

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2016-0031-01

WASTE DISCHARGE REQUIREMENTS

FOR  
GOLDSTONE LAND COMPANY, LLC  
KURT AND SANDRA KAUTZ  
BEAR CREEK WINERY  
SAN JOAQUIN COUNTY

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

1. On 29 December 2014, Goldstone Land Company, LLC submitted a Report of Waste Discharge (RWD) to apply for revised Waste Discharge Requirements (WDRs) for Bear Creek Winery. An amended RWD was submitted on 30 April 2015.
2. Goldstone Land Company, LLC owns and operates Bear Creek Winery, and Kurt and Sandra Kautz (Kautz Family Vineyards) own Vineyards 4, 5 and 6. Therefore, Goldstone Land Company, LLC, and Kurt and Sandra Kautz are jointly referred to as “Discharger” and are responsible for compliance with the WDRs.
3. The winery is located at 11900 North Furry Road in Lodi (Section 29, T3N, R7E, MDB&M), as shown on Attachment A, which is attached hereto and made part of this Order by reference. The winery currently discharges approximately 21.4 million gallons (MG) of wastewater per year to 9.2 acres of rapid infiltration basins and 38 acres of vineyard land application areas (LAAs). The Discharger proposed to apply wastewater to additional 150 acres of LAAs at Vineyards 3 through 6, as shown on Attachment B, which is attached hereto and made part of this Order by reference. The ownership of these parcels is summarized below.

Name	Parcel Number (APN)	Owner	Acreage (acres)
Winery Impervious Area Rapid Infiltration Basins, Existing LAAs (Vineyard 1, Vineyard 2)	061-160-26	Goldstone Land Company, LLC	72.7
Proposed LAAs Vineyard 3	061-150-14	Goldstone Land Company, LLC	19.8
Proposed LAAs Vineyard 4	061-140-54	Kautz Family Vineyards	34.7
Proposed LAAs Vineyard 5	061-160-06	Kautz Family Vineyards	57.0
Proposed LAAs Vineyard 6	061-160-02 061-160-25	Kautz Family Vineyards	38.5
Total Area			222.7

4. WDRs Order 71-037, adopted by the Central Valley Water Board on 21 August 1970, prescribes requirements for the discharge. The Discharger proposed to install a wastewater treatment system and to increase vineyard LAAs by 31 August 2018. Therefore, Order 71-037 is rescinded and replaced by this Order.

### Existing Facility and Discharge

5. The winery has been in operation since 1934. Activities at the winery including grape crushing, fermentation, storage and distribution. The facility currently operates as a bulk winery, with no barrel storage or bottling occurring at the plant. The winery's current crush production level is approximately 50,000 tons of grapes annually, and wine storage capacity is approximately 12.6 million gallons.
6. A distillery had been in operation historically, but has been discontinued since 1995 and was removed from the site. A small water softener used in the laboratory is regenerated off site. Other water softening activities, including ion exchange, are no longer practiced and/or in use.
7. A variety of chemicals are used in the winemaking process for sanitizing tanks and other process equipment, filtering, clarifying and preserving wine chemicals, such as tri-sodium phosphate, hypochlorite, chlorine dioxide, detergents, and ozone, etc.
8. The winery operates two deep wells to supply industrial water demand at the facility. Irrigation and domestic water is supplied by separate wells. Water quality for supply water is characterized in the table below based on one sampling event conducted on 2 April 2015:

Constituent	Units	Supply Well 1	Supply Well 2	Irrigation Well	Domestic Well
Nitrate as Nitrogen	mg/L	17	4.4	1.1	3.4
Total Kjeldahl Nitrogen	mg/L	<1	<1	<1	<1
Total Dissolved Solids	mg/L	530	250	190/160 <sup>1</sup>	140
Calcium	mg/L	79	33	19	17
Chloride	mg/L	65	23	7	6
Electrical Conductivity	µmhos/cm	867	383	232	215
Iron	µg/L	<30	830	110	<30
Magnesium	mg/L	32	13	<10	8
Manganese	µg/L	<10	20	<10	<10
pH	std	7.04	7.39	7.69	7.63
Sodium	mg/L	37	17	14	9
Sulfate	mg/L	35	14	7	8

Constituent	Units	Supply Well 1	Supply Well 2	Irrigation Well	Domestic Well
Total Hardness as CaCO <sub>3</sub>	mg/L	329	136	72	75

1. Fixed Dissolved Solids(FDS)

9. Wastewater and storm water runoff are collected by north and south collection systems within the facility. The winery process wastewater generated in the crush pad area and storm water runoff in north area are collected in the north collection system and is screened before it flows to the main sump. Wastewater generated from the warehouse and the tank pad area and storm water runoff in the south area are collected in the south collection system and are conveyed to the main sump by gravity without screening. From the main sump, the wastewater is discharged into the rapid infiltration basins manually or the vineyard LAAs by flood irrigation. Storm water flow is estimated to be approximately nine percent of total influent flow.
10. Five un-lined rapid infiltration basins totaling 9.2 acres serve as the primary disposal site for combined process wastewater and storm water collected on the site. Each basin has an approximately one to two-foot depth sidewall. Each basin is disked, deep-ripped, and re-leveled annually. Berms are constructed of compacted earth with a width of approximately 12 feet. The existing rapid infiltration basins provide approximately three million gallons of emergency storage volume based on one foot of freeboard.
11. Historically, the winery discharged wastewater from wine making process and distillery operation to over 45 acres of land disposal area. In the early 1990's when the distillery was closed, the winery continued to discharge process wastewater to 9.2 acres of rapid infiltration basins. The balance of the 45 acres was converted to Vineyards 1 and 2, which seasonably received process wastewater as irrigation water for the grape vines. Over the past several years, organic loading rates to the rapid infiltration basins have been excessive and have exceeded generally accepted loading rates for land disposal systems, especially during the crush season.
12. The following table summarizes annual influent flow rates from 2012 through 2014. The flows are combined winery process wastewater and storm water collected onsite.

Year	Annual Total (MG)	Annual Average (MGD)	Crush Season (Aug. through Oct.) Average Daily Flow (MGD)
2012	25.3	0.07	0.12
2013	18.5	0.05	0.09
2014	21.4	0.06	0.12

13. Based on the monthly monitoring data collected from January 2012 through October 2014 , the wastewater quality is summarized below:

Effluent Quality				
Constituent	Unit	Minimum	Maximum	Flow Weighted Average
Biological Oxygen Demand	mg/L	302	10,400	2,070
Total Dissolved Solids	mg/L	630	8,910	2,058
Fixed Dissolved Solids	mg/L	260	5,320	916
Chloride	mg/L	35	196	85
Sodium	mg/L	39	231	71
Sulfate	mg/L	<2	1,480	151
Nitrate as Nitrogen	mg/L	<0.1	19.5	8.6
Total Kjeldahl Nitrogen	mg/L	2	75	15

14. Seeds, stems, pomace from processed wine grapes are sent offsite for animal feed. Filtered solids such as lees and diatomaceous earth captured from fermentation tanks and filtration processing (estimated 300 cubic yards per year on dry volume) are currently stored on a concrete pad adjacent to the rapid infiltration basins and spread and disked into the vineyards on a routine basis. The concrete pad does not have a leachate collection system.

### Planned Changes in the Facility and Discharge

15. The Discharger plans to install a wastewater treatment system and to increase vineyard LAAs to accommodate a production increase from 50,000 to 60,000 tons of grapes annually over the next ten years. The proposed modifications will be completed in phases as shown in the following table:

Proposed Improvement				
Phase	Production Capacity, tons/year	Peak Month Flow (MGD)	Annual Total Flow (MG)	Completion Schedule
Phase I	50,000	0.144	25	August 2016
Phase II	60,000	0.171	30	August 2018

Phase I: Vineyard LAAs will be expanded from 38.3 to 92.8 acres by adding Vineyards 3, and 4. The untreated wastewater will be applied to the LAAs by flood irrigation.

Phase II: The winery will increase production from 50,000 tons to 60,000 tons.

- a. Vineyard LAAs will be expanded from 92.8 to 185.3 acres by adding Vineyards 5 and 6.
- b. The Discharger has proposed to install a treatment system consisting of a new main sump, two aerated lined ponds, an effluent pump and a trickling filter system.

Each pond will have a total depth of ten feet. The total capacity of two ponds will be 1.8 million gallons with two-foot of freeboard. Reinforced polypropylene liners will be installed in the ponds. Trickling filters are biological filters that use passive aeration and naturally occurring organisms to treat wastewater. The trickling filter system will be sized based on an organic loading rate of 35 lb BOD/1000 cf/day and the number and size of trickling filters will be determined and presented in the final engineering plans and construction documents as part of the *Pond Design Work Plan and Construction Quality and Assurance Plan* submitted pursuant to Provision H.1.f. A pressurized sand filter system will be installed to screen effluent prior to vineyard irrigation via drip systems.

- c. The Discharger will review the existing filtered solids storage area and may install a new storage area with liner and berm.
- d. Storm water runoff from warehouse roofs (77,300 square feet) will be diverted to the nearby drainage Pixley Slough in order to reduce storm water contribution to the wastewater collection system. It is estimated that approximately 0.7 million gallons of storm water runoff will be discharged to surface water during an average rainfall year. The Discharger has applied a separated storm water permit for this discharge.
- e. In the 29 February 2016 Comments on Tentative WDRs, the Discharger requested to use treated wastewater for other beneficial uses, such as dust control on farm roads around the existing and proposed vineyard LAAs, and additional 1,004 acres of agricultural lands as listed below, which are owned by Kautz's family.

Parcel Number	Acreage (acres)	Parcel Number	Acreage (acres)	Parcel Number	Acreage (acres)
061-100-36,37,38	29.7	063-020-10	39.8	063-050-62,63	104.1
059-110-04,05	78.3	063-020-12	38.9	059-040-39,41	33.5
061-100-19,22,31,32	20.3	063-020-11	74.1	061-132-32	32.4
059-260-09	38.9	059-140-35,36	75.5	061-132-31	17.8
061-100-06	3.1	059-140-02	60.5	059-140-17	23.3

Parcel Number	Acreage (acres)	Parcel Number	Acreage (acres)	Parcel Number	Acreage (acres)
061-100-26,27,35,	19.4	061-160-11,12	49.6	061-140-32	31.6
061-160-09	74.3	063-090-13	40.1	061-140-04	31.7
061-140-37	22.7	063-080-43	44.3	061-090-41,42,50	20.2
Total Area: 1004.1 acres					

This Order requires the Discharger to submit an *Effluent Reuse Plan* for the beneficial uses.

16. This Order requires the Discharger to install a leachate collection system in the solids storage area for the planned changes. After completion of proposed improvements, all leachate must be directed to the wastewater treatment system for further treatment.
17. After completion of the proposed improvements, the treated wastewater is projected to have a flow weighted average BOD concentration of 207 mg/L, compared to current level of 2,070 mg/L; total nitrogen concentration will also decrease from current flow weighted average of 24 to 7 mg/L. The projected effluent FDS concentrations are expected to be similar to the current levels. Based on the RWD, anticipated waste constituent loading rates are tabulated below for the treated wastewater, supplemental irrigation water and solid waste applied to the LAAs.

Description	Units	Current Operations <sup>2</sup>	Projected Rates after Improvements <sup>3</sup>
FDS Loading <sup>1</sup>	lb/acre/yr	4,170	1,800
TDS Loading <sup>1</sup>	lb/acre/yr	8,950	2,000
Total Nitrogen Loading <sup>1</sup>	lb/acre/yr	110	13
Max BOD Loading <sup>1</sup>	lb/acre/day	260	10
Blended FDS <sup>1</sup>	mg/L	600	400

1. Based on treated wastewater, supplemental irrigation water and filtered residual solids applied to the vineyards.

2. Based on total areas of 47.5 acres including 9.2 acres of rapid infiltration basins and 38.3 acres of Vineyards 1 and 2.

3. Based on total areas of 194.5 acres including 9.2 acres of rapid infiltration basins and 185.3 acres of vineyards.

### Site-Specific Conditions

18. The topography of the surrounding area is relatively flat. The elevation at the site is approximately 50 feet above mean sea level. The winery parcel is entirely located

within a moderate flood hazard area Zone X considered between the limits of the 500-year flood and areas of the 100-year flood, with average flood depths of less than one foot.

19. The USGS Soil Survey shows the majority of the rapid infiltration basins are mainly Tokay fine sandy loam with an estimated average percolation rate of 0.28 inches per day. A soil survey is summarized below.

Soil Survey		
Description	Areas	Soils
Main Parcel	APN 061-160-26	Stockton clay, Tokay fine sandy loam
Vineyard 3	APN 061-150-14	Stockton clay, Tokay fine sandy loam
Vineyard 4	APN 061-140-54	Tokay fine sandy loam
Vineyard 5	APN 061-160-06	Stockton clay
Vineyard 6	APN 061-160-02, 061-160-25	Galt clay, Hollenbeck silty clay, Stockton clay, Tokay fine, sandy loam

20. Domestic wastewater is disposed separately from the winery process wastewater in a septic leachfield system, which is regulated by the San Joaquin County Environmental Health Department.
21. Annual precipitation in the vicinity averages approximately 17.35 inches. The mean pan evaporation rate is approximately 50.3 inches per year. The 100-year, 365-day precipitation event is approximately 31.38 inches.
22. The winery site is bordered on the south by Pixley Slough, a tributary of the San Joaquin River. Pixley Slough, an intermittent stream, flows across the site from east to west.
23. Surrounding land uses are agriculture and residential.

### Groundwater Conditions

24. Generally, groundwater flows from north to south with a gradient range from 0.0013 to 0.0017 feet/foot. The depths to water range from 90 to 108 feet below ground surface (bgs).
25. Six groundwater monitoring wells MW1 through MW6 were installed between 2001 and 2003, including two background wells MW2 and MW4 and four downgradient wells MW1, MW3, MW5, and MW6, as shown on Attachment B. The depths of these wells ranged from 90 to 95 feet bgs. However, in recent years groundwater levels have dropped and several of these wells were dry. All six monitoring wells were replaced with deeper wells MW2D through MW7D in September and October 2014.

26. The existing upgradient monitoring wells MW2D and MW4D are located in Vineyard 3 and on the northeast corner of Vineyard 4, respectively. After completion of Phase I improvements, Vineyards 3 and 4 will be used as LAAs, and MW2D will be a compliance well and MW4D may be affected by the discharge. This Order requires the Discharger to install at least one additional monitoring well that will be located upgradient of all existing or planned LAAs.
27. A summary of historical groundwater monitoring data is presented in the table below based on data collected during 2001 through July 2013 prior to the abandonment of wells MW1 through MW6.

Groundwater Average Concentration						
Potential Water Quality Objective		TDS (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Nitrate as N (mg/L)	Sulfate (mg/L)
		500-1,500 <sup>1</sup>	69 <sup>2</sup>	250-600 <sup>3</sup>	10 <sup>4</sup>	250 <sup>5</sup>
Destroyed Background Well	MW2 <sup>6</sup>	622	56	30	20	55
	MW4 <sup>7</sup>	625	54	85	18	69
Destroyed Down-gradient Wells	MW1 <sup>6</sup>	925	65	76	29	84
	MW3 <sup>6</sup>	1,056	70	39	38	74
	MW5 <sup>7</sup>	881	71	62	13	67
	MW6 <sup>7</sup>	789	54	97	9	50

1. Secondary Maximum Contaminant Level range, Recommended level = 500; Upper level = 1000 mg/L; Short-term level = 1,500 mg/L.
2. Lowest Agricultural Water Quality Goal.
3. Secondary Maximum Contaminant Level range, Recommended level = 250; Upper level = 500 mg/L; Short term level = 600 mg/L.
4. Primary Maximum Contaminant Level.
5. Secondary Maximum Contaminant Level.
6. Data collected quarterly from June 2001 through May 2010.
7. Data collected quarterly from 3<sup>rd</sup> Quater 2003 through July 2013.

28. The average TDS concentrations in the downgradient wells MW1, MW 3, MW 5 and MW6 range from 789 to 1,056 mg/L, which were greater than the average TDS concentration of 623 mg/L in the background monitoring wells. The discharge has degraded groundwater for TDS. Downgradient well MW3, which is located downgradient of the repaid infiltration basins, contained the highest TDS concentration of 1,056 mg/L that exceeded the secondary maximum concentration limit (MCL) of 1,000 mg/L for TDS.



29. The average nitrate concentrations in the upgradient wells MW2 and MW4 exceeded the Primary MCL of 10 mg/L for nitrate as nitrogen. The average nitrate nitrogen concentrations in the downgradient wells MW5 and MW6 were less than that in the upgradient monitoring wells. This indicated that high levels of organic matter in the wastewater may cause denitrification in groundwater.
30. Sodium, chloride and sulfate concentrations in the downgradient wells have not shown significant exceedance of their water quality objectives respectively.
31. Reducing conditions in the groundwater beneath the LAAs have occurred due to discharge of high concentrations of organic waste in wastewater, promoting the dissolution of minerals that are naturally present in the soil. The RWD stated that the most notable impact of wastewater infiltration on the underlying groundwater has been a substantial increase in the concentrations of calcium, magnesium, and bicarbonate in the groundwater based on 2013 groundwater monitoring data for the downgradient monitoring well MW5. Calcium, magnesium, potassium, and bicarbonate concentrations in MW5 have over twice the typical concentrations of background, and the same pattern of increased groundwater concentrations of calcium, magnesium, and bicarbonate was observed in the downgradient wells MW1, MW3, and MW6.
32. The RWD states that during periods of intense infiltration, the water level in MW5 was observed to be higher than that in the upgradient well MW4 indicating mounding occurred beneath the rapid infiltration basins.
33. In September and October 2014, MW1 through MW6 were replaced with six new wells MW2D through MW7D with deeper depths ranged from 120.5 to 122.5 feet bgs. Three new wells (MW4D, MW5D, and MW6D) are located in close proximity to existing monitoring wells with the same number. Wells MW3D and MW7D are considered downgradient monitoring wells. From October 2014 to May 2015, the depths to water from top of casing ranged from 95 to 108 feet bgs. Groundwater monitoring data provided by the Discharger in its 29 February 2016 Comments on Tentative WDRs are summarized below.

Groundwater Average Concentration

		EC (µmhos /cm)	Bicarbo -nate	Sodium (mg/L)	Nitrate Nitrogen (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)
Potential Water Quality Objective		900 <sup>2</sup>	--	69 <sup>3</sup>	10 <sup>4</sup>	250- 600 <sup>5</sup>	250 <sup>4</sup>	300 <sup>2</sup>	50 <sup>2</sup>
Background Well <sup>1</sup>	MW2D	1,244	334	62	32	96	68	157	25
	MW4D	1,034	291	82	19	102	64	78	14
Down- gradient Wells <sup>1</sup>	MW3D	1,238	306	70	44	75	95	98	25
	MW5D	1,790	886	73	5.4	87	57	142	127
	MW6D	1,075	424	51	16	79	56	88	17

Groundwater Average Concentration

	EC (µmhos /cm)	Bicarbo -nate	Sodium (mg/L)	Nitrate Nitrogen (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)
Potential Water Quality Objective	900 <sup>2</sup>	--	69 <sup>3</sup>	10 <sup>4</sup>	250- 600 <sup>5</sup>	250 <sup>4</sup>	300 <sup>2</sup>	50 <sup>2</sup>
MW7D	836	276	48	16	59	56	98	16

1. Data were collected in eight sampling events during October 2014 through November 2015; 11 sets of outlier data for iron and manganese were not included in the calculation.
2. Secondary Maximum Contaminant Level.
3. Agricultural water quality goal.
4. Primary Maximum Contaminant Level.
5. Secondary Maximum Contaminant Level range, Recommended level = 250; Upper level = 500 mg/L; Short term level = 600 mg/L.

34. The Discharger's 29 February 2016 Comments on Tentative WDRs states that *"Downgradient well MW5D has the highest electrical conductivity concentration attributed primarily to the high concentration of bicarbonates. Elevated levels of iron and manganese are also observed in MW5D, immediately adjacent to the rapid infiltration basins as a result of the reduced groundwater conditions resulting from the long-term discharge of high organic loading rates to the basins"*.

### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

35. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263(a), waste discharge requirements must implement the Basin Plan.
36. Local drainage is to Pixley Slough, a tributary of the San Joaquin River. The beneficial uses of the San Joaquin River are municipal and domestic supply; agricultural supply; industrial process supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
37. The beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply.
38. The Basin Plan establishes narrative water quality objectives for chemical constituents, tastes and odors, and toxicity in groundwater.
39. The Basin Plan's narrative water quality objectives for chemical constituents, at a minimum, require waters designated as domestic or municipal supply to meet the

MCLs specified in Title 22 of the California Code of Regulations (hereafter Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

40. The narrative toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
41. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
42. In the absence of specific numerical water quality limits, the *Basin Plan* methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an electrical conductivity (EC) less than 700  $\mu\text{mhos/cm}$ . However, there is an eight-to-ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000  $\mu\text{mhos/cm}$  if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
43. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly-applicable requirements.

### **Antidegradation Analysis**

44. State Water Resources Control Board Resolution 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
  - a. The degradation is consistent with the maximum benefit to the people of the state.

- b. The degradation will not unreasonably affect present and anticipated future beneficial uses.
  - c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
  - d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.
45. Degradation of groundwater by some of the typical waste constituents associated with discharges from a winery, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.
46. The Discharger has been monitoring groundwater quality at the site since 2001. Based on the data available, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with Resolution 68-16 for this facility must be based on existing background groundwater quality.
47. Constituents of concern that have the potential to degrade groundwater include salts and nutrients. For the purpose of this evaluation, TDS is representative of overall salinity. Salts and nutrients as discussed below are based on data collected during 2001 through July 2013 prior to the abandonment of wells MW1 through MW6:

Constituent	Average Concentrations			
	Effluent <sup>1</sup>	Background Groundwater <sup>2</sup>	Downgradient Groundwater <sup>3</sup>	Potential Water Quality Objective
TDS (mg/L)	2,058 (FDS 916)	622 to 625	789 to 1,056	500-1,500 <sup>5</sup>
Nitrate Nitrogen (mg/L)	8.6	18 to 20	9 to 38	10 <sup>4</sup>

<sup>1</sup> Flow weighted average from January 2012 through October 2014.  
<sup>2</sup> Compiled from MW2 and MW4; data collected from June 2001 through May 2010.  
<sup>3</sup> Compiled from MW1, MW3, MW5 and MW6; data collected from June 2001 through July 2013.  
<sup>4</sup> Primary Maximum Contaminant Level.  
<sup>5</sup> Secondary Maximum Contaminant Level range, Recommended level = 500; Upper level = 1000 mg/L; Short term level = 1500 mg/L.

- a. **Total Dissolved Solids.** The average TDS concentrations in the downgradient wells ranged from 789 to 1,056 mg/L, which are greater than the average TDS concentration of 623 mg/L in the background wells. The discharge has degraded groundwater for TDS and has caused exceedance of the secondary MCL of 1,000 mg/L in the downgradient well MW3.

After completion of the proposed improvements, the wastewater FDS concentration is expected to be similar to the current level. The current effluent FDS of 916 mg/L is still greater than the background groundwater average TDS concentration. However, the FDS loading rate will be reduced from current 4,170 to 1,800 lbs/acre/year due to increased land application areas. This Order includes a time schedule in the Provisions that requires the Discharger to submit and implement a *Salinity Evaluation and Minimization Plan*. The Plan shall include proposals for influent salinity reduction.

- b. **Nitrate.** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality; crop uptake, and the ability of the vadose zone below the LAAs to support nitrification and denitrification to convert the nitrogen to nitrogen gas before it reaches the water table. Most of the nitrogen in the process wastewater is present as TKN, which can readily mineralize and convert to nitrate (with some loss via ammonia volatilization) in the LAAs. Background groundwater quality is poor with respect to nitrogen and exceeds the primary MCL of 10 mg/L. Nitrate nitrogen concentrations in the downgradient wells ranged from 9 to 38 mg/L. After completion of proposed improvements, the effluent total nitrogen concentration is expected to decrease from current 24 to 7 mg/L, which will be less than the Primary MCL of 10 mg/L for nitrate as nitrogen; the total nitrogen loading rate is projected to be 13 lb/acre/year, which is less than crop demand for vineyards. Therefore, the discharge is not likely to degrade groundwater quality for nitrogen in the future.
- c. **Manganese.** Based on the character of water supply and nature of typical winery operations, wastewater at the site is not expected to contain elevated manganese concentrations. However as noted in previous findings, excessive BOD loading rates can deplete oxygen, resulting in anoxic conditions that can solubilize naturally occurring metals in soil. Groundwater manganese concentrations had not been monitored in wells MW1 through MW6. Since October 2014, manganese data have been collected in the replacement monitoring wells MW2D through MW7D and elevated manganese concentrations have been observed in some downgradient wells, especially in MW5D immediately downgradient of the rapid infiltration basins. The Discharger's 29 February 2016 Comments on Tentative WDRs states that the past eight rounds of groundwater monitoring (from October 2014 through November 2015) clearly indicate that the ongoing discharge of untreated wastewater has degraded groundwater quality for manganese in the immediate vicinity of the rapid infiltration basins.

Based on the planned improvements to the wastewater management system and expanded LAAs, groundwater quality with respect to manganese is expected to improve over time. Therefore, this Order sets a groundwater limitation that prohibits any statistically significant increase in manganese concentrations in any compliance well; includes a time schedule in the Provisions that requires the

Discharger to complete the proposed improvements; and requires monitoring of manganese in the groundwater monitoring wells.

- d. **Iron.** Based on the character of water supply and nature of typical winery operations, wastewater at the site is not expected to contain elevated iron concentrations. However, excessive BOD loading rates can deplete oxygen, resulting in anoxic conditions that can solubilize naturally occurring metals in soil. Groundwater iron concentrations had not been monitored in the monitoring wells MW1 through MW6. Since October 2014, iron data have been collected in the new wells MWD2 through MWD7 and elevated iron concentrations have been observed in some downgradient wells, especially in MW5D immediately downgradient of the rapid infiltration basins. The Discharger's 29 February 2016 Comments on Tentative WDRs states that the past eight rounds of groundwater monitoring (from October 2014 through November 2015) clearly indicate that the ongoing discharge of untreated wastewater has degraded groundwater quality for iron in the immediate vicinity of the rapid infiltration basins.

Based on the planned improvements to the wastewater management system and expanded LAAs, groundwater quality with respect to iron is expected to improve over time. Therefore, this Order sets a groundwater limitation that prohibits any statistically significant increase in iron concentrations in any compliance well; includes a time schedule in the Provisions that requires the Discharger to complete the proposed improvements; and requires monitoring of iron in the groundwater monitoring wells.

48. The Discharger provides treatment and control of the discharge that incorporates:
  - a. Proposed wastewater treatment system. Process wastewater will receive some treatment prior to discharge. Reduced BOD loading rates will also alleviate potentially reducing conditions in the LAAs.
  - b. Proposed additional LAAs that will reduce the salinity and nutrient loading rates.
49. With respect to TDS, an unacceptable degree of groundwater degradation has occurred. Therefore this Order does not authorize any continued degradation as a result of the discharge or other activity at the winery beyond that which exists today for those constituents. The Groundwater Limitations are effective immediately and allow no degradation beyond existing groundwater quality in any compliance monitoring well and this Order requires intra-well analysis of compliance well groundwater monitoring data to determine compliance with the Groundwater Limitations.
50. This Order also requires implementation of upgrades and any additional measures that will be required to comply with the Groundwater Limitations of this Order, and which are expected to result in significant improvements in the shallow groundwater quality beneath the site. This Order imposes effluent and mass loading rate

limitations and contains a time schedule for the implementation of additional treatment or control to ensure that the highest water quality consistent with the maximum benefit to the people of the State will be achieved while minimizing any degradation that may occur pending completion of the required tasks.

Following completion of the time schedule, this Order will be reopened if necessary to reconsider effluent limitations and other requirements to comply with Resolution 68-16. Based on the existing record, the discharge authorized by this Order is consistent with the antidegradation provisions of Resolution 68-16.

### **Other Regulatory Considerations**

51. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
52. Based on the threat and complexity of the discharge, the facility is determined to be classified as 2B as defined below:
  - a. Category 2 threat to water quality: "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."
  - b. Category B complexity, defined as: "Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units."
53. Title 27 of the California Code of Regulations (hereafter Title 27) contains regulatory requirements for the treatment, storage, processing, and disposal of solid waste. However, Title 27 exempts certain activities from its provisions. Discharges regulated by this Order are exempt from Title 27 pursuant to provisions that exempt domestic sewage, wastewater, and reuse. Title 27, section 20090 states in part:

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

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

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

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

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

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

54. The discharge authorized herein, and the treatment and storage facilities associated  
with the discharge, are exempt from the requirements of Title 27. The current unlined  
wastewater ponds, future aerated ponds and LAAs are exempt pursuant to Title 27,  
section 20090(b) because they are discharges of wastewater to land and:

- a. The Central Valley Water Board is issuing WDRs;
- b. This Order prescribes requirements that will ensure compliance with the Basin  
Plan; and
- c. The wastewater discharged to the LAAs does not need to be managed as  
hazardous waste.

55. Although the discharge is exempt from Title 27, the statistical data analysis methods  
of Title 27, section 20415(e) are appropriate for determining whether the discharge  
complies with Groundwater Limitations specified in this Order.

56. The State Water Board adopted Order 97-03-DWQ (NPDES General Permit  
CAS000001) specifying waste discharge requirements for discharges of storm water  
associated with industrial activities, and requiring submittal of a Notice of Intent by all  
affected industrial dischargers. Because storm water that falls on outdoor processing  
areas is directed to the wastewater system, the Discharger is not required to obtain  
coverage under Order 97-03-DWQ.

57. Water Code section 13267(b) states:

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

The technical reports required by this Order and the attached Monitoring and  
Reporting Program (MRP) R5-2016-0031 are necessary to ensure compliance with



these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

58. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to Water Code section 13801, apply to all monitoring wells used to monitor the impacts of wastewater storage or disposal governed by this Order.
59. Construction of the wastewater treatment system, expansion of the existing land application areas, and the land application of waste thereto constitutes an expansion of the discharge that triggers the CEQA environmental review process. The Central Valley Water Board, as lead agency, developed an Initial Study and Negative Declaration based on information provided by the Discharger in the RWD. The Board determined that the project would not cause any significant environmental impacts if operated in compliance with this Order and adopted a Negative Declaration on 21 April 2016.
60. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
61. The Central Valley Flood Protection Board requires encroachment permits for any work done in in a “regulated stream,” designated floodway, and/or on any federal flood control project levee, including the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment or works of any kind, and including the planting, excavation, or removal of vegetation, and any repair or maintenance that involves cutting into the levee, wholly or in part, within an area for which there is an adopted plan of flood control. Pixley Slough between 8 Mile Road and Bear Creek is a regulated stream, as identified in California Code of Regulations, title 23, article 8, Table 8.1. Though Pixley Slough runs through the facility regulated by this Order, the portion of Pixley Slough that is considered a “regulated stream” under the jurisdiction of the Central Valley Flood Protection Board is well downstream of the facility.

### **Public Notice**

62. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
63. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board’s intent to prescribe waste discharge requirements for

this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

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

**IT IS HEREBY ORDERED** that Order 71-037 is rescinded and, pursuant to Water Code sections 13263 and 13267, the Goldstone Land Company, LLC, and Kurt and Sandra Kautz, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

**A. Discharge Prohibitions**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 23, section 2510 et seq., is prohibited.
3. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Effective on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, bypass around, or overflow from the wastewater treatment system is prohibited, except as allowed by Standard Provision E.2 of the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*.
5. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
6. Discharge of toxic substances into any wastewater treatment system or land application areas such that biological treatment mechanisms are disrupted is prohibited.
7. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.
8. Discharge of process wastewater to the domestic wastewater septic system is prohibited.

**B. Flow Limitations**

1. **Effectively immediately**, the blend of winery process wastewater and storm water entering into the influent flow meter shall not exceed the following limits:

<u>Flow Measurement</u>	<u>Flow Limit</u>
Total Annual Flow <sup>1</sup>	25 MG
<u>Maximum Average Daily Flow <sup>2</sup></u>	0.144 MGD

<sup>1</sup> As determined by the total flow for the calendar year.

<sup>2</sup> As determined by the total flow during the calendar month divided by the number of days in that month.

2. Effective on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, the blend of winery process wastewater and storm water entering into the influent flow meter shall not exceed the limits specified in the following table. Approval is dependent on submittal of a water balance capacity analysis demonstrating that the as-built hydraulic capacity of the facility is consistent with the flow limits.

<u>Influent Flow Measurement</u>	<u>Flow Limit</u>
Total Annual Flow <sup>1</sup>	30 MG
<u>Maximum Average Daily Flow <sup>2</sup></u>	0.171 MGD

<sup>1</sup> As determined by the total flow for the calendar year.

<sup>2</sup> As determined by the total flow during the calendar month divided by the number of days in that month.

**C. Effluent and Mass Loading Limitations**

1. **Effective immediately**, the blend of treated wastewater, storm water, and supplemental irrigation water applied to the vineyard LAAs shall not exceed the following concentration and mass loading limits:

<b>Constituent</b>	<b>Units</b>	<b>Daily Maximum</b>	<b>Annual Average</b>
BOD Mass Loading	lb/ac/day	300	--
Flow-Weighted Average Fixed Dissolved Solids Concentration	mg/L	--	700 <sup>1</sup>

<sup>1</sup> Based on total flow and concentration for each source of water discharged.

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program.

2. Effective on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, the treated wastewater applied to the rapid infiltration basins shall not exceed the following concentration and mass loading limits:

Constituent	Units	Daily Maximum	Annual Average
BOD Mass Loading	lb/ac/day	100	--
Flow-Weighted Average Fixed Dissolved Solids Concentration	mg/L	--	800
Flow-Weighted Average Nitrate as Nitrogen Concentration	mg/L	--	10

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program.

3. Effective on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, the blend of treated wastewater, storm water, and supplemental irrigation water applied to the vineyard LAAs shall not exceed the following concentration and mass loading limits:

Constituent	Units	Daily Maximum	Annual Average
BOD Mass Loading	lb/ac/day	50	--
Flow-Weighted Average Fixed Dissolved Solids Concentration	mg/L	--	500 <sup>1</sup>

<sup>1</sup> Based on total flow and concentration for each source of water discharged.

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program.

#### D. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations of this Order.
2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structures and land application areas at all times.

4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. All conveyance, treatment, storage, and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
7. As a means of discerning compliance with Discharge Specification 6, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive sampling events. If the DO in any single pond is below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board in writing within 10 days and shall include a specific plan to resolve the low DO results within 30 days.
8. The Discharger shall operate and maintain all treatment ponds and rapid infiltration basins sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any treatment pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each treatment pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
9. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
10. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications 8 and 9.
11. All ponds including the treatment ponds and the rapid infiltration basins and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

- a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
  - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
12. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
  13. Effective on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, storage of residual solids, including pomace and/or diatomaceous earth on an area not equipped with means to prevent storm water infiltration is prohibited. All solids must be stored in a paved area with a leachate collection system. All leachate from the solid storage area shall be directed to the wastewater treatment system for further treatment. Discharge of leachate from the solid storage area to the rapid infiltration basins is prohibited.
  14. The Discharger shall maintain the integrity of all pond liners and repair all significant leaks as needed. Every five years beginning on the date of Executive Officer approval of *Wastewater System Improvement Phase II Completion Report* submitted pursuant to Provision H.1.g, the Discharger shall test the integrity of all pond liners and repair all significant leaks in accordance with an approved workplan pursuant to Provision H.1.f.
  15. The Discharger may use treated wastewater for other beneficial uses, such as dust control on farm roads around the existing and proposed vineyard LAAs, and additional 1,004 acres of agricultural lands upon approval of *Effluent Reuse Plan* submitted pursuant to Provision H.1.h.
  16. Discharge of any of the following wastewater streams to the process wastewater treatment system or land application areas is prohibited:
    - a. Neutralization brine;
    - b. Flotation brine;
    - c. Boiler blowdown, and

d. Water softener regeneration brine.

**E. Groundwater Limitations**

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

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the Monitoring and Reporting Program.

Constituent	Maximum Allowable Concentration <sup>1</sup>
TDS	Current groundwater quality or 1,000 mg/L, whichever is greater
Dissolved Iron	Current groundwater quality or 300 µg/L, whichever is greater
Dissolved Manganese	Current groundwater quality or 50 µg/L, whichever is greater
Nitrate as Nitrogen	Current groundwater quality or 10 mg/L, whichever is greater

<sup>1</sup> "Current groundwater quality" means the quality of groundwater as evidenced by monitoring completed as of the date of this Order for each downgradient well.

2. For all compliance monitoring wells, except as specified in 1 above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations.
3. For all compliance monitoring wells, exhibit a pH of less than 6.5 or greater than 8.4 pH units.
4. For all compliance monitoring wells, except as specified in 1 above, contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

Compliance with these limitations shall be determined annually using approved statistical methods.

**F. Vineyard Land Application Area Specifications**

1. Wastewater shall be mainly applied to the vineyard LAAs. Wastewater shall only be applied to the rapid infiltration basins as a backup disposal method.
2. Application of waste constituents to LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive

loading of the LAAs, including the nutritive value of organic and chemical fertilizers and of the wastewater and diatomaceous earth, shall not exceed the annual crop demand.

3. Any irrigation runoff (tailwater) shall be confined to the LAAs and shall not enter any surface water drainage course or storm water drainage system.
4. Discharge of process wastewater to any LAA not having a fully functional tailwater/runoff control system is prohibited.
5. Irrigation of the LAAs shall occur only when appropriately trained personnel are monitoring the system.
6. LAAs shall be inspected as frequently as necessary to ensure continuous compliance with the requirements of this Order.
7. Discharge to the LAAs shall not be performed during rainfall or when the ground is saturated after rainfall.
8. Discharge of storm water runoff from the LAAs to off-site land or surface water drainage courses is allowed if the Discharger complies with Specification F.7 above.
9. The LAAs shall be managed to prevent breeding of mosquitoes. In particular:
  - a. There shall be no standing water 48 hours after irrigation ceases;
  - b. Tailwater ditches shall be maintained essentially free of emergent, marginal, and floating vegetation; and
  - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

## **G. Solids Disposal Specifications**

Solids refer to screenings, pomace, diatomaceous earth and other residual or separable waste solids associated with the winemaking process.

1. Winery sludge and other solids shall be removed from sumps, screens, wastewater ponds, etc. as needed to ensure optimal operation and adequate hydraulic capacity. Winery solids drying operations, if any, shall be designed and operated to prevent leachate generation and will include provisions to return leachate to the wastewater system.
2. Any handling and storage of waste solids at the facility shall be temporary and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.



3. Diatomaceous earth may be discharged to vineyard LAAs in accordance with the Vineyard Land Application Area Specifications of this Order.
4. If removed from the site (excluding residual solids removal as animal feed), sludge, solid waste, and residual solids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2.
5. Any proposed change in solids use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

## H. Provisions

1. The following reports shall be submitted pursuant to CWC section 13267 and shall be prepared as described in Provision H4:
  - a. By **1 July 2016**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* that describes plans to install at least one new background monitoring well upgradient of all existing or planned LAAs. The workplan shall be prepared in accordance with, and include the items listed in, the first section of Attachment D: "*Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports*", which is attached hereto and made part of this Order by reference. The groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first aquifer.
  - b. By **1 July 2016**, the Discharger shall submit a *Groundwater Limitations Compliance Assessment Plan*. The plan shall describe and justify the statistical methods that are proposed to determine compliance with the Groundwater Limitations of this Order for the constituents listed in the Monitoring and Reporting Program. As described in the MRP, compliance shall be determined annually based on intra-well statistical analysis that evaluates temporal trends based on all historic data collected at each compliance well that uses methods prescribed in Title 27, Section 20415(e)(7 and 8).
  - c. By **1 October 2016**, the Discharger shall submit a *Wastewater System Improvement Phase I Completion Report* that certifies that the Vineyards 3 and 4 are fully functional and ready to receive wastewater in compliance with the requirements of this Order. The report shall include as-built drawings of the new LAAs and tailwater collection systems.
  - d. By **1 January 2017**, the Discharger shall submit a *Groundwater Monitoring Well Installation Report* that describes the installation of the new groundwater monitoring wells required by Provision H.1.a. The report shall be prepared in accordance with, and including the items listed in, the second section of

Attachment D: "Monitoring Well Workplan and Monitoring Well Installation Report Guidance," which is attached hereto and made part of this Order by reference. The report shall describe the installation and development of all new monitoring wells, and explain any deviation from the approved workplan.

- e. By **1 March 2017**, the Discharger shall submit and implement a *Salinity Evaluation and Minimization Plan* to address the sources of salinity discharged to the wastewater treatment system. The Plan shall include proposals for influent salinity reduction. At a minimum, the plan shall meet the following requirements outlined in CWC Section 13263.3(d)(3):
- i. An estimate of all of the sources of pollutants contributing, or potentially contributing, to the loadings of salinity in the treatment plant influent including water supply, water softeners, and other residential, commercial and industrial salinity sources.
  - ii. An analysis of the methods that could be used to prevent the discharge of salinity into the facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the facility. The analysis shall also identify sources, or potential sources, not within the ability or authority of the Discharger to control.
  - iii. An estimate of salinity load reductions that may be identified through the methods identified in CWC Section 13263.3(d)(3)(ii).
  - iv. A plan for monitoring the results of the salinity pollution prevention program.
  - v. A description of the tasks, costs, and time required to investigate and implement various elements in the salinity pollution prevention plan.
  - vi. A statement of the Discharger's salinity pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.
  - vii. A description of the Discharger's existing salinity pollution prevention programs.
  - viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.
  - ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.
  - x. Progress to date in reducing the concentration and/or mass of salinity in the discharge.

- xi. Progress in implementation of the plan shall be reported each year in the Annual Monitoring Report required pursuant to Monitoring and Reporting Program R5-2016-0031.
  - f. By **1 April 2017**, the Discharger shall submit a *Pond Design Work Plan and Construction Quality and Assurance Plan*. The Pond Design Work Plan shall specify the number and size of trickling filters. The Pond Design Work Plan shall also specify the final design of the new wastewater storage ponds and liner systems, including complete pond geometry, liner materials, liner thickness, seaming methods, and details of anchorage and typical penetrations. The Construction Quality and Assurance Plan shall describe the specific construction quality assurance procedures and test methods that the Discharger proposes to ensure and verify that the liner subgrade preparation, installation and seaming will comply with the specifications; the entire liner is tested following installation to verify that all seams and liner penetrations are leak-free at the time of acceptance; and the entire liner is inspected for visible material defects and construction damage such as holes or tears prior to acceptance. The Construction Quality and Assurance Plan shall also specify the means and methods to evaluate integrity of all geosynthetic liner systems for future maintenances.
  - g. By **1 September 2019**, the Discharger shall submit a *Wastewater System Improvements Phase II Completion Report* that documents the construction of the two aeration ponds and certifies that the ponds are fully functional and ready to receive wastewater in compliance with the requirements of this Order. The report shall also certify that improvements have been completed as described in Finding 15 and that the LAAs are fully functional and ready to receive wastewater in compliance with the requirements of this Order. The report shall include as-built drawings of the wastewater treatment systems. The report shall include final dimensions and liner specifications of the two aeration ponds and a Liner Construction Quality Assurance Report that documents all construction observation, testing, and test results for the pond lining system.
  - h. At least **60 days** prior to use of treated wastewater for other beneficial uses, such as dust control on farm roads around the existing and proposed vineyard LAAs, and additional 1,004 acres of agricultural lands, the Discharger shall submit an *Effluent Reuse Plan*. The Plan shall describe how and where water will be reused and for what purposes, and how it will be managed to prevent discharge of the water off site or into surface water drainage courses. The Plan shall include a map delineating the areas that treated wastewater will be reused on the site.
2. At least **180 days** prior to any sludge removal and disposal from the wastewater treatment ponds, the Discharger shall submit a *Sludge Monitoring and Cleanout*

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

3. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.
4. In accordance with California Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
6. The Discharger shall comply with Monitoring and Reporting Program R5-2016-0031, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
7. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance

with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
11. As described in the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
12. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."
13. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
14. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
15. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the

persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the CWC. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

16. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
17. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

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

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

WASTE DISCHARGE REQUIREMENTS ORDER R5-2016-0031-01  
GOLDSTONE LAND COMPANY, LLC  
KURT AND SANDRA KAUTZ  
BEAR CREEK WINERY  
SAN JOAQUIN COUNTY

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[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

I, PATRICK PULUPA, Executive Officer, do hereby certify that the forgoing is a full and true, correct copy of a Revised Order adopted by the California Regional Water Quality Control Board on 5 April 2019.

--original signed by--

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PATRICK PULUPA, Executive Officer