Specifications for Tank and Haul Facilities (Tier 5)

Some wineries will employ storage tanks and will haul process water to a Regional Water Board-permitted facility (e.g., municipal wastewater treatment system).

- a. Storage tanks shall allow visual leak detection or a means to detect or gauge tank contents to determine if the tank is leaking.
- b. Storage tanks shall be equipped with an automatic shutoff valve and/or audible alarm to prevent overfilling the tank.
- c. Storage tanks shall not be the source of objectionable odors beyond the limits of the facility. A dissolved oxygen concentration less than 1.0 mg/L in the upper one foot of any stored process water (measured from the water surface to a depth of one foot) shall be evidence of the potential to generate objectionable odors.
- d. Storage tanks shall have a foundation or base capable of providing support for any structures, and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift and all effects of ground motions resulting from at least the maximum probable earthquake, as certified by a California registered civil engineer.
- e. Storage tanks shall have a gauge or provide for measurements to allow determination of the volume of process water stored.
- f. Tier 5 facilities shall only haul process water to a Regional Water Board-permitted wastewater facility. Facilities located near the Oregon border may transport the

process water to a permitted Oregon facility with Regional Water Board approval. On-site disposal of process water requires enrollment in the appropriate tier ranking.

- g. Storage tanks shall only be used for process water. Domestic wastewater may not be commingled with process water in the storage tank.
- h. Pomace generated at tank and haul facilities shall be stored in bins and removed from the site or applied to land application areas as soon as possible. Tier 5 facilities shall not compost solids on-site.

C. Effluent Discharge Specifications for Tier 1 Facilities

- 1. Facility Salinity Criterion
 - a. For Tier 1 facilities, the flow-weighted, calendar year average effluent discharge FDS concentration shall not exceed the calendar year average FDS concentration of the source water plus 400 mg/L. When source water is from more than one source, the source water FDS concentration shall be a flow-weighted average of all sources.
 - b. Compliance shall be determined once per year and reported in the annual report. Compliance shall be determined by comparing the flow-weighted annual average FDS concentration of the effluent discharge with the annual average FDS concentration of the source water plus 400 mg/L. The FDS effluent concentration samples shall be collected immediately upstream of process water dispersal (e.g., process water sump or stabilization pond prior to land application, or from a percolation pond (if the use is allowed). If the effluent discharge exceeds the facility salinity criterion, the Discharger may be required to prepare a Salinity BPTC Evaluation and Implementation Report. See Provision F.1.c for additional information.

D. Solids Disposal Specifications

Solids as used in this General Order means the residual solids, including grape stems and pomace, diatomaceous earth, semi-solid, and liquid residues removed during grape processing, wine making, or cleaning of wine making equipment. Some wineries will comingle domestic wastewater with the winery process water. Solids and semi-solids generated from comingled wastewater are additionally subject to the requirements in 40 CFR Part 503. Solids disposal specifications apply to all facilities regardless of tier except Tier 5 facilities, unless otherwise specified. (Tier 5 facilities have special solid waste management requirements, see Discharge Specification B.6.h.)

1. Collected screenings, sludges, septage, and other solids or semi-solids removed from winery process water that will not and/or cannot be used agronomically shall be disposed of in a manner approved by the appropriate Regional Water Board's Executive Officer and consistent with the Consolidated Requirements for Treatment, Storage, Processing, or Disposal of Solid Waste (Cal. Code Regs., tit. 27, div. 2). Removal for further treatment, disposal, or reuse at disposal sites operated in accordance with valid WDRs issued by the State Water Board or Regional Water Board will satisfy this specification.

- 2. Sludge and residual solids shall be removed from sumps, screens, tanks, ponds, and other components of the treatment system as needed to ensure optimal winery process water treatment system operation and adequate hydraulic capacity.
- 3. Sludges that contain any amount of domestic wastewater solids are ineligible for onsite land application and must be hauled to a Regional Water Board-permitted facility.
- 4. Application of pond or tank sludge to an onsite land application area requires Regional Water Board Executive Officer approval. Contact the Regional Water Board for waste characterization requirements. Any pond or tank sludge shall comply with the nitrogen management requirements in Discharge Specification B.2.a and be included in the annual monitoring report.
- 5. Pomace, DE, and/or compost shall not be stored on unpaved ground. Acceptable alternatives include storage on paved areas that are equipped with liquid collection systems or other alternatives that prevent generation of leachate, such as roofed areas, use of ag bags for well-drained materials, or bins.
- 6. Any handling and storage of solids at the winery shall be controlled and contained in a manner that minimizes leachate formation and infiltration of waste constituents into soils in a mass or at concentrations that will violate the groundwater limitations of this General Order, or allow runoff to a surface water body.
- 7. Pomace may be composted on-site if the pomace area complies with the solids disposal specifications.
- 8. This General Order does not allow importing compostable materials/solids that did not originate at the winery and are not associated with winery processes (e.g., manure). Dischargers must seek additional authorization from the Regional Water Board to import compostable materials.
- Tier 5 facilities have special solid waste management requirements, see Discharge Specification B.6.h.

E. Groundwater Limitations

Release of waste constituents from any treatment unit, delivery system, storage areas, land application areas, or other discharge shall not adversely affect beneficial uses of groundwater or cause an exceedance of any applicable Basin Plan water quality objectives for groundwater or surface water.

F. Provisions

1. Technical Report Preparation Requirements

a. **Spill Prevention and Emergency Response Plan.** If the Discharger seeks relief from the 100-year return annual total precipitation design value for ponds, the Discharger shall prepare and submit to the Regional Water Board a Spill Prevention and Emergency Response Plan (Response Plan). The Response Plan shall be adequate to respond to forecast conditions using the 100-year return annual total precipitation value distributed monthly in accordance with average (mean) precipitation values. The calculations shall demonstrate adequate capacity to maintain two feet of freeboard in the pond(s). The Response Plan shall also

i. (

describe operation and maintenance activities to prevent accidental releases of winery process water, and to effectively respond to such releases, minimizing the environmental impact. The Response Plan shall be submitted to the Regional Water Board consistent with the schedule requirements in Attachment ****.

- b. Standard Operating Procedures. Tier 1 facilities shall develop written standard operating procedures (SOPs) to ensure uniformity in process, elimination of waste, defects, duplication of tasks, etc. Dischargers may adapt an existing approach or develop their own processes. The SOP manual shall be submitted to the Regional Water Board consistent with the schedule requirements in Attachment .
- c. Salinity BPTC Evaluation and Implementation Report. If a Tier 1 facility exceeds the facility salinity criterion (FSC) contained in this General Order, then a Salinity BPTC Evaluation and Implementation Report (Salinity BPTC Report) shall be prepared and submitted within 120 days of a written request by the Regional Water Board Executive Officer. The Salinity BPTC Report shall include measures and an implementation schedule to comply with the FSC or explain why the compliance is not feasible and necessary for the protection of water quality. If the additional BPTC measures do not result in compliance with the FSC, the Regional Water Board Executive Officer may require the Discharger to submit an RWD to obtain sitespecific WDRs.
- d. Groundwater Monitoring Well Installation. If required due to site-specific conditions (e.g., Tier 1 land application process water application rate, or process water pond conditions), the Discharger shall submit a technical report describing the proposed groundwater monitoring well network or evaluating an existing groundwater monitoring well network. The Discharger shall submit a Groundwater Monitoring Well Installation Work Plan¹³ and a Groundwater Sampling and Analysis Plan prepared under the supervision of a California licensed Civil Engineer or Professional Geologist for review and approval. The work plan shall describe the installation of groundwater monitoring wells that monitor groundwater upgradient and downgradient of the feature of concern (process water pond or LAA). All groundwater monitoring wells or other groundwater sample collection methods shall be designed to yield samples representative of the uppermost portion of the first saturated interval below the water table. The work plan shall specify sampling techniques designed to ensure that representative samples of sufficient volume are obtained and analyzed.

Upon completion of the groundwater well installation, a **Groundwater Monitoring Well Installation Report** shall be submitted within **90 days** of

¹³ Some Dischargers may be tasked with characterizing groundwater quality related to a winery process water pond or limited dispersal area evaluation. Grab groundwater sampling may be acceptable to provide those evaluations. The Discharger shall consult with the Regional Water Board staff to determine the appropriate level of effort in collecting groundwater samples. In cases were groundwater monitoring is required at a winery process water pond or land application area, installation of groundwater monitoring wells is the only acceptable approach.

completing the field work. The report shall describe the well installations, and identify, describe, and justify any deviations from the approved work plan.

2. Standard Provisions

- a. Bypass (the intentional diversion of waste streams from any portion of a treatment system) is prohibited. The Regional Water Board and/or the Executive Officer may take enforcement action against the Discharger for bypass unless:
 - i. Unavoidable and/or Unscheduled Bypass
 - a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment systems that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production), and
 - b) There were no feasible alternatives to bypass, such as the use of auxiliary treatment systems or retention of untreated waste. This condition is not satisfied if adequate backup equipment or winery process water storage systems should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or
 - ii. Scheduled Bypass
 - a) Bypass is required for essential maintenance to ensure efficient operation,
 - b) Groundwater limitations are not exceeded,
 - c) The Discharger notifies the Regional Water Board's Executive Officer **10 days** in advance, and
 - d) The prohibition against discharge to surface water is not violated.
- b. A Discharger that wishes to establish the affirmative defense of an upset (see definition under Provision F.5) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that all the following is true:
 - i. An upset occurred and the cause(s) can be identified.
 - ii. The winery process water treatment system was being properly operated at the time of the upset.
 - iii. The Discharger submitted notice of the upset as required in Provision F.3.a.
 - iv. The Discharger complied with any remedial measures required by this General Order, the NOA, or direction from the Regional Water Board's Executive Officer. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof.

- c. The requirements prescribed herein do not authorize the commission of any act causing damage to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This General Order does not convey any property rights or exclusive privileges and does not create a vested right to continue to discharge winery process water.
- d. This General Order does not relieve the Discharger from responsibility to obtain other necessary local, state, or federal permits to construct facilities necessary for compliance with this General Order, nor does this General Order prevent imposition of additional standards, requirements, or conditions by any other agency.
- e. The prohibitions, requirements, limitations, and provisions of this General Order are severable. If any provision of this General Order is held invalid, the remainder of this General Order shall not be affected.
- f. To the maximum extent possible, the winery process water treatment system shall be sited and/or designed to prevent flood or surface water from inundating winery process water ponds or otherwise render the winery process water treatment system inoperable. For design purposes, the most recent Federal Emergency Management Agency (FEMA) approved 100-year base flood elevations shall be used.
- g. The Discharger shall ensure that all site operating personnel are familiar with the contents of the NOA and this General Order. A copy of this General Order, the NOA, and technical reports required by this General Order (not including previously submitted monitoring reports) shall be kept at the facility for reference by operating personnel.
- h. Access to the winery process water treatment system shall be limited to authorized persons.
- i. The Discharger shall comply with all the conditions of this General Order. Any noncompliance with this General Order constitutes a violation of the California Water Code and/or appropriate Regional Water Board's Basin Plan and may be grounds for an enforcement action.
- j. The State Water Board will review this General Order periodically and will revise requirements when necessary.
- k. After notice and opportunity for a hearing, coverage of this General Order may be terminated or modified for cause including, but not limited to, any of the following:
 - i. Violation of any of the terms or conditions contained in this General Order.
 - ii. Obtaining this General Order by misrepresentation, or failure to disclose fully all relevant facts.
 - iii. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge.
 - iv. A material change in the character, location, or volume of discharge.
- I. Before making a material change in the character, location, or volume of discharge, the Discharger shall notify the Regional Water Board Executive Officer. A material change includes, but is not limited to, any of the following:

- i. An increase in area or depth used for waste disposal beyond that specified in the NOA.
- ii. A significant change in disposal method, location, or volume (e.g., change from land application to percolation pond).

The Regional Water Board's Executive Officer may require that an RWD or NOI be submitted.

- m. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or off-site reuse of treated winery process water, used to justify the capacity authorized herein and assure compliance with this General Order, the Discharger shall notify the Regional Water Board's Executive Officer in writing of the situation and of what measures have been taken or are being taken to ensure full compliance with this General Order and the NOA.
- n. Except for material determined to be confidential in accordance with California law, all reports prepared in accordance with terms of this General Order shall be available for public inspection at the offices of the Regional Water Board. Data on waste discharges, water quality, geology, and hydrogeology are not confidential.
- o. The Discharger shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with this General Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.
- p. The Discharger shall maintain in good working order, and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with this General Order and the NOA.
- q. The Discharger shall permit representatives of the Regional Water Board, the State Water Board, and/or local agency¹⁴ upon presentation of credentials, to:
 - i. Enter premises where wastes are treated, stored, or disposed of, and facilities in which any records are kept.
 - ii. Copy any records required under terms and conditions of this General Order.
 - iii. Inspect at reasonable hours, monitoring equipment required by this General Order.
 - iv. Sample, photograph, and/or video record any discharge, waste material, waste treatment system, or monitoring device.
- r. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this General Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such

¹⁴ Local agency refers to a local agency authorized to implement the requirements of this General Order. This does not limit a local agency's authority to inspect facilities consistent with the agency's authority.

safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

- s. The fact that it would have been necessary to halt or reduce the permitted activity to maintain compliance with this General Order shall not be a defense for the Discharger's violations of the General Order.
- t. The discharge shall remain within the disposal area(s) designated in the NOA at all times.
- u. In the event of any change in control or ownership of the winery or winery process water disposal areas, the Discharger must immediately notify the succeeding owner or operator of the existence of this General Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board's Executive Officer.
- v. To assume operation as Discharger under this General Order, the succeeding owner or operator must submit a new NOI to the Regional Water Board. Upon review of the NOI, Regional Water Board staff will determine if coverage under this General Order is still appropriate. The Regional Water Board's Executive Officer will issue an NOA when coverage under this General Order has been authorized for the new owner/operator.
- w. The Discharger shall pay an annual fee to the State Water Board in accordance with the fee schedule for each fiscal year. (Cal. Code Regs., tit. 23, § 2200.) Fees are based on threat to water quality and are subject to revision by the State Water Board. Annual invoices are issued by the State Water Board for the state fiscal year (July 1 to June 30).

3. General Reporting Requirements:

a. If the Discharger does not comply, or will be unable to comply, with pond freeboard, loading rates, bypass, or overflow issues, the Discharger shall notify the Regional Water Board staff by telephone. Current phone numbers for Regional Water Board offices may be found on the NOA or on the Internet at:

<http://www.waterboards.ca.gov/about_us/contact_us/rwqcbs_directory.shtml>

Notification shall occur as soon as the Discharger or its agents have knowledge of such noncompliance or potential for noncompliance, in no case longer than **24 hours** from the time of occurrence, and the Discharger shall confirm this notification in writing within **10 days**. The written notification shall state the date, time, nature, cause of noncompliance, immediate response action, and a schedule for corrective actions.

b. In the event of a winery process water containment failure, the Discharger shall immediately notify California Office of Emergency Services (Cal OES) at (800) 852-7550. Notification shall be provided as soon as possible and when the notice can be provided without substantially impeding cleanup or other emergency measures. (Water Code § 13271.) A written report to the Regional Water Board's Executive Officer shall be submitted within **10 days** of the failure describing the cause of the failure and how a recurrence will be prevented. Such a failure shall be promptly corrected in accordance with the requirements of this General Order.

- c. All reports submitted in response to this General Order, including the Notice of Intent and monitoring reports, shall be signed by a person identified below:
 - i. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - ii. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - iii. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - iv. A duly authorized representative of a person described above if all the following are completed:
 - a) The authorization is made in writing by a person described above.
 - b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of facility manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)
 - c) The written authorization is submitted to the Regional Water Board.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

d. The Discharger shall electronically submit a copy of each monitoring report and any other reports required by this General Order to the appropriate Regional Water Board, as directed in the NOA.

4. Monitoring Requirements

- a. The Discharger shall comply with the MRP issued with the NOA and any future revisions, as specified by the appropriate Regional Water Board's Executive Officer. A model MRP is provided in Attachment **<A>** of this General Order. However, the Executive Officer may modify or replace the MRP for site-specific treatment and disposal conditions when issuing the NOA, or revise the MRP when deemed necessary.
- b. Consistent with Water Code section 13176, all analyses shall be conducted by a laboratory that has accreditation for the analyses by the State Water Board Division of Drinking Water (DDW) Environmental Laboratory Accreditation Program (ELAP). Field test instruments (such those used to test pH, dissolved oxygen, turbidity, and temperature) may be used provided that:

- i. The user is trained in proper use and maintenance of the instruments;
- ii. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
- iii. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
- iv. Field calibration reports are maintained and available for at least three years.
- c. The Discharger shall report results of any monitoring done more frequently than required by the MRP and shall be reported in the next regularly scheduled monitoring report. Values obtained through additional monitoring shall be used in calculations as appropriate.
- d. Treated winery process water samples shall be collected downstream of all treatment works where a sample representative of the discharge can be obtained prior to disposal. Samples collected for FSC purposes shall be collected as described in Section C, Effluent Discharge Specifications for Tier 1 Facilities.
- e. The Discharger shall furnish, within a reasonable time, any information the Regional Water Board's staff may request to determine whether cause exists for modifying, revoking, reissuing, or terminating the Discharger's coverage under this General Order. The Discharger shall also furnish to the Regional Water Board's staff upon request, copies of records required to be kept by this General Order.
- f. All noncompliance issues shall be reported with the next regularly scheduled monitoring report in addition to any other reporting requirements.
- g. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this General Order, and records of all data used to complete the application for this General Order. Records shall be maintained for a minimum of **3 years** from the date of the sample, measurement, report, or application. This period may be extended during any unresolved litigation regarding this discharge or when requested by the Regional Water Board's Executive Officer.
- h. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed MRP shall be properly maintained and calibrated as recommended by the manufacturer to ensure their continued accuracy.
- i. The Discharger shall construct all groundwater monitoring wells to meet or exceed the standards stated in Department of Water Resources' Bulletins 74-81, 74-90, and subsequent revisions unless deviation is approved by the Regional Water Board Executive Officer or local well construction enforcing agency, and shall comply with the reporting provisions for wells. (Water Code § 13751)

5. Definitions

a. The daily maximum loading rate is defined as follows:

$$M = \frac{8.34 \times C \times V}{A}$$

Where: M = mass in pounds per acre per day

C = concentration of parameter in mg/L

8.34 = unit conversion factor

A = area on which winery process water was applied, in acres

V = volume of winery process water applied to the LAA, in million gallons

- b. The <u>cycle average</u> is defined as the daily maximum loading rate divided by the cycle time (i.e., irrigation cycle length from start of irrigation to start of next irrigation event, in days).
- c. The <u>daily maximum concentration</u> is the highest measurement recorded for any grab or composite sample collected during a day in a calendar month.
- d. A <u>day</u> is the mean solar day of 24 hours beginning at mean midnight. All references to day in this General Order are calendar days.
- e. A grab sample is an individual sample collected in less than 15 minutes.
- f. A <u>flow-weighted sample</u> is collected at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow. The duration of the sampling period shall be specified in the monitoring report.
- g. <u>Upset</u> means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this General Order with all attachments is a full, true, and correct copy of a General Order adopted by the State Water Board, on Month DD, 201X.

AYE: NAY: ABSENT: ABSTAIN:

> Jeanine Townsend Clerk to the Board

ATTACHMENT A: MONITORING AND REPORTING PROGRAM ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

This monitoring and reporting program (MRP) describes requirements for monitoring a winery process water treatment system that is covered under State Water Resources Control Board (State Water Board) Order WQ 201Y-XXXX General Waste Discharge Requirements for Winery Process Water Treatment Systems (General Order). This MRP is issued pursuant to California Water Code (Water Code) section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Regional Water Quality Control Board (Regional Water Board) Executive Officer. Some Dischargers may be administratively supervised by a local agency. Local agencies may require additional monitoring and reporting. A local agency program does not replace the monitoring requirements contained herein.

The State Water Board and Regional Water Boards have transitioned to a paperless office system. Additional information regarding submittal of electronic reports is provided under the Reporting section of this MRP.

Water Code section 13267(b)(1) states, in part:

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

Water Code section 13268 states, in part:

"(a) (1) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267, or failing or refusing to furnish a statement of compliance as required by subdivision (b) of section 13399.2, or falsifying any information provided therein, is guilty of a misdemeanor, and may be liable civilly in accordance with subdivision (b).

(b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with Section 13323) of Chapter 5 for a violation of subdivision (a)

in an amount which shall not exceed one thousand dollars (\$1,000) for each day in which the violation occurs."

The Discharger owns and operates the winery that is subject to the Notice of Applicability (NOA) for Order WQ 201Y-XXXX-DWQ. The monitoring reports are necessary to ensure that the Discharger complies with the NOA and General Order. Pursuant to Water Code section 13267, the Discharger shall implement this MRP and shall submit the monitoring reports described herein.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. For analytical samples, the name of the sampler, time, date, location, bottle type, and any preservative used for each sample shall be recorded on the analytical sample chain of custody form. The chain of custody form must also contain all custody information including date, time, and to whom samples were relinquished.

Field test instruments (such as those used to test pH and dissolved oxygen) may be used, provided that:

- 1. The user is trained in proper use and maintenance of the instruments.
- 2. The instruments are calibrated prior to monitoring events at the frequency recommended by the manufacturer.
- 3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency.
- 4. Field calibration reports are maintained and available for at least three years.

SOURCE WATER MONITORING

Tier 1 Dischargers shall characterize the facility water supply. Each groundwater supply well or surface water supply used at the facility shall be sampled as follows. Domestic supply wells that only serve potable water that will not become part of the winery process water are exempt from this requirement.

Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency
Total Flow	million gallons	Estimate / Meter ¹	Continuous	
Fixed Dissolved Solids	mg/L	Grab	Monthly	Annually
^{1.} A meter is not required at all supply locations if the Discharger can accurately estimate the amount of water produced (e.g., estimate based on other meters at the facility). Total flow shall be collected from each water supply source or water supply well to allow the Discharger to calculate the flow-weighted annual average of the fixed dissolved solids concentration from each water source. mg/L denotes milligrams per liter				

WINE PRODUCED OR GRAPE JUICE STORED

Wine produced or grape juice stored shall be calculated as specified below. Facilities that do not transfer product off-site for further processing or packaging shall not report wine/grape juice storage.

Parameter	Units	Sample Type	Reporting Frequency		
Wine Produced	cases/year ^{1,2}	Calculated	Annually		
Wine/Grape Juice Storage ³ gallons/year Calculated Annually					
^{1.} Cases/vear refers to the number of wine cases produced each calendar year.					

A case is defined as 12 750-mL bottles or approximately 9.0 liters (2.38 gallons) of wine.

 Some facilities provide wine/grape juice storage and the product is transferred for packaging elsewhere. Storage facilities shall report the number of gallons stored and shipped off-site.

WINERY PROCESS WATER FLOW RATE MONITORING

Winery process water flow rate shall be metered or calculated as specified below:

Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency
Winery Process Water Flow	gallons/day1	Calculated or Metered ²	Daily ¹	Quarterly ³
Wineries that discharge winery process water to ponds in compliance with this General Order can report the gallons/day as a monthly average. (Daily monitoring is not required.)				
2. Winery process water flow shall be metered for Tier 1 wineries.				
3. Quarterly reporting is required for Ti	er 1 wineries. Al	l other tier wineries	s shall report annua	lly.

SEPTIC TANK MONITORING

Septic tanks shall be inspected and/or pumped at least as frequently as described below or at the manufacturer's recommendations. Inspections of sludge and scum depth are not required if the tanks are properly sized and pumped at least annually.

Parameter	Units	Measurement Type	Inspection/Reporting Frequency
Sludge depth and scum thickness in each compartment of each tank	Feet	Staff Gauge	Annually
Distance between bottom of scum layer and bottom of outlet device	Inches	Staff Gauge	Annually
Distance between top of sludge layer and bottom of outlet device	Inches	Staff Gauge	Annually
Effluent filter condition (if equipped, clean as needed)	Not Applicable	Not Applicable	Annually

If a septic tank is pumped during the year, the pumping report shall be submitted with the annual report. At a minimum, the record shall include the date, nature of service, service company name, and service company license number.

ADVANCED TREATMENT OWTS MONITORING

Aerobic treatment units or activated sludge systems may be integrated in a treatment train and all components shall be inspected consistent with the manufacturer recommendations to verify operational status. Because aerobic treatment units and/or activated sludge systems generate more biosolids than septic systems, more frequent inspection and and/or pumping may be required to prevent discharge of solids to the dispersal area. Some aerobic treatment units and/or activated sludge systems employ a settling tank or chamber upstream of the aeration chamber. Settling tanks shall be inspected as shown unless the system design allows for less frequent monitoring as described in the Discharger's application.

Parameter	Units	Measurement Type	Inspection/Reporting Frequency		
Sludge depth and scum thickness in each compartment of each tank	Feet	Staff Gauge	Quarterly ^{1,2}		
Distance between bottom of scum layer and bottom of outlet device	Inches	Staff Gauge	Quarterly ^{1,2}		
Distance between top of sludge layer and bottom of outlet device	Inches	Staff Gauge	Quarterly ^{1,2}		
Effluent filter condition (if equipped, clean as needed)	Not Applicable	Not Applicable	Quarterly ^{1,2}		
 Inspections shall be performed consistent with the manufacturer's recommendations or quarterly, whichever is more frequent. 					

^{2.} Quarterly reporting is required for Tier 1 wineries. All other tier wineries shall report annually.

All pumping reports shall be submitted with the next regularly scheduled monitoring report. At a minimum, the record shall include the date, nature of service, service company name, and service company license number.

SUBSURFACE DISCHARGE TO LIMITED DISPERSAL AREA

Subsurface discharge to a limited dispersal area (LDA) may be configured many different ways (e.g., traditional leach field, pressure-dosed, gravel less, etc.). In general, monitoring shall be sufficient to determine if winery process water is evenly applied, the dispersal area is not saturated, burrowing animals and/or deep-rooted plants are not present, and odors are not present. Inspection of dosing pump controllers, automatic distribution valves, etc. is required to maintain optimum treatment in the dispersal area (and any sand or media filter if present). Monitoring shall include, at a minimum, the following:

Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency
Winery process water to LDA calendar dates ¹	Dates			Annually
Pump controllers, automatic valves, etc. ²		Observation	Quarterly	Annually
Nuisance Odor Condition		Observation	Quarterly	Annually
Saturated Soil Conditions ³		Observation	Quarterly	Annually
Plant Growth ^₄		Observation	Quarterly	Annually
Vectors or Animal Burrowing ⁵		Observation	Quarterly	Annually
1. Peparting discharge of winery proce	ce water to a limi	tod disportal area	(LDA) is required f	or Tior 2

Reporting discharge of winery process water to a limited dispersal area (LDA) is required for Tier 3 wineries that are only allowed to discharge process water to the LDA seasonally.

- ^{2.} All pump controllers and automatic distribution valves shall be inspected for proper operation as recommended by the manufacturer.
- ³ The Discharger shall inspect the dispersal area for saturated conditions.
- ^{4.} Shallow-rooted plants are generally desirable, deep-rooted plants such as trees shall be removed as necessary.
- ^{5.} Evidence of burrowing animals shall be immediately investigated and burrowing animal populations controlled as necessary.

WINERY PROCESS WATER POND MONITORING

All winery process water ponds (all tiers) shall be monitored as specified below:

Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency
Dissolved Oxygen ¹	mg/L	Grab	Monthly ²	Quarterly ³
Fixed Dissolved Solids	mg/L	Grab	Monthly ²	Quarterly ³
Biochemical Oxygen Demand	mg/L	Grab	Monthly ²	Quarterly ³
Total Nitrogen	mg/L	Grab	Monthly ²	Quarterly ³
Freeboard	0.1 feet	Measurement	Monthly ²	Quarterly ³
Nuisance Odor Condition		Observation	Monthly ²	Quarterly ³
Berm Condition ⁴	Observation Monthly ² Q		Quarterly ³	
¹ Dissolved oxygen shall be measured in the upper one foot of process water. (Depth $0 - 1$ ft.)				
^{2.} Monthly sampling is required for Tie	er 1 wineries. All	l other tier wineries	s shall sample quarter	ily.

Ра	rameter	Units	Sample Type	Sample Frequency	Reporting Frequency	
3.	Quarterly reporting is required for Tier 1 wineries. All other tier wineries shall report annually.					
4.	Berm condition evaluation: report presence/absence of burrowing animals, wave-caused erosion, or similar					
	conditions.					
mc	/L denotes milligrams per liter.				A	

WINERY PROCESS WATER SUMP MONITORING

Tier 1 wineries that discharge from a winery process water sump to land application areas (LAAs) shall install a flow-weighted composite sampling device(s) to collect representative samples. Tier 1 wineries that operate more than one sump shall contact the Regional Water Board to determine if every sump shall be monitored. The sump(s) shall be monitored as specified below:

Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency
Fixed Dissolved Solids	mg/L	Composite	Monthly	Quarterly
Biochemical Oxygen Demand	mg/L	Composite	Monthly	Quarterly
Total Nitrogen	mg/L	Composite	Monthly	Quarterly
Composite samples shall be flow-weighted composite samples.				
mg/L denotes milligrams per liter.				

LAND APPLICATION AREA (LAA) MONITORING

The Discharger shall monitor LAAs when winery process water is applied. Only Tier 1 wineries must monitor and report BOD and nitrogen loading rates. LAAs shall be monitored as specified below:

Parameter	Units	Sample Type	Sample Frequency	Reporting Frequency	
Applied Winery Process Water ¹	gpd	Estimate/Meter ¹	Daily	Quarterly ²	
Acreage Applied ³	acres	Calculated	Daily	Quarterly ²	
BOD Loading Rate (daily) ^{4,8}	lbs/acre	Calculated	Daily⁴	Quarterly ²	
BOD Loading Rate (average) ^{4,5}	lbs/acre/cycle	Calculated	NA	Quarterly ²	
Nitrogen Loading Rate ^{4,8}	lbs/acre	Calculated	NA	Annually	
Fertilizer/Other Nitrogen Source ^{6,8}	lbs/acre	Calculated		Annually	
Sum of Nitrogen Applied ⁷	lbs/acre	Calculated		Annually	
Crop Nitrogen Uptake Rate	lbs/acre	Publication ⁹		Annually	
 Applied winery process water shall 	be metered for Ti	er 1 wineries All oth	ner tier wineries ma	av calculate the	

^{1.} Applied winery process water shall be metered for Tier 1 wineries. All other tier wineries may calculate the approximate amount of applied winery process water.

^{2.} Quarterly reporting is required for Tier 1 wineries. All other tier wineries shall report annually.

^{3.} Acreage applied denotes the acreage to which winery process water is applied on a daily basis. Dates, acreage, and irrigation zone(s) shall be reported for every day process water application occurs.

Ра	rameter	Units	Sample Type	Sample Frequency	Reporting Frequency
4.	Tier 1 wineries shall report BOD and recent pond or sump sample events	d Total Nitrogen lo s shall be used in	bading rates. BOD a the calculations.	and Nitrogen value	es from the most
5.	The average BOD loading rate is ca between applications. (The irrigation	alculated by dividion zone rest perior	ng the BOD loading d between applicatio	rate by the numbe	er of days ess water.)
6.	Tier 1 wineries shall report the Ferti include fertilizers, irrigation water co	lizer/Other Nitrogontaining nitrogen	en Source nitrogen a , etc.	applied. Other sou	irces of nitrogen
7.	The Sum of Nitrogen Applied is the	arithmetic sum of	all nitrogen applicat	ions for each irriga	ation zone.
8.	^{3.} The BOD or Nitrogen loading rate originating from process water or irrigation water shall be calculated as				calculated as
	follows:				
		834 × C × V			
	Μ	$=\frac{0.01\times0\times1}{4}$			
	Where:	А		$\langle \rangle$	
	M = mass in pounds per acre per d	lay C = con	centration of parame	eter in mg/L	
	8.34 = unit conversion factor	A = area	a on which winery pr	ocess water was a	applied, in acres
	V = volume of winery process wate	er applied to the L	AA, in million gallons	; (e.g., 50,000 gal	= 0.05 Mgal)
9.	^{9.} Publication resource shall be consistent with the requirements of Discharge Specification B.2.a.				
gpo	gpd denotes gallons per day, mg/L denotes milligrams per liter, lbs/acre denotes pounds per acre.				

TANK AND HAUL PROCESS WATER DISPOSAL

Tier 5 wineries that employ a storage tank and haul process water to a disposal site shall report every transportation and disposal event as specified below.

Parameter	Units	Record Keeping Requirement	Reporting Frequency
Gallons of Process Water Disposed	gallons	Every Disposal Event	Annually
Hauler License Number or Identification	NA	Every Disposal Event	Annually
Disposal Facility	Location	Every Disposal Event	Annually

SOLIDS MONITORING

The Discharger (all tiers) shall monitor the solids generated and disposed of on a monthly basis. Commingled solids that contain winery and domestic wastewater solids shall be handled and disposed of as domestic wastewater solids. The following shall be monitored and reported for winery processing solids:

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Parameter	Units	Sample Type	Sampling Frequency	Reporting Frequency			
WINE MAKING RELATED SOLIDS							
Solids Generated ¹	pounds	Estimate	Daily	Quarterly ²			
Solids Storage Location ³			Monthly	Annually			
Solids Disposal Location ⁴			Monthly	Annually			
Acreage Applied	acres	Calculated	Monthly	Annually			

DOMESTIC WASTEWATER/COMMINGLED WASTEWATER RELATED SOLIDS						
Domestic Wastewater Solids ⁵ Gallons Measured Every Event Annually						
Hauling Company Registration ⁶		ID Number	Every Event	Annually		
Disposal Facility ⁷		Location	Every Event	Annually		
Analytical Data ⁸	EPA Method	Data	When Required	Annually		

^{1.} Pounds of solids generated, including pomace, seeds, stems, lees, diatomaceous earth, winery process water screenings, sump solids, and sludge removed from ponds.

- ^{2.} Quarterly reporting is required for Tier 1 wineries. All other tier wineries shall report annually.
- ^{3.} Describe the location of solids storage and how leachate is collected.
- ^{4.} Pounds of solids applied to land or disposed of off-site. For each solids type, describe the disposal method (e.g., animal feed, land application, off-site composting, landfill, etc.), the amount disposed (tons), the name of the hauling company, and the location where the material was transported.
- ^{5.} Domestic Wastewater Solids consist of screenings, grit, sludge, biosolids, septage, and any residual produced from on-site stabilization (e.g., aerobic digestion of biosolids), etc.
- ^{6.} Hauling Company Registration identification number shall be included for all cleanings.
- ^{7.} Disposal Facility shall be identified and copies of receipts provided in the monitoring report.
- ^{8.} Analytical Data is required by some waste facilities, include the data when required by waste facility.

GROUNDWATER MONITORING

The Discharger shall monitor groundwater quality if the Winery Process Water Pond Evaluation in Attachment **<C>** of this General Order or Discharge Specification for Land Application Areas **B.2.c.iii** indicate groundwater monitoring is required. Consistent with the Business and Professions Code, groundwater monitoring reports, well construction work plans, etc. shall be prepared under the supervision of a California licensed civil engineer or geologist. Prior to construction of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board's staff for review and approval, in accordance with Provision **F.1.d** of the General Order. Once installed, all monitoring wells designated as part of the monitoring network shall be sampled and analyzed according to the schedule below.

Groundwater Monitoring Reports shall summarize all groundwater monitoring events that occurred in the calendar year. Analysis of the data and groundwater flow directions shall be performed at least annually and shall be performed under the supervision of a California licensed professional (as described above). The Discharger may request a reduced monitoring and reporting schedule once adequate data have been collected to characterize the site. (Typically, two years of quarterly sampling is required for adequate characterization.)

ATTACHMENT A MONITORING AND REPORTING PROGRAM ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Prior to sampling, groundwater elevations shall be measured and the wells shall be purged of at least three well volumes and until pH and electrical conductivity have stabilized. No-purge, low-flow, or other sampling techniques are acceptable if they are described in an approved Sampling and Analysis Plan. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater elevations shall be calculated. Samples shall be collected using approved USEPA methods. Groundwater monitoring shall include, at a minimum, the following:

Parameter	Units	Sample	Sampling	Reporting
		гуре	Frequency	Frequency
Groundwater Elevation ¹	0.01 feet	Calculated	Quarterly ²	Annually
Depth to Groundwater	0.01 feet	Measurement	Quarterly ²	Annually
Gradient	feet/feet	Calculated	Quarterly ²	Annually
Gradient Direction	degrees	Calculated	Quarterly ²	Annually
Total Dissolved Solids	mg/L	Grab	Quarterly ²	Annually
Nitrate as Nitrogen	mg/L	Grab	Quarterly ²	Annually
Sodium	mg/L	Grab	Quarterly ²	Annually
Chloride	mg/L	Grab	Quarterly ²	Annually

^{1.} Groundwater elevation shall be based on depth to water using a surveyed measuring point elevation on the well and a surveyed reference elevation.

^{2.} The Discharger may request a reduced monitoring and reporting schedule once adequate data have been collected to characterize the site.

mg/L denotes milligrams per liter.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, location (e.g., LAA, solids, etc.), and reported analytical or visual inspection results are readily discernible. The data shall be summarized to clearly illustrate compliance with the General Order and NOA as applicable. The results of any monitoring done more frequently than required at the locations specified in the MRP shall be reported in the next regularly scheduled monitoring report and shall be included in calculations as appropriate.

The State Water Board and Regional Water Boards have transitioned to a paperless office system. Unless directed otherwise, Dischargers shall submit all reports in portable document format (pdf) via email as listed in the table below. The NOA will include additional instructions regarding what type of information the transmittal email should include when submitting reports via email.

For Facilities located within the:	Submit all reports to:
North Coast Regional Water Quality Control Board	northcoast@waterboards.ca.gov
San Francisco Bay Regional Water Quality Control Board	WDR.Monitoring@waterboards.ca.gov
Central Coast Regional Water Quality Control Board	centralcoast@waterboards.ca.gov
Los Angeles Regional Water Quality Control Board	losangeles@waterboards.ca.gov

For Facilities located within the:	Submit all reports to:
Central Valley Regional Water Quality Control Board – Redding	centralvalleyredding@waterboards.ca.gov
Central Valley Regional Water Quality Control Board – Rancho Cordova	centralvalleysacramento@waterboards.ca.gov
Central Valley Regional Water Quality Control Board – Fresno	centralvalleyfresno@waterboards.ca.gov
Lahontan Regional Water Quality Control Board – South Lake Tahoe	lahontan@waterboards.ca.gov
Lahontan Regional Water Quality Control Board – Victorville	lahontan@waterboards.ca.gov
Colorado River Regional Water Quality Control Board	rb7-wdrs_paperless@waterboards.ca.gov
Santa Ana Regional Water Quality Control Board	santaana@waterboards.ca.gov
San Diego Regional Water Quality Control Board	rb9paperless@waterboards.ca.gov

In some regions, Dischargers will be directed to submit reports (both technical and monitoring reports) and analytical data to the State Water Board's GeoTracker database over the Internet. Information on the GeoTracker database is provided on the Internet at:

<http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml>

A. Quarterly Monitoring Reports

Only Tier 1 wineries are required to submit quarterly reports. Quarterly reports shall be submitted to the Regional Water Board on the **first day of the second month after the quarter ends** (e.g., the January-March Quarterly Report is due by May 1st). The reports shall bear the certification and signature of the Discharger's authorized representative. At a minimum, the quarterly reports shall include:

- 1. Results of all required monitoring.
- 2. A comparison of monitoring data to the discharge specifications, disclosure of any violations of the NOA and/or General Order, and an explanation of any violation of those requirements. (Data shall be presented in tabular format.)
- 3. If requested by staff, copies of laboratory analytical report(s) and chain of custody form(s).

B. Annual Report

All wineries, regardless of tier, are required to submit annual reports. Tier 1 wineries may combine the fourth quarter monitoring report with the annual report. Annual reports shall be submitted to the Regional Water Board by **March 1st following the monitoring year**. The Annual Report shall include the following:

- 1. Summaries of all required monitoring data collected during the year.
- 2. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into compliance with the NOA and/or General Order.
- 3. Tier 1 wineries shall calculate and report the annual flow-weighted average FDS concentration for source water and winery process water. When source water is from more than one source, the FDS concentration shall be a flow-weighted average of all sources. If the flow-weighted annual average winery process water FDS concentration exceeds the Facility Salinity Criterion (FSC) in Effluent Discharge Specification C.1 of the General Order, the Discharger shall report exceedance of the FSC.
- 4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
- 5. Some wineries are required to submit a groundwater monitoring report. Those wineries shall submit a groundwater monitoring report prepared by a California licensed professional. This report may be prepared separately from the rest of the Annual Report. The report shall contain an analysis of groundwater data collected during the year. The analysis shall include a description of the sample events, copies of the field logs, purge method and volume, groundwater elevation and trend, a groundwater elevation map for each sample event, summary tables showing results for parameters measured, comparison of groundwater quality parameters to standards in the NOA, chain-of-custody forms, calibration logs for field equipment used, and a general evaluation of any impacts the winery process water discharge is having on groundwater quality.

A letter transmitting the monitoring reports shall accompany each report. The letter shall report violations found during the reporting period, and actions taken or planned to correct the violations and prevent future violations. The transmittal letter shall contain the following penalty of perjury statement and shall be signed by the Discharger or the Discharger's authorized agent:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

The Discharger shall implement the above monitoring program as of the date of this MRP.

ATTACHMENT A MONITORING AND REPORTING PROGRAM ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Ordered by:

NAME, Executive Officer
DATE

ATTACHMENT B: IMPLEMENTATION OF BEST PRACTICABLE TREATMENT OR CONTROL MEASURES ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

The following table presents best practicable treatment or control (BPTC) measures for Order WQ 201Y-XXXX-DWQ General Waste Discharge Requirements for Winery Process Water Treatment Systems (General Order) and an implementation schedule for Dischargers that cannot immediately comply with the list of measures. Based on the Discharger's Notice of Intent, the Regional Water Board Executive Officer will issue a notice of applicability (NOA) that includes an implementation schedule for any items that are not in immediate compliance. All compliance dates are determined from the date of NOA issuance.

Best Practical Treatment or Control Measures	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
General Requirements					
The Discharger shall implement good housekeeping practices					
and conduct employee training to support good housekeeping	Short Term	Short Term	Short Term	Short Term	NR
practices.					
The Discharger shall implement water conservation methods	Short Term	Short Term	Short Term	Short Term	NR
for cleaning and sanitation operations at the Facility.			Onort Term	Onort renn	INIX
Winery Process Water Pond BPTC Measures					
The Discharger shall complete the Winery Process Water Pond	Short Torm	Short Torm	Short Torm	Short Torm	ND
Evaluation in Attachment C of the General Order.	Short renn		Short renn	Short Term	INIX
The Discharger shall complete any winery process water pond					
improvements required by the Winery Process Water Pond	Long Term	Long Term	Long Term	Long Term	NR
Evaluation.					
If a winery process water pond size does not comply with the					
discharge specifications for winery process water pond size	Short Term	Short Term	Short Term	Short Term	NR
requirements, the Discharger shall submit a Spill Prevention	Short renn	Short renn	Short renn	Short renn	INIX
and Emergency Response Plan.					
Land Application Area (LAA) BPTC Measures					
The Discharger shall complete any improvements required to					
comply with the land application area (LAAs) discharge	Long Term	Long Term	Long Term	Long Term	NR
specifications.					

ATTACHMENT B IMPLEMENTATION OF BEST PRACTICABLE TREATMENT OR CONTROL MEASURES ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Best Practical Treatment or Control Measures	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Limited Dispersal Area (LDA) BPTC Measures					
At a Tier 3 winery, the Discharger shall complete the limited dispersal area (LDA) evaluation process.	NR	NR	Short Term	NR	NR
At a Tier 3 winery, the Discharger shall complete any diversion of winery process water required by the LDA evaluation.	NR	NR	Moderate Term	NR	NR
At a Tier 1 or Tier 2 winery, the Discharger shall cease discharging winery process water to an LDA.	Moderate Term	Moderate Term	NR	NR	NR
At a Tier 1 or Tier 2 winery, the Discharger shall cease commingling winery process water and domestic wastewater (unless allowed to discharge commingled flow to a percolation pond)	Moderate Term	Moderate Term	NR	NR	NR
The Discharger shall register the LDA with the USEPA Underground Injection Control Program as applicable.	Short Term ¹	Short Term ¹	Short Term	Short Term	Short Term ¹
Groundwater Monitoring BPTC Measures					
The Discharger shall submit a groundwater monitoring well work plan if indicated by the Winery Process Water Disposal Pond Evaluation in Attachment <c></c> .	Short Term	Short Term	Short Term	Short Term	NR
At a Tier 1 winery, the Discharger shall submit a groundwater monitoring well installation work plan for land application areas if required by Discharge Specification for Land Application Areas B.2.c.iii.	Short Term	NR	NR	NR	NR
The Discharger shall complete installation of groundwater monitoring wells as described in a Regional Water Board approved work plan.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
Solid Waste BPTC Measures	-				
The Discharger shall complete any pomace or other solid waste storage improvements, or develop diversion plans to comply with the solids disposal specifications.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR

¹ Although Tier 1, 2, and 5 facilities are prohibited from using an LDA for winery process water disposal, the size of a domestic wastewater discharge may also require registration with the USEPA Underground Injection Control Program.

ATTACHMENT B IMPLEMENTATION OF BEST PRACTICABLE TREATMENT OR CONTROL MEASURES ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Best Practical Treatment or Control Measures	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
Biochemical Oxygen Demand (BOD) BPTC Measures					
The Discharger shall complete any improvements necessary to comply with the BOD loading rate limits in land application areas (LAAs).	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
The Discharger shall complete any improvements necessary to comply with the dissolved oxygen concentrations for winery process water ponds.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
Nitrogen Compounds BPTC Measures					
The Discharger shall complete any improvements necessary to comply with the nitrogen land application area loading limits.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
Salinity Constituents BPTC Measures					
The Discharger shall complete any improvements necessary to comply with the ion exchange regeneration brine discharge prohibition.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
The Discharger shall implement chemical substitution to reduce winery process water salinity.	Short Term	Short Term	Short Term	Short Term	NR
The Discharger shall optimize the operation of any clean-in- place system to address winery process water salinity.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
The Discharger shall optimize wine and juice ion exchange operations and shall contain spent sulfuric acid regenerant for either offsite disposal or for onsite disposal as a soil amendment.	Moderate Term	Moderate Term	Moderate Term	Moderate Term	NR
The Discharger shall develop and implement standard operating procedures to minimize discharges resulting from processing mistakes.	Moderate Term	NR	NR	NR	NR

Short Term indicates compliance is required 180 days (approximately 6 months) after a notice of applicability (NOA) is issued.

Moderate Term indicates compliance is required 550 days (approximately 18 months) after an NOA is issued.

Long Term indicates compliance is required 730 days (approximately 24 months) after an NOA is issued.

NR denotes not required for the tier.

ATTACHMENT C: WINERY PROCESS WATER POND EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Introduction

Dischargers applying for coverage under this General Order shall evaluate their existing and/or proposed winery process water ponds as described herein. The evaluation will allow determination of the acceptability of ponds, when ponds require lining to minimize percolation, and if groundwater monitoring associated with the pond(s) is required.

The attached flow charts provide a method to evaluate existing and/or proposed winery process water ponds, winery process water, and site conditions. To begin the evaluation, go to "START" on the following page. Descriptions of each flow chart process can be found after each flow chart.

ATTACHMENT C WINERY PROCESS WATER POND EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS



Winery Process Water Pond Evaluation

The Discharger shall evaluate existing or proposed winery process water ponds to determine if the ponds are appropriately constructed to protect water quality. Each existing and/or proposed winery process water pond shall be evaluated individually.

- 1 Winery process water pond exists? Is the winery process water pond that is being evaluated already constructed and in use (existing) or is it proposed?
 - Perform Pond Evaluation. If the Discharger is proposing to construct a winery process water pond, go to the Pond and Winery Process Water Evaluation flow chart on page C-4.
- 2 *First saturated interval groundwater data exist?* If the Discharger has collected or has access to groundwater monitoring data collected from first-encountered groundwater (water table) downgradient of the pond at locations where any impacts to groundwater from the pond can be detected, the Discharger shall use the data to conduct this evaluation. To perform the evaluation, upgradient data may also be needed.
- (3) Characterize site groundwater. The Discharger shall characterize first-encountered groundwater (water table) downgradient of the pond at location(s) where any impacts to groundwater from the pond can be detected. To perform the evaluation, upgradient data may also be needed.
- 4) Significant groundwater degradation? Comparison of upgradient and downgradient groundwater quality shall be performed. The influence of a pond on groundwater elevations (groundwater mound) shall be considered in the evaluation. Upgradient groundwater samples shall be collected from an area upgradient of the pond and any mound that an unlined pond may create and in an area away from other contaminant source areas, including those that may exist off-site. If appropriate upgradient groundwater samples are not possible to collect, either install a synthetic liner or install groundwater monitoring wells and perform intra-well evaluation of groundwater quality.
- 5 *Pond acceptable. Repeat evaluation at 5-year interval.* The winery process water pond, as it exists, is deemed acceptable for purposes of this evaluation. A re-evaluation shall be completed once every five years after the initial evaluation.
- 6 *Remove pond or equip pond with a synthetic liner.* Based on the evaluation (see comments in Item 4, above), the winery process water pond has degraded groundwater to an unacceptable extent. The winery process water pond shall be removed or lined with a synthetic liner.

ATTACHMENT C WINERY PROCESS WATER POND EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS



Pond and Winery Process Water Evaluation

The Discharger shall conduct an evaluation of the winery process water pond and the winery process water to determine if the winery process water pond shall be lined with a synthetic liner or if further evaluation is necessary.

(7)

Use or proposed use of synthetic liner? If the winery process water pond is an unlined existing pond, the Discharger can propose to line the pond with a synthetic liner. If the winery process water pond is proposed, an evaluation shall be performed to determine if a synthetic liner is required.

- 8 *Pond acceptable.* The winery process water pond, as proposed or as it exists, is deemed acceptable for purposes of this evaluation.
- 9 High strength activities? High strength activities include, but are not limited to, one or more of the following: use of ion exchange for water or wine treatment,¹ distilling activities, use of a boiler, use of evaporative cooling tower, or use of a clean-in-place system. Failure to comply with the best practicable treatment or control schedule (Attachment) in the General Order shall indicate high strength activities are occurring at the winery.
- (10) Characterize site groundwater. See the description listed under the Winery Process Water Pond Evaluation on page C-3.
- (11) Significant groundwater degradation? See the description listed under the Winery Process Water Pond Evaluation on page C-3.
- (12) Equip pond with synthetic liner. The Discharger shall either equip an existing winery process water pond with a synthetic liner or remove the pond; a proposed pond shall be constructed with a synthetic liner.
- Conduct a site condition evaluation. If the Discharger proposes to not equip a winery process water pond with a synthetic liner, high strength winery process water generating activities are not occurring at the winery, and groundwater has been tested and determined to not be significantly degraded, then the Discharger shall conduct an evaluation of site conditions. The Site Conditions Evaluation flow chart is on page C-6.

¹ When the regeneration brine is discharged on-site.

ATTACHMENT C WINERY PROCESS WATER POND EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS


Site Conditions Evaluation

The Discharger shall conduct an evaluation of the site conditions to determine appropriate requirements for the existing or proposed winery process water pond.

- (13) Groundwater depth >25 ft? The Discharger shall determine the depth to first-encountered saturated interval of groundwater (water table) at the site.
- **(14)** Substantial low permeability soil ($k < 10^{-6}$ cm/s) present? The Discharger shall determine the permeability of the soil underneath the site, specifically the area or areas where the winery process water ponds are constructed or are proposed to be constructed. A substantial amount of low permeability soil shall be determined by a California licensed professional geologist and/or civil engineer. The low permeability soil shall be of great enough thickness and areal extent to provide a barrier that limits or reduces the amount of winery process water that percolates through the subsurface to groundwater. The presence of horizontal or vertical conduits shall be considered in the analysis.
- ⁽¹⁵⁾ Unlined pond acceptable with groundwater monitoring wells. For the purposes of this evaluation, an unlined winery process water pond is deemed acceptable in conjunction with an existing or proposed groundwater monitoring well network. The groundwater monitoring well network shall include groundwater monitoring wells downgradient of the pond that is being evaluated at locations where any impacts to groundwater from the pond can be detected. The network shall also include at least one upgradient well from an area upgradient of the pond being evaluated and upgradient of any mound created by the pond and in an area away from other contaminants. The Discharger shall comply with Provision F.1.d of the General Order for submitting technical reports pertaining to the groundwater monitoring well network. Groundwater monitoring shall be required in the monitoring and reporting program.
- (16) Equip pond with synthetic liner. The Discharger shall equip the winery process water pond, whether existing or proposed, with a synthetic liner.
- (17) Substantial volume of storm water discharged to pond? Storm water refers to the storm water discharged to the winery process water pond. This value shall be based on the average precipitation at the winery. To determine if there is a substantial amount of storm water discharged to the winery process water pond, the Discharger shall compare the volume of storm water discharged to the value of winery process water discharged to the winery process water pond. If the ratio of storm water-to-winery process water is equal to or greater than 0.3, the volume of storm water discharged to the winery process water pond shall be considered substantial. Storm water runoff shall be determined using the rational method of storm water runoff calculation.

- (18) Low-permeability liner acceptable with winery process water pond re-evaluation at 5-year intervals. For this evaluation, a low-permeability liner (e.g., compacted clay liner at least two feet thick with a vertical hydraulic conductivity of 10⁻⁶ cm/s) is deemed acceptable. The Discharger shall equip the winery process water pond, whether existing or proposed, with a low-permeability liner. A re-evaluation shall be completed once every 5 years after the initial evaluation.
- (19) Equip pond with synthetic liner. The Discharger shall equip the winery process water pond, whether existing or proposed, with a synthetic liner.

ATTACHMENT D: LIMITED DISPERSAL AREA EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Introduction

Limited dispersal areas (LDAs) are systems typically associated with septic tanks or other onsite treatment systems. The primary disposal mechanism for LDAs is percolation of clarified process water to groundwater. Use of LDAs for disposal of winery process water may result in groundwater quality degradation that is not consistent with the Antidegradation Policy. Use of LDAs for disposal of winery process water at Tier 1, 2 or 5 facilities is prohibited; use of LDAs at Tier 4 facilities is allowed if source control activities are performed. Use of LDAs at Tier 3 facilities is acceptable for winter months with land application of diverted winery process water during typical irrigation months.¹ Dischargers that propose year-round use of an LDA for disposal of winery process water at a Tier 3 facility must complete the following evaluation to determine if the proposed use is acceptable. As an alternative to performing this evaluation, wineries can convert their process water discharge to seasonal land application. Wineries planning to convert must indicate that intention on their notice of intent (NOI) for coverage under this General Order. The conversion shall be completed consistent with the schedule presented in Attachment ****.

The following flow charts provide the method to evaluate year-round use of process water discharge to LDAs at Tier 3 facilities. To begin the evaluation, go to "START" on the following page.

¹ Typical irrigation months are months when average evapotranspiration exceeds average precipitation on a monthly basis as described in the findings of this General Order.

ATTACHMENT D LIMITED DISPERSAL AREA EVALUATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS



Limited Dispersal Area Evaluation

The Discharger shall evaluate existing or proposed LDA to determine if the LDA is appropriately constructed to protect water quality. Each existing or proposed LDA shall be evaluated individually.

$\left(\right)$

Is the winery a Tier 3 facility? The Discharger shall first determine which tier the facility falls under.

(Π)

Evaluation not required. Tier 1, 2 and 5 facilities are not eligible for use of an LDA for winery process water, and, thus, are not required to continue with this evaluation. Tier 4 facilities are not required to perform this evaluation.

IV

Does the winery comply with the salinity source control requirements? The Discharger shall determine if the facility complies, or will comply by the dates listed in Attachment **** and the Discharger's NOA, with the salinity source control requirements listed in Attachment ****.

Ineligible. The facility is not eligible for coverage under this General Order.

Is winery process water discharged to the LDA during typical irrigation months? Winery process water is discharged to the LDA during typical irrigation months, which are months when average evapotranspiration exceeds average precipitation on a monthly basis.

No further evaluation required. Tier 3 facilities that discharge process water consistent with the LDA discharge specifications in the General Order are not required to perform this evaluation.

$(\mathbf{v}\mathbf{u})$

First saturated interval groundwater data exist? If the Discharger has collected or has access to groundwater monitoring data collected from first-encountered groundwater (water table) downgradient of the LDA at locations where any impacts to groundwater from the LDA can be detected, the Discharger shall use the data to conduct this evaluation. Consultation with the Regional Water Board staff is recommended to ensure representative samples are collected.

$\left(\mathbf{v}\mathbf{u}\right)$

Characterize site groundwater. The Discharger shall characterize first-encountered groundwater (water table) downgradient of the LDA at location(s) where any impacts to groundwater from the LDA can be detected. To perform the evaluation, upgradient data may also be needed.

(\mathbf{x})

Significant groundwater degradation? Comparison of upgradient and downgradient groundwater quality shall be performed. The influence of an LDA on groundwater quality or elevations (groundwater mound) shall be considered in the evaluation. Upgradient groundwater samples shall be collected from an area upgradient of the LDA (and any mound that an LDA may create) and in an area away from other contaminant source areas, including those that may exist off-site.

(**X**

Year-round discharge of process water to the LDA is acceptable. Repeat the Limited Dispersal Area Evaluation at five-year intervals. Year-round use of the LDA, with continued facility source control, is acceptable. The LDA evaluation shall be performed at five-year intervals as long as the facility remains a Tier 3 facility that discharges winery process water year-round.

Discontinue year-round discharge of process water to the LDA. The investigation has indicated significant groundwater degradation is likely the result of discharging process water to an LDA. The Discharger shall discontinue the year-round discharge of process water to the LDA consistent with the schedule presented in General Order Attachment ****.

ATTACHMENT E: MINIMUM REQUIREMENTS FOR LOCAL AGENCY OVERSIGHT ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Some local agencies¹ have historically provided oversight of land applied winery process water discharges that are often issued waste discharge requirements (WDRs) from Regional Water Quality Control Boards (Regional Water Boards). The statewide winery general order (General Order) provides an administrative procedure to formalize local agency oversight. Local agency oversight is limited to implementation of the General Order requirements for wineries in Tiers 2, 3, and 4. However, a Regional Water Board may restrict the local agency oversight further.

To obtain local oversight authority, a local agency must:

- 1. Submit the local oversight application to the Regional Water Board
- 2. Obtain written approval from the Regional Water Board
- 3. Implement the approved program and comply with the reporting requirements in the approved program.

All wineries that receive oversight from a local agency must enroll under the General Order. A local agency acts as an administrator in implementing the requirements of the General Order. Local agencies may make requirements more stringent, including requiring additional monitoring if desired; however, all additional monitoring performed must be reported to the Regional Water Board consistent with Provision F.4.c.

To apply for local oversight authority, a local agency must fill out the attached application form and provide all additional information required and/or requested by a Regional Water Board. The requirements in this Attachment are issued pursuant to Water Code section 13225(c).

¹ A local agency may be any governmental organization that can provide oversight and has the authority to develop and implement an ordinance providing administrative authority consistent with the requirements in this attachment.

A. LOCAL AGENCY INFORMATION

1. Local Agency Name:			
2. Mailing Address:			<i>c</i> x
3. City:		4. State:	5. Zip:
6. Phone Number:	7. Email:		8. Fax Number:
9. Contact Person, Title:	10. Email:		11. Phone Number:
12. Alternate Contact Person, Title:	13. Email:	0,	14. Phone Number:
15. Emergency Contact Telephone Number:			

B. LOCAL AGENCY OVERSIGHT PROGRAM APPLICABILITY

Describe the winery tiers, process water treatment systems, and disposal alternatives the program will address. Provide additional information as necessary.

1. Tiers eligible for coverage under agency program:			
Tier 2 Tier 3	4 🗌 Tier 5 🗌 Exception	ons exist (attach description)	
2. Process water treatment alternatives eligible for coverage under agency program (provide additional			
description as required):			
🗌 Septic Tank 👘 🗋 Aerobic Tr	reatment Unit	Activated Sludge	
Fixed Film Pond (stal	bilization, treatment, or storage)	Other (describe)	
3.Process Water Disposal Alternatives:			
Limited Dispersal Area (leach field)	Percolation Pond	Evaporation Pond	
Land Application	Rapid Infiltration Basin	Other (describe)	
3.Tank and haul program eligible for cove	erage under agency program:	Tank and Haul eligible	

C. AGENCY DESCRIPTION OF LOCAL OVERSIGHT PROGRAM

Describe each of the following items, include documentation when appropriate.

- 1. Documentation of the agency's legal authority to implement the local oversight program. Include a copy of the existing or proposed ordinance.
- 2. Provide the proposed program requirements.
- 3. Fee schedule for enrollees.

D. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

- Describe if a CEQA document was adopted (or will be prepared) to address the local oversight program. If a document was prepared, provide a copy. Below note if the document addresses the following:
- Existing Facilities Expanding Facilities New Facilities Requires Site-Specific Analysis

E. OTHER REGULATORY REQUIREMENTS/ISSUES

Indicate if any of the following have been developed, or in the process of development in the local oversight program geographic area(s). Attach additional information as appropriate.

Sustainable Groundwater Management Act (SGMA) Groundwater Management Agency (formed)
 SGMA Groundwater Sustainability Plans
 Wellhead Protection Plans
 Salt and Nutrient Management Planning
 Winery Sustainability Programs
 Recycled Water Distribution
 Irrigated Lands Regulatory Program Coalition Groups
 Process Water Collection and Treatment Facilities for Tank and Hauled Winery Process Water

F. LOCAL AGENCY QUALIFICATIONS

Local agencies eligible for authorization to act in the local oversight capacity must demonstrate the following:

- Governmental authority the agency must have the ability to develop and implement a local ordinance or similar permitting authority that is adequate to provide for authorization, monitor performance, and compel compliance when General Order violations are noted.
- 2. Adequate personnel to effectively implement the local ordinance the agency must demonstrate an organizational structure designed to provide adequate oversight

including permitting, fee collection, design and technical report reviews, and enforcement activities.

- 3. Technical expertise in the areas of winery processes, water quality, winery process water treatment, winery process water disposal, and groundwater quality assessment.
- 4. Funding mechanisms to ensure on-going support for the technical, administrative, and overhead costs of the local oversight program.

Local agencies may limit their program applicability to prescribed winery size, subareas within their jurisdiction, winery process water treatment methods, or other technical criteria. For cause, a local agency may determine that a winery is not eligible for initial or continued local agency oversight and must seek primary oversight from the Regional Water Board.

Program Implementation

The local oversight program must comply with the evaluation and performance requirements of the General Order. Because facility designers may take different approaches to achieve compliance with the General Order, the program need not present prescriptive requirements but must present a process that includes review of a design to determine if the design will result in General Order compliance.

Technical/Design Requirements

The local oversight application shall present the design standards for site activities and winery process water systems that can be authorized. The technical/design requirements shall present the tiers eligible for coverage, the professional qualifications for designers, maximum winery process water flow rates, and site evaluation requirements. The application shall describe the types of treatment systems (e.g., septic tank, pond, activated sludge, etc.) and types of dispersal methods (e.g., limited dispersal area, land application area, percolation pond, etc.) that will be allowed.

Permitting/Inspection Requirements

The local oversight application shall present permitting/inspection requirements that at a minimum are consistent with the California Building Code. The application shall also describe other permitting requirements that will be implemented (e.g., septic tank pumping permits or recordkeeping), and shall describe construction inspection procedures (e.g., field inspection of construction activities) and documentation of construction (e.g., as-built diagrams). All records must be available and provided to the Regional Water Board within 72 hours of receiving a written request for the permits or other documentation.

Variance/Time Schedule Procedures

Wineries that cannot comply with the local agency oversight program shall be referred to the Regional Water Board for primary oversight. Wineries that can comply with the local agency program but require a time schedule to achieve compliance may be enrolled under the local agency oversight program with a compliance schedule not to exceed two years. The Regional Water Board shall be notified of the issuance of any compliance schedules.

Sustainability Programs

The local oversight application shall describe any educational, training, certification, and/or licensing programs designed to improve winery process water quality, reduce water usage, or foster other environmental benefits within the area of the local agency jurisdiction.

Monitoring, Inspection and Compliance

Local agencies shall describe how wineries will be prioritized for inspection. All inspection reports, compliance evaluations, and enforcement activities shall be transmitted to the appropriate Regional Water Board pursuant to Water Code section 13225(c).

M. CERTIFICATION

"I certify under penalty of perjury that this document and all attachments were prepared under my direct supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the program or those directly responsible for gathering the information, the information submitted is, true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the General Order, including the criteria for eligibility and the development and implementation of the local agency oversight program, if required, will be complied with."

Signature:		Date:	
Printed Name & Title:			
	•.65		
8			

ATTACHMENT F: NOTICE OF INTENT ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

To be developed. NOI will either be electronic NOI (eNOI) submitted through CIWQS, or a fillable PDF.

ATTACHMENT G: NOTICE OF TERMINATION ORDER WQ 201Y-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

Submittal of this Notice of Termination (NOT) to the Regional Water Quality Control Board (Regional Water Board) constitutes notice that a Discharger, identified in Section I of this form, requests to terminate coverage under General Waste Discharge Requirements for Winery Process Water Treatment Systems (Order WQ 20YY-00XX-DWQ). Completed forms must be signed and post mailed or e-mailed to the appropriate Regional Water Board. Refer to the monitoring and reporting program attached to the General Order for the e-mail address or contact the Regional Water Board.

Submittal of this NOT does not relieve the Discharger and/or the property owner of responsibility to control waste discharges related to the facility activities. The Regional Water Board may inspect the condition of the site prior to terminating coverage under the General Order.

SECTION I. DISCHARGER INFORMATION

A. Role (check all applicable)				
□ Owner	□ Operator	Other (describe)		
B. Name				
Address Where Legal Notice May Be Served (cannot be a PO Box)				
City	X	State	Zip Code	
C. Contact Person (Leave blank if the same as above)				
E-Mail		Phone		

SECTION II. WINERY SITE INFORMATION

A. Assessor Parcel Nur	nber(s)		WDID	
Address			County	
City			State	Zip Code
B. Winery Classification	1:			
Tier Designation:				
□ Tier 1	🗆 Tier 2	□ Tier 3	□ Tier 4	□ Tier 5
C. Contact Person (Lea	ve blank if same a	as Section I)		
E-Mail (Leave blank if same as Section I)		Phone (Leave blank if same as Section I)		

ATTACHMENT G NOTICE OF TERMINATION STATE WATER RESOURCES CONTROL BOARD ORDER WQ 201X-XXXX-DWQ GENERAL WASTE DISCHARGE REQUIREMENTS FOR WINERY PROCESS WATER TREATMENT SYSTEMS

SECTION III. BASIS FOR TERMINATION

Coverage under the General Waste Discharge Requirements for Winery Process Water Treatment				
Systems is no longer needed because: All process water is discharged to a municipal sanitary sewer system in accordance with an industrial waste permit (date initiated)				
$\ \square$ All winery process water discharges have ceased (end d	late)		
Winery ownership has transferred (transfer date below)	Winery ownership has transferred (transfer date, provide new owner information below)			
\Box The process water discharge is covered by a different or	der (provide	order number)		
□ Other (explain below)				
Explanations				
NEW OWNER IDENTIFICATION (complete if ownership tra	Insfer is indic	cated above)		
A. Role (check all applicable)				
□ Owner □ Operator	Owner Operator Other (describe)			
B. Name				
Address Where Legal Notice May Be Served (cannot be a PO Box)				
	- 			
City	State	Zip Code		
C. Contact Person				
E-Mail	Phone			

SECTION IV. CERTIFICATION

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Printed Name and Title of Discharger/Duly Authorized Representative

Signature