

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2019-0005

WASTE DISCHARGE REQUIREMENTS
FOR
MUSCO OLIVE PRODUCTS, INC. DBA MUSCO FAMILY OLIVE COMPANY
AND
THE STUDLEY COMPANY
FOR
MUSCO FAMILY OLIVE COMPANY (TRACY PLANT)
CLASS II SURFACE IMPOUNDMENTS
SAN JOAQUIN COUNTY

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

1. Musco Olive Products, Inc., doing business as “Musco Family Olive Company” (Musco), owns and operates the Musco Family Olive Company’s Tracy Plant (facility) about 5 miles southwest of Tracy, in Section 34, T2S, R4E, MDB&M. A small portion of the Facility is also situated on land owned by the Studley Company (Studley), and leased to Musco. As Facility owners, Musco and Studley (collectively, Discharger), are responsible for compliance with this Order.
2. At an elevation of 280 feet above sea level, the facility is on the eastern slope of the Diablo Mountain Range. The facility is south of Interstate 580 and east of Patterson Pass Road, as shown in **Attachment A**, which is incorporated herein and made part of this Order by reference.
3. The Discharger operates a series of Class II surface impoundments, which are alternatively referred to herein as waste management units¹ (WMUs) or "Ponds." These Ponds are regulated under authority given in Water Code section 13000 et seq.; California Code of Regulations, title 27 (Title 27), section 20005 et seq. The facility was previously regulated by Waste Discharge Requirements (WDRs) Order No. R5-2014-0125.
4. The following documents are attached and incorporated as part of this Order:
 - a. Attachment A – Facility Location Map
 - b. Attachment B – Site Map
 - c. Attachment C – Process Wastewater Distribution Diagram
 - d. Information Sheet
 - e. April 2016 Standard Provisions and Reporting Requirements for Industrial Facilities Regulated by Title 27 (Industrial SPRRs)
 - f. December 2015 Standard Provisions and Reporting Requirements: Nonhazardous Solid Waste Discharges Regulated by Subtitle D (Landfill SPRRs)

¹ Surface impoundments are a specific subset of WMUs regulated under Title 27.

5. The facility is on a 308.73-acre property located at 17950 Via Nicolo Road, Tracy. The facility consisted of two Class II surface impoundments (Pond A and B) until 2014 when the Discharger replaced process wastewater storage and evaporation capacity of Pond A with the combined capacity of Pond C and D. Pond A was clean closed in 2017. Three existing Class II surface impoundments (Ponds B, C and D) at the facility comprise approximately 14.5 acres. The Discharger is proposing to construct three additional Class II surface impoundments (Pond E, F and G) adjacent to the existing facility as shown in Attachment B, which is incorporated herein and made part of this Order by reference.
6. The facility is comprised of Assessor's Parcel Numbers (APN) 209-110-19, 209-110-31, 209-110-32, 251-320-08, and 251-320-09 owned by the Studley Company, and APN 209-110-06 owned by Musco Olive Products, Inc. Pond B is located on APN 209-110-31, and Ponds C and D are located on APN 209-110-06. The proposed Ponds E and will be located on APN 209-110-06 and proposed Pond G will be located on APN 209-110-19. The Musco Family Olive Company currently leases the property from the Studley Company for its existing operations including land application of waste generated by said operations.
7. The facility has been in operation at this site since 1983 and consists primarily of fresh olive storage tanks, olive treatment tanks, boilers, olive processing equipment for olive preparation, such as de-stemming and pitting, and canning operations.
8. Domestic wastewater generated at the facility is discharged to an on-site septic system regulated by San Joaquin County's Environmental Health Department. The septic system, located in the former land application area of waste called "Evaporation North," occupies acreage northwest of Pond B. The system distributes sanitary wastewater to three banks of leach fields around Pond B. Facility process wastewater is no longer applied to that area and domestic wastewater is not commingled with process wastewater. The onsite septic system was expanded in 2003 to provide capacity for up to 500 employees from 200 employees.
9. Process wastewater generated at the facility consists of wastewater produced within the processing and storage areas, generated as a result of processing and canning operations, produced by the regeneration of the ion exchange water softener, filter backwash wastewater, boiler blowdown and stormwater runoff from the processing areas. High strength process wastewater including, but not limited to, neutralization brine, boiler top blowdown, floatation brine, canning floor drains and neutralization rinse, are discharged to the Class II ponds. The Discharger also operates a 200,000-gallon reservoir surge tank, an 84 million-gallon (MG) reservoir, and approximately 160 acres of land for application of non-designated waste (low strength process wastewater) that is regulated under separate WDRs Order R5-2010-0025.
10. These WDRs are necessary to regulate the three existing Class II surface impoundments and three proposed Class II surface impoundments that the Discharger is proposing to construct. The Class II surface impoundments are used for containment and evaporation of hypersaline wastewater generated from olive processing. The hypersaline solution is characterized as non-hazardous designated waste and as such is regulated under Title 27, section 20005 et seq. The constituents of concern (COCs) in the wastewater are predominantly salts and total nitrogen as it relates to nitrates in drinking water supplies. These COCs are quantified as electrical conductivity (EC), total dissolved solids (TDS), sodium, chloride, sulfate, pH, chemical oxygen demand (COD), total Kjeldahl nitrogen (TKN), ammonia-nitrogen, nitrate-nitrogen, bicarbonate, calcium, magnesium, potassium, and total alkalinity.

11. On 07 May 2018, the Discharger requested the Central Valley Water Board, in their responses to Board staff's review comment letter², to update WDRs Order No. R5-2014-0125 to allow construction and discharge of waste to proposed Class II surface impoundments Pond E, F and G which were not envisioned in Order No. R5-2014-0125. On 24 August 2018, the Discharger submitted a *design document package* for new Class II surface impoundments Pond E, F and G. The design document package includes *Geotechnical Design Report* for Ponds E, F and G, construction plans and specifications, *Construction Quality Assurance (CQA) Manual*, water balance for the existing and proposed ponds, and a Memorandum for Response to Regional Water Quality Control Board Comments. Board staff used information provided in the *Geotechnical Design Report* (24 August 2018), *Report of Waste Discharge* (ROWD, 13 December 2013), monitoring reports, case files and other supporting documents submitted by the Discharger per Order No. R5-2014-0125. This revision of the WDRs includes:
- a. Discussion of the clean closure of Pond A;
 - b. Discussion of the construction of Ponds E, F and G;
 - c. Operation and maintenance of Class II surface impoundments;
 - d. Expansion of the Water Monitoring System to include surface water, groundwater, and unsaturated zone monitoring associated with new Ponds C-D and proposed Ponds E-G;
 - e. Revision of Monitoring and Reporting Program (MRP) No. R5-2005-0024 to include monitoring and reporting associated with addition of Ponds C-D and proposed Ponds E-G;
 - f. Establishment of a Water Quality Protection Standard (WQPS) to include background concentrations of all monitored mediums e.g. ground water, surface water, unsaturated zone, and concentration limits and criteria for determining whether there is "measurably significant" evidence that a release from a WMU has occurred;
 - g. Establishment of minimum freeboard limitation criteria to ensure Class II surface impoundments have adequate storage during wet season to protect ponds from possible catastrophic failure due to overtopping and/or blowout; and
 - h. Establishment of Action Leakage Rates (ALR) for Ponds C-G for determining when leak inspections and repairs must be initiated and performed in order to maintain integrity of the waste containment liner system.
12. The existing and future Class II WMUs (also known as Ponds) authorized by this Order are described as follows:

² "Review of Draft Geotechnical Design Report, Musco Family Olive Company Plant New Evaporation Ponds E, F and G, Tracy, San Joaquin County" dated 26 March 2018.

Pond ID	Area	Pond Volume up to 2-foot Freeboard	Liner/LCRS ¹ Components ²	Unit Classification & Status
B	4.5 acres	13.78 MG	Double lined with FML over LCRS over Clay	Class II, active
C	4.9 acres	9.26 MG	Double lined with FML over LCRS over FML over compacted subgrade	Class II, active
D	5.1 acres	8.31 MG	Double lined with FML over LCRS over FML over compacted subgrade	Class II, active
E	4.8 acres	12.77 MG	Double lined with FML over LCRS over FML over compacted subgrade	Class II, future
F	2.9 acres	14.29 MG	Double lined with FML over LCRS over FML over compacted subgrade	Class II, future
G	7.0 acres	11.58 MG	Double lined with FML over LCRS over FML over compacted subgrade	Class II, future

¹ LCRS – Leachate Collection and Removal System

² FML-Flexible Membrane Liner (synthetic liner), Clay-low permeability soil having maximum hydraulic conductivity < 1 x10⁻⁶ cm/sec

13. On 10 October 2014, the Central Valley Water Board issued Order No. R5-2014-0125, wherein the existing WMUs at the facility were classified as Class II WMUs for the discharge of designated waste. This Order continues to classify the existing WMUs as Class II WMUs in accordance with Title 27. This Order also finds that the three proposed Ponds E, F and G are classified as Class II WMUs in accordance with Title 27.
14. This Order implements the applicable regulations for discharges of designated waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through H of these WDRs below, and in the applicable Industrial SPRRs and Landfill SPRRs, which are incorporated herein. Monitoring and reporting requirements are included in the Monitoring and Reporting Program (MRP) No. R5-2019-0005 and in the SPRRs. In general, requirements that are either in regulation or otherwise apply to all facilities regulated under Title 27 are considered to be “standard” and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through H) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

15. The Discharger proposes to continue to discharge designated waste to lined Class II surface impoundments at the facility. These classified wastes may be discharged only in accordance with Title 27.
16. Water Code section 13173 defines “Designated Waste” as either of the following:

- a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to section 25143 of the Health and Safety Code.
- b. Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a WMU, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

Unless exempt under Title 27 section 20090, designated waste can be discharged only at Class I WMUs, or at Class II WMUs which comply with Title 27 and have been approved by the Central Valley Water Board through adoption of WDRs for containment of the particular kind of waste to be discharged.

- 17. The following liquids are currently approved for discharge to the Class II ponds:
 - a. Process wastewater produced within the processing and storage areas;
 - b. Process wastewater generated as a result of processing and canning operations;
 - c. Process wastewater produced by the regeneration of the ion exchange water softener, from filter backwash wastewater and boiler blowdown; and
 - d. Stormwater runoff from the processing areas.
- 18. Wastewater is generated from the storage area, the processing areas, the canning areas, and from certain incoming water treatment and boiler feed water treatment processes. Source water for processing comes from California Aqueduct water obtained from the Department of Water Resources State Water Project (SWP). The SWP monitors the water quality at the Harvey Banks Delta Pumping Plant for parameters, including but not limited to, temperature, turbidity, pH, electrical conductivity (EC) and flow. Source water is treated prior to use in the plant.
- 19. Updated flow rates and characteristics of the contributing process wastewater streams that are discharged to the Class II ponds, were provided via email on 21 September 2018. This information updates information originally provided in ROWD Table 3 and Table 6, respectively, and are provided in following table.

Wastewater Source	Est. Flow in gallons per day (gpd)	BOD (mg/L)	NO ₃ (mg/L)	TKN (mg/L)	TDS (mg/L)	FDS (mg/L)	Na (mg/L)	Cl (mg/L)
Neutralization Brine	30,000	14,913	1	300	20,050	10,884	2,863	1,216
"PR" (trade secret)	12,000	3271	<1	35	6,166	3,700	99	1,143
Boiler Top Blowdown	1,587	4.0	0	1	1,179	1,060	404	425
Floatation Brine	3,174	1,202	<0.1	28	21,238	20,050	7,144	12,538
Softener Regeneration	847	3,653	<0.1	58	26,125	25,233	6,100	16,456

Wastewater Source	Est. Flow in gallons per day (gpd)	BOD (mg/L)	NO ₃ (mg/L)	TKN (mg/L)	TDS (mg/L)	FDS (mg/L)	Na (mg/L)	Cl (mg/L)
Sumps and Miscellaneous	10,262	5,450	0.5	79	9,200	5,180	1,477	349
New Olive Product	3,788	3,438	<1	10	14,739	8,843	2,871	986
	Total= 61,658	-	-	-	-	-	-	-

BOD - Biochemical Oxygen Demand
NO₃ – Nitrate
FDS – Fixed Dissolved Solids
Na - Sodium
Cl - Chloride

20. A total volume of 19.5 million gallons of process wastewater was discharged to Ponds B-D in 2017 based on *2017 Annual Monitoring Report*. The design documents for Ponds E-G, submitted by the Discharger did not present estimated process water flow rates to each pond or total process water flow rate. The Discharger shall update the water balance to include anticipated process wastewater flow rates to each pond, as described in Provision H.11.a.7. The Discharger has indicated that the facility routinely shuts down for maintenance purposes and that annually approximately 14.6 million gallons of wastewater would be sent to the Class II surface impoundments.
21. The Discharger provided COC data in the *2017 Annual Monitoring Report for the Class II Surface Impoundments (2017 Annual Monitoring Report)* for samples collected from the existing surface impoundments Ponds B-D from the first semiannual sampling event in 2002 to the second semiannual sampling event in 2017. The following table provides analytical results for COCs in water in the ponds during the second semiannual 2017 sampling event. The table also includes the lowest applicable water quality objective (WQO) for groundwater protection of beneficial uses. COC concentrations that exceed the WQO are in bold.

COC		Pond B	Pond C	Pond D	Lowest Applicable WQO or Goal
Electrical Conductivity	µmhos/cm	38,600	49,400	39,000	700 ¹ , 900 ³
Total Dissolved Solids	mg/L	38,500	53,200	42,300	450 ¹ , 500 ³
Total Kjeldahl Nitrogen	mg/L	80	105	260	
Nitrate as nitrogen	mg/L	0.1	<0.1	<0.1	10 ²
Sodium	mg/L	12,100	18,200	13,800	69 ¹
Chloride	mg/L	7,300	7,900	4,700	106 ¹ , 250 ³
Sulfate	mg/L	30	20	7	250 ³

¹ Agricultural Water Quality Goals (Food & Ag Org. of United Nations)

² CA Department of Public Health- Primary Maximum Contaminant Levels (1st MCL)

³ CA Department of Public Health- Secondary Maximum Contaminant Levels (2nd MCL)

22. The data indicate that the discharge consists of or contains pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable WQOs or that could reasonably be expected to affect beneficial uses of the waters of the state. Therefore, the discharge is a 'designated waste' and as such must be discharged to a Class II waste management unit as required by Title 27.
23. The existing and proposed Class II surface impoundments utilize a double liner which surrounds a leachate collection and recovery system (LCRS). The LCRS situated between the two liners returns any leakage of designated waste through the primary liner back to the surface impoundment from where it originated. The LCRS also serves to prevent any leakage through the primary liner from developing hydraulic pressure on the secondary containment system (secondary liner) which if breached would result in a release of designated waste from the WMU.

SITE DESCRIPTION

24. The facility is located on the eastern foothills of the Coast Range Mountains at the western edge of the alluvial deposits of the San Joaquin Valley of the Diablo Range. The alluvial fan generally slopes to the northeast, and surface elevations at the facility range from 540 feet above mean sea level (MSL) to 240 feet MSL. Slopes range from approximately 20 percent in the southern part of the facility to nearly flat in the northern portions of the facility.
25. Deposits exposed in the area of the facility include (from bottom to top) the Miocene to Pliocene Neroly Formation, the Pliocene to early Pleistocene Tertiary Pliocene sediments (Tps), and older and younger Quaternary alluvium. The Neroly Formation is a marine to non-marine blue to gray sandstone that is locally pebbly. The Neroly underlies the facility with only minor exposures on the south side of the facility. The top of the Neroly Formation is blue clay, which is used as a marker bed for the transition from the Neroly Formation to the Tps, where the Tps conformably overlies the Neroly. The Tps is exposed across most of the facility and consists of fine-grained sands and clayey silts that alternate with greenish gray clays and minor pebble conglomerates, marl, and sand of non-marine origin. Overlying the Tertiary sediments is older and younger Quaternary alluvium consisting of unconsolidated gravels, sands, silts, and clays. Older alluvium is surficially exposed in minor amounts in the northern portion of the facility as terrace deposits. The younger alluvium occurs as thin surficial deposits in the central drainage swale that bisects the facility, with lesser amounts in tributary drainages. Sediments at the facility are derived primarily from marine deposits of the Coast Ranges.
26. The Tertiary sediments are complexly folded and regionally dip 25 to 30 degrees to the northeast. Based on the blue clay at the top of the Neroly Formation, dips on the facility appear to be approximately 20 degrees to the northeast on the south side of the central drainage swale and approximately 10 degrees to the northeast on the north side of the central drainage swale.
27. The Midway fault is located approximately 500 feet southwest of the southwestern corner of the property, and trends northwest/southeast. A lineament parallel to the Midway fault has been mapped bisecting the facility and a series of parallel faults are found further to the southwest. Structure southwest of the facility is fault-blocked anticlines and synclines. The Midway fault is a normal fault that strikes to the northwest with the down-dropped block on the southwest side of the fault. The significance of these faults and lineaments is that they may provide conduits for to the vertical migration of fluids.

28. Fractures are present in outcrops of the Tps and Neroly at and near the facility. These fractures are steeply dipping and occasionally filled with permeable clastic material. The permeable material may provide a conduit for the vertical migration of fluids.
29. The soils at the facility are predominantly clay, clayey silt and silty clay. Two-thirds of the western portion of the facility is located on the materials from the Pliocene period, which consist of sedimentary deposits of the Tulare and Laguna formations. The other one-third (eastern) is situated on the Pleistocene non-marine sediments. Soils at the facility are predominantly mapped as Calla-Carbona complex and Carbona clay loam by the Natural Resource Conservation Service (NRCS). Carbona complex and Cognia fine sandy loam are also found. Calla-Carbona complex is comprised of 45 percent Calla clay loam and 40 percent Carbona clay loam. The Calla soil is described as very deep and well drained on strongly sloping to moderately steep terrain. The Carbona clay loam is described as very deep, well-drained soils on gently to moderately sloping terrain. Carbona complex soils are described as moderately steep and steep soils that are comprised of 45 percent Carbona clay loam and 40 percent Carbona clay loam containing a sandstone substratum at approximately 57 inches. Both of these soils are deep and well drained. Cognia fine sandy loam is described as very deep, well drained, nearly level soil on alluvial fans.
30. There is one onsite supply well used for the facility's domestic water supply, Musco-1. This well is screened from 207 to 607 feet below ground surface (bgs) with a 50-foot sanitary seal.
31. There is a domestic supply located in the vicinity of the Pond D that is used for landscape irrigation. This well is screened from 235 to 335 feet bgs with a 50-foot sanitary seal. This well appears to be cross-gradient from the site.
32. There is an artesian well in the drainage northwest of and adjacent to the site. This well is of unknown construction. The fact that this well is a flowing artesian (i.e., the water level is above the ground surface) and the location is 30 to 40 feet in elevation above the drainage indicates there are upward vertical gradients in the area. Water from this well is used for stock watering.
33. Known groundwater uses within one mile of the site include stock watering and small domestic supply wells.
34. The ROWD describes the area surrounding the facility as largely undeveloped. Local land use is primarily open space, with some neighboring industrial, residential, and agricultural operations. The City of Tracy is located approximately five miles northeast of the facility and includes a mixture of industrial, commercial, and residential uses. A railroad right-of-way crosses both the northern and southern portions of the facility along west-east alignments. Highway 580 is located adjacent to the facility along the northeastern border. Both the California Aqueduct and the Delta-Mendota Canal are located to the northeast opposite Highway 580.
35. Based on a site-specific seismic analysis, the controlling Maximum Credible Event (MCE) for the site is a moment of magnitude 6.7 event along the Great Valley 7 fault at a closest rupture distance of 4.5 miles from the site. The Discharger's consultant Terraphase Engineering determined that a MCE event would produce a peak ground acceleration of 0.66g at the site using the United States Geological Survey's online seismic design maps tool (USGS 2017). The consultant used the methodology of American Society of Civil Engineers (ASCE) standard *Minimum Design Loads for Buildings and Other Structures* ASCE 7 (ASCE 2016) to develop the site specific seismic spectra.

36. The facility receives an average of 9.82 inches of precipitation per year as measured at the Western Regional Climate Center (WRCC) Tracy Carbona Weather Station. The reference evapotranspiration (ET_o) which is considered equal to the evaporation from a large body of water, such as a pond or lake is 53.48 inches per year as measured at the California Irrigation Management Information System (CIMIS) Tracy Station# 167.
37. The 100-year return period of the wettest year was calculated to be 21.0 inches based on the probability distribution of the WRCC's annual precipitation data at the Tracy Carbona Weather Station for the period of record (1949-2012).
38. The 1,000-year, 24-hour precipitation event for the facility is estimated to be 4.74 inches, based on NOAA Atlas 14, Volume 6, Version 2, Point Precipitation Frequency Estimates for California.
39. The waste management facility is not within a 100-year flood plain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Numbers 0602990700A and 06077C0725F.

SURFACE WATER AND GROUNDWATER CONDITIONS

40. The *Water Quality Control Plan for Sacramento and San Joaquin River Basins, Fifth Edition* (Basin Plan) designates beneficial uses, establishes water quality objectives (WQOs), and contains implementation plans and policies for all waters of the Basin.
41. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).
42. Storm water drainage from the site flows to an unnamed ephemeral stream that extends eastward toward the valley floor in the North Diablo Range Hydrologic Area (Unit# 543.00) of the San Joaquin Hydrologic Basin. Storm water from the process areas is collected in secondary containment, routed via drains to sumps and pumped to a wastewater treatment/storage reservoir regulated by WDRs Order R5-2010-0025. Storm water from a small chemical storage area is directed to the Class II surface impoundments.

The facility is not required by federal regulations to be regulated by an industrial activities storm water NPDES permit. The Discharger was previously covered under an Industrial Storm Water Permit (WDID# 5S39I017003) issued under Order No. 97-03-DWQ, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (NPDES General Permit CAS000001). On 1 August 2014, the Discharger provided a letter dated 13 March 2002 from the Department of the Army, U.S Corps of Engineers (Army Corps) who completed their evaluation of the unnamed drainage that bisects the facility property, and made the finding that the drainage is isolated with no apparent interstate commerce connection. The industrial storm water permit was terminated by the Central Valley Water Board on 21 July 2015 after the Discharger filed a Notice of Intent (NOI) on 13 June 2014 and Notice of Termination (NOT) approval request on 21 May 2015 saying that the storm water is retained on site and the facility does not discharge storm water to waters of the United States.

43. The Discharger has identified three distinct water bearing zones in the vicinity below the site: shallow zone, intermediate zone and deep zone. The shallow zone and intermediate zone have

been identified as groundwater existing less than 75 feet below ground surface (bgs) and between approximately 100 feet and 120 feet bgs, respectively. The deep zone has been identified as groundwater existing greater than 150 feet bgs.

44. The direction of groundwater flow in the intermediate zone below the Ponds is generally toward the northeast. The estimated average groundwater gradient is approximately 0.0041 feet per foot per October 2017 groundwater monitoring results.
45. There are five shallow wells monitoring the shallow zone (perched groundwater) underlying existing Ponds B, C, and D. Shown below are the depths and a summary of the monitoring results:

Monitoring Well	WMU(s) monitored	Screened Depth (feet msl)	Monitoring Results
MW-10	Pond B	239 to 249	Reported dry (groundwater declined below bottom of screened interval) since 01/2005
MW-11	Pond B	234 to 239	Declining groundwater elevation since 04/2002. Reported dry (groundwater declined below bottom of screened interval) since 12/2003 except for one monitoring event on 03/2006
MW-19	Pond B	209 to 229	Installed as a dry well in 2006. Reported dry to date except for two monitoring events in 2011
MW-20	Pond B	201 to 221	Installed as a dry well in 2006. No groundwater ever recorded to date.
MW-21	Pond B	192 to 212	Installed as a dry well in 2006. No groundwater ever recorded to date.

46. Shallow zone monitoring data indicate that shallow ground water has declined to depths where it is no longer encountered. It is unclear if this shallow zone of perched water has disappeared or whether the monitoring system is no longer able to monitor it due to well screen placement. The Discharger presented in the *Geotechnical Design Report, Proposed Musco Family Olive Company New Evaporation Ponds E, F and G (22 August 2018)* that long term monitoring of groundwater monitoring wells WM-10R, 33 and 35R, indicates that the shallow water bearing zone has been dry since 2004. Therefore, the shallow zone has been classified as a perched zone and the intermediate zone is the primary water bearing zone for region located between 100 to 250 feet bgs. However, the Discharger shall continue to monitor the shallow zone per Monitoring A.1. of MRP No. R5-2019-0005.
47. The intermediate zone, which functions as the primary water bearing zone, has been identified as groundwater existing between 100 and 120 feet below ground surface (bgs). There are twelve intermediate zone wells monitoring the existing Ponds B, C, and D. Shown below are monitoring well screened depths and a summary of the latest COC concentrations reported in the 2017 Annual Monitoring Report.

Monitoring Well	WMU(s) monitored	Screened Depth (feet msl)	EC umhos/cm	TDS mg/L	Na mg/L	Cl mg/L	NO ₃ as N mg/L
MW-10R	Ponds B, C, and D	158 to 178	Dry Well				
MW-12	Pond B	166 to 181	Dry Well				
MW-17	Pond B	203 to 223	Dry Well				
MW-18	Pond B	166 to 186	Dry Well				
MW-18R	Pond B	151 to 171	3,330	1,970	572	620	6.4
MW-20R	Pond B	141 to 161	2,900	2,000	524	460	41.2
MW-21R	Pond B	144 to 164	3,460	2,260	628	520	12.8
MW-32	Pond B	164 to 184	Dry Well				
MW-34	Ponds C and D	147 to 157	2,800	1,560	475	520	8.9
MW-35R	Ponds C and D	100 to 120	3,230	2,030	602	510	8.8
MW-36	Ponds C and D	130 to 140	3,320	2,060	9.4	540	9.4
PZ-1	Ponds C and D	143 to 153	Piezometer used for water levels only				

48. The Discharger has not established background groundwater quality for the intermediate zone. This Order requires the Discharger to establish background water quality for the purposes of establishing WQPS and concentration limits at each point of compliance and monitoring point in the intermediate zone (See Provisions H.11.a.2).

The water bearing zone in the area of PZ-1, MW-35R, and MW-36 are not hydraulically connected with the water bearing zones detective in the northern portion of the site. Data collected in January 2018 indicates that groundwater flow in the shallowest water bearing zone (the “intermediate” zone discussed above) in the vicinity of PZ-1, MW-35R, and MW-36 is to the south with a drop in elevation of approximately 5.5 feet between PZ-1 and MW_36. Similar groundwater behavior was noted in March 2018 and July 2017. Monitoring will continue at these locations to verify this information. This Order in Provisions H.11.a.8. requires the Discharger to establish groundwater flow and direction underneath Pond D to ensure that compliance wells comply with Title 27 requirements in order to provide earliest detection of a release to underlying groundwater.

UNSATURATED ZONE, LCRS AND SURFACE WATER MONITORING

49. These WDRs in Provisions H.11.a.5 require the Discharger to evaluate the current unsaturated zone monitoring system in order to bring the site into compliance with Title 27 requirements for detection monitoring within the unsaturated zone.
50. Previous WDRs included 40 suction lysimeters that existed at the site to function as part of the unsaturated zone monitoring system at the site. Suction lysimeters are inherently unreliable and therefore will no longer be a part of the unsaturated zone monitoring system for this site. Existing and proposed pan lysimeters are the appropriate monitoring devices at this site.
51. The Discharger operates an unsaturated zone monitoring system below Ponds C and D through one pan-type lysimeter placed directly below each pond LCRS sump (See Attachment B). The proposed Ponds E, F and G will also have pan-type lysimeters placed directly below each pond LCRS sump. The pan lysimeter monitors any leakage through the pond's secondary liner in the

LCRS sump area. The LCRS sump area is considered the most likely area that a release from the Class II surface impoundment containment system will occur since the secondary liner in the sump area could experience the greatest head pressure (up to 1 foot) due to any leakage through the primary liner. Significant free liquid discovered in pan lysimeters monitoring the unsaturated zone below existing Ponds C, D and proposed ponds E, F and G is considered evidence of a release from the containment system and requires the Discharger to respond in accordance with Title 27 requirements. MRP No. R5-2019-0005 incorporates pan lysimeters PL-C and PL-D for compliance monitoring of the unsaturated zone beneath Ponds C and D.

52. The Discharger monitors water quality in the Class II surface impoundments as part of its surface water quality monitoring program. These WDRs prohibit the discharge of designated waste to waters of the state.
53. Storm water drainage from the site flows to an unnamed ephemeral stream that extends eastward toward the valley floor in the North Diablo Hydrologic Area (Unit #543.00) of the San Joaquin Hydrologic Basin. Storm water from the process areas is collected in secondary containment, routed via drains to sumps and pumped to a wastewater treatment/storage reservoir regulated by WDRs Order R5-2010-0025. Storm water from a small chemical storage area is directed to the surface impoundments.
54. As noted in Finding 40, The Discharger previously conducted monitoring of storm water under the Industrial Storm Water Permit (WDID# 5S39I017003) issued under WDRs 97-03-DWQ Order, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (NPDES General Permit CAS000001). The Discharger submitted a Notice of Termination on 21 May 2015 that claimed the facility did not discharge to waters of the US and could contain the largest historic rain event. The CVRWQCB approved the Notice of Termination on 21 July 2015.
55. WDRs R5-2014-0125 required the Discharger to monitor storm water runoff adjacent to the now clean closed Pond A and existing Pond B for the COCs listed above and allowed the Discharger to report monitoring results under the NPDES General Permit as long as the Discharger was covered by that Permit. As the facility is no longer covered under the NPDES General Permit, the Discharger is required to continue monitoring and reporting of storm water runoff adjacent to the clean closed Pond A and Pond B at the location designated as storm water monitoring point SW-4 on a biannual. With the changes at the facility that have occurred since the last WDRs were written, including construction of Ponds C-D and now the proposed construction of Ponds E-G, the Discharger shall submit a surface water monitoring plan as part of the WQPS as described in Provision H.11.a.2.
56. The Discharger submitted "GW Limitations Compliance Assessment Plan – Class II surface impoundments" report in March 2015 that included an updated Water Quality Protection Standard (WQPS) report proposing statistical data analysis methods to calculate concentration limits for each monitored constituent in accordance with Title 27. This Order requires the Discharger to submit an updated WQPS for Ponds B-D as described in Provision H.11.a.2.

GROUNDWATER CORRECTIVE ACTION

57. At the time this Order was adopted, the Discharger has not reported any evidence of a release from the existing Class II surface impoundments. Since 2005, the Central Valley Water Board has worked with the Discharger to evaluate the performance of the former Pond A LCRS with the concern of its operability. On 14 December 2012, the Discharger reported that the LCRS in former

Pond A continued to fail operability tests and on 17 September 2013 the Discharger notified the Regional Board that Pond A's storage and evaporation capacity would be replaced with Ponds C and D as a corrective action to Pond A with inoperable LCRS. The Ponds C and D were designed and constructed to replace the storage and evaporation capacity of Pond A. Once Ponds C and D were operational, the Discharger stopped discharging waste to former Pond A and clean closed it in 2017.

DESIGN OF WASTE MANAGEMENT UNIT(S)

58. Water Code section 13360, subdivision (a)(1) allows the Central Valley Water Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.
59. Title 27 section 20310 Table 4.1 specifies the minimum construction standards for a double lined Class II surface impoundment consisting of, from top to bottom:
 - a. A primary synthetic liner (40-mil minimum thickness).
 - b. A Leachate Collection and Removal System (LCRS) more commonly referred in industry as a Leakage Detection System (LDS) in surface impoundment applications.
 - c. A secondary clay liner consisting of minimum two-foot thickness with maximum hydraulic conductivity of 1×10^{-6} cm/sec.
60. Pond B was constructed in 1991 with a liner system consisting of, from top to bottom:
 - a. A primary synthetic liner (45-mil Hypalon reinforced chlorosulfonated polyethylene synthetic liner);
 - b. LCRS with ridges and valleys along the bottom with 4" perforated collector pipes and two LCRS sumps;
 - c. A secondary liner (two to three-foot thick low permeability native clay layer); and
 - d. A compacted subgrade.
61. Ponds C and D were constructed in 2014, with an engineered alternative double liner system, consisting of, from top to bottom:
 - a. A primary synthetic liner (80-mil High Density Polyethylene (HDPE) geomembrane);
 - b. A LCRS (Non-woven needle-punched 6-ounce geotextile bonded on both sides of a 300-mil tri-planar geonet);
 - c. A secondary synthetic liner (45-mil scrim reinforced polypropylene geomembrane); and
 - d. A compacted subgrade with minimum slope of 2% towards the LCRS sump.
62. The Discharger proposes an engineered alternative double liner system for the three proposed Class II surface impoundments (Ponds E-G), same as Ponds C-D, consisting of, from top to bottom:

- e. A primary synthetic liner (80-mil High Density Polyethylene (HDPE) geomembrane);
 - f. A LCRS (Non-woven needle-punched 6-ounce geotextile bonded on both sides of a 300-mil tri-planar geonet);
 - g. A secondary synthetic liner (45-mil scrim reinforced polypropylene geomembrane); and
 - h. A compacted subgrade with minimum slope of 2% towards the LCRS sump.
63. Title 27 section 20080(b) allows the Central Valley Water Board to consider the approval of an engineered alternative to the prescriptive standard. In order to approve an engineered alternative in accordance with Title 27 section 20080(c)(1) or (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in section 20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also demonstrate that the proposed engineered alternative(s) provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27 section 20080(b)(2) of Title 27 and that any proposed engineered alternative is consistent with the performance goal in accordance with Title 27 sections 20240, 20250, and 20310.
64. The Discharger proposes a liner system that will be designed, constructed, and operated to prevent migration of wastes from the Unit to adjacent natural geologic materials, groundwater, or surface water during disposal operations, closure, and the post closure maintenance period in accordance with the criteria set forth in Title 27 for Class II units.
65. The Discharger adequately demonstrated that construction of the liner prescriptive standard for the Class II surface impoundment as described in Title 27 would be unreasonable and/or unnecessarily burdensome when compared to the proposed engineered alternative design because the prescriptive standard using clay as the secondary liner of a double liner system is not as protective of water quality as using the proposed alternative design. The Discharger has demonstrated that the proposed engineered alternative is consistent with the performance goals of the containment structures for a Class II WMU affords equivalent protection against water quality impairment.
66. Leachate collected through the existing LCRSs is discharged to the respective sumps and pumped back to the Class II surface impoundment where the leachate is generated from. The Discharger proposes that LCRS of the proposed Ponds E-G will be operated same as existing Ponds C-D.
67. Title 27 sections 20370(a) and 21750(f)(5) require Class II WMUs to be designed under both static and dynamic conditions to withstand the maximum credible earthquake (MCE) without damage to the Unit, including the foundation, final slopes, and containment structures including structures that control leachate, surface drainage, or erosion, or gas throughout the Unit's life, closure period, and post-closure maintenance period. The Discharger submitted Geotechnical Design Report dated 22 August 2018, prepared on its behalf by Terraphase Engineering, that contained a stability analysis for the proposed Class II surface impoundments (Ponds E, F and G). The stability analysis for the Class II surface impoundments was performed under both static and dynamic conditions. The controlling MCE for the site is a moment of magnitude 6.7 event along the Great Valley 7 fault (Finding 33) and the associated PGA is 0.66 g at the site. The Discharger has determined that pseudostatic earthquake acceleration of 0.33 g, half the PGA caused by MCE moment of magnitude 6.7 earthquake, is sufficient for this facility. The static stability analysis indicates a factor of safety of

2.5, which is greater than the factor of safety of 1.5 required by Title 27. The dynamic (seismic) stability analysis using the ground acceleration of 0.0.295g, less than ground acceleration of 0.33 g, indicates a factor of safety of 1.0, which is less than the required 1.5. However, Title 27 section 21750(f)(5)(D) allows the Discharger to utilize a more rigorous analytical method that provides a quantified estimate of the magnitude of movement in lieu of achieving the minimum factor of safety of 1.5. The Discharger performed a Newmark type analysis which determined that under dynamic conditions the maximum magnitude of movement of the berms during an earthquake is estimated at 10 inches which is less than the minimum freeboard requirement of 2 feet. Therefore, the Discharger concluded “no loss of freeboard is expected even if the outer slopes of the berm do move.” Finally, Terraphase Engineering provided six recommendations during preparation and construction of the berms upon which the stability analysis relies on that the Discharger is responsible for ensuring in order for the stability analysis to be valid. This Order requires the Discharger to implement a Construction Quality Assurance (CQA) plan that implements those recommendations.

68. Title 27 section 20375(a) requires Class II surface impoundments to have sufficient freeboard to accommodate seasonal precipitation and a 1,000-year 24-hour design storm event, but in no case less than two feet. The 1,000 year, 24-hour storm event for the site is 4.74 inches (or 0.4 feet), and is referred to hereafter as the “design storm.” For Title 27 required seasonal precipitation, the Discharger has been required to use the 100-year wet season distributed monthly to prevent overflow of the impoundment or less than two feet of freeboard during a reasonable worst-case scenario wet season. The 100-year 365-day precipitation event for the site is 21.0 inches. The ROWD specified how this rainfall would be distributed monthly as tabulated below:

Month	100-Year Precipitation Distributed Monthly (Inches)
<i>January</i> ¹	4.0
<i>February</i> ¹	3.6
<i>March</i> ¹	2.9
<i>April</i> ¹	1.8
May	1.0
June	0.2
July	0.1
August	0.2
September	0.4
October	1.1
<i>November</i> ¹	2.4
<i>December</i> ¹	3.4
Total	21.0

¹Months shown in italics are considered wet season months

69. The Discharger submitted a water balance for Class II surface impoundment Ponds B-G, prepared by Terraphase Engineering on behalf of the Discharger, dated 14 August 2018. The water balance assessed the operational capacity of existing and proposed Class II surface impoundments under different rainfall conditions. Three rainfall cases were studied in the water balance to evaluate the function of the surface impoundments over 50-year period and the rainfall cases are:

- a. 50-years of normal average rainfall

- b. 100-year rainfall volumes occurring four times during 50-years, (years, 10, 11, 12 and 25), and
- c. Removal of Pond G for a period of four years after 9 years of operation and average rainfall during the period Pond G was out of service.

The water balance report presented the details of the Class II surface impoundments, monthly weather data (precipitation and evaporation) and the analysis results for different rainfall cases, and concluded that the Class II surface impoundments have sufficient capacity and surface area to evaporate all process water and rainfall over a 50-year period, and to maintain 2-foot freeboard at all times. However, the estimated average process wastewater flowrate to the Class II surface impoundments and pond capacity loss due to solid accumulation were not provided in the water balance report. The Discharger shall revise the water balance report as described in Provision H.11.a.7.

- 70. Title 27 section 20375 (a) states that surface impoundments shall be operated to maintain minimum of 2-foot freeboard and part (c) states that direct discharge to surface impoundments shall be either equipped with devices or shall have fail-safe operating procedures to prevent overfilling. Estimated annual average process wastewater flow that will be discharged to the Class II surface impoundments is 19.3 MG. However, process wastewater generation rate at the facility depends on year-to-year variations in crop production. In the ROWD which addressed the design of Ponds C and D, the Discharger proposed alternative disposal methods for excess process wastewater to maintain 2-foot freeboard in the Class II surface impoundments when the water level reaches freeboard requirements and the proposed alternative disposal methods are:
 - a. Cease operations for extended periods as necessary during the rainy season; and
 - b. Haul excess wastewater to a permitted wastewater treatment facility for disposal.

The Discharger submitted Operations and Maintenance (O&M) Plan for Surface Impoundments B-D, dated 29 January 2015, which did not include the alternative disposal methods for excess process wastewater in the event of Class II surface impoundment water level reaches 2-foot freeboard requirements. The Discharger shall update and submit the O&M Plan that meets Title 27 section 21760(b) requirements, to include operation and maintenance of existing and proposed Class II surface impoundments and any contingency plan that to be implemented to maintain 2-foot freeboard, as described in Provision H.11.a.6. Additionally, the Discharger shall monitor and report inflow rates and water level at each Class II surface impoundments, and any off-site disposal of excess process wastewater per section A of Monitoring and Reporting Program (MRP) R5-2019-0005.

- 71. The daily freeboard levels for Ponds B-D presented in *Annual 2017 Monitoring Report* indicate that the Class II surface impoundments storage capacity and freeboard are adequately managed by the Discharger.
- 72. This Order includes an Action Leakage Rate (ALR) for the Class II surface impoundment LCRS. The ALR is the maximum flow rate through the primary liner to the LCRS beyond which the Discharger is required to take actions to inspect and repair the primary liner system. The ALR is typically based on the recommendations in the 1992 USEPA guidance document Action Leakage Rate for Leak Detection Systems. The guidance recommends that ALR for lined surface impoundments be set at no more than 1,000 gallons per acre per day (gpad) unless site-specific conditions dictate otherwise.

The Discharger proposed an ALR of 3,000 gpad in *Geotechnical Design Report* for Ponds C-D, dated 10 April 2014, for the following reasons:

- a. The 1992 EPA guidance document provides for different ALR than the rule of thumb based on site-specific conditions;
- b. The Musco surface impoundments exceed the minimum Title 27 design standards for the secondary liner allowing additional leakage through the primary liner;
- c. The drainage layer's ability to pass 3,000 gpad without building up head on the secondary liner;
- d. Potential difficulties locating very small holes in the primary liner with hypersaline water;
- e. Consulting engineer, Jeff Raines (California Professional Engineer No. C51120 and Geotechnical Engineer No. 2762) certified that an ALR of 6,000 gpad would pass through the LCRS and meet the requirements of Title 27 for head build-up; and
- f. The Santa Ana Regional Water Board allowed 2,700 gpad for a surface impoundment site in the Riverside area.

Staff identified that 1,000 to 3,000 gpad values have been set for WDRs at other Central Valley sites. Therefore, due to the proposed double-lined system and the hypersaline water to be stored in the ponds, Order No. R5-2014-0125 set the 3,000 gpad ALR for the Ponds C-D and sets the 1,000 gpad ALR for existing Pond B. The ALR for Pond B is based on historical leakage rates. In the *Geotechnical Design Report* for Ponds E-G, the Discharger estimated that the LCRSs of the proposed Ponds E-G have sufficient capacity to handle liquid flow rate greater than 3,000 gpad. This Order sets the ALR for the proposed Ponds E-G at 3,000 gpad, same as Ponds C-D. Actual leakage rates for the existing and proposed ponds will be calculated based on readings of the flow totalizer that records flow from the LCRS back to the Class II surface impoundment from where the leakage was collected and removed.

73. Discharge of wastewater to Ponds E-G will proceed only after all applicable construction quality assurance reports have been approved by Board staff. (See Provision H.11.a.1.)

CLEAN-CLOSURE OF SURFACE IMPOUNDMENTS

74. The Discharger submitted *Pond A Clean Closure Work Plan*, Revision 3.0 dated 7 October 2016, prepared by Terraphase Engineering on behalf of the Discharger, for the closure of Pond A pursuant to Title 27, section 21400, subdivision (b)(1), and *Surface Impoundment A Clean Closure Report* dated 15 March 2017. The Central Valley Water Board approved the clean closure of Pond A on 29 March 2017.
75. A Preliminary Closure Plan (PCP) for Ponds B-D dated 21 May 2014 was included in *ROWD 2013 Addendum* submittals. Pursuant to Title 27, section 21400, subdivision (b)(1), the PCP proposes clean-closure of the three surface impoundments. The liner system, LCRS, sludges, and any contaminated soil will be removed, and then recycled or taken offsite to an appropriately-permitted landfill. The soil underlying the impoundment will be sampled for the presence of contaminants, and if necessary will be removed and disposed of at the appropriate waste disposal site. This Order requires a final closure plan be submitted prior to commencement clean-closure activities on Ponds B-D, per Closure and Post-Closure Maintenance Specification E.2.

76. The PCP for Ponds B-D includes an itemized cost estimate for third party costs to clean-close the surface impoundments. The total estimate to clean-close the Ponds B-D at the end of their useful life is \$2.33 million in 2014 dollars. This final cost estimate, out of the \$3.28 million for clean-closure of former Pond A, and existing Ponds B-D, was approved by the adoption of previous WDRs Order No. R5-2014-0125.
77. The Discharger provided an estimated postclosure cost of \$1.43 million, in 2018 dollars, in the *Musco Family Olive Company Financial Assurance Plan*, dated 22 March 2018. The estimate was not separated for individual closures Ponds B, C and D and corrective actions. These WDRs require the Discharger to provide an updated cost for closure of each Class II surface impoundments.
78. Title 27 section 21400 sets the closure requirements for the surface impoundments and allows the Discharger either to clean close the surface impoundment, or close as a landfill or land treatment unit in cases where clean-closure is infeasible. Further, Title 27 section 21769(a) and (b) sets the closure and post-closure maintenance plan requirements including estimate of the cost of carrying out all actions necessary to close the unit and for the Regional Water Board's review and approval of such plans. The Discharger did not submit a PCP and the closure cost estimates for the proposed Ponds E-G with the design documents submitted on 24 August 2018. The Discharger shall submit a PCP and the closure cost estimates for the proposed Ponds E-G, as described in Provision H.11.a.

FINANCIAL ASSURANCES

79. Pursuant to Title 27, sections 22207, subdivision (a), the Central Valley Water Board requires operators of Class II surface impoundments to "establish an irrevocable closure fund (or to provide other means) pursuant to [Chapter 6 of Title 27, i.e., sections 22240-22254] ... to ensure closure ... in accordance with an approved plan meeting all applicable SWRCB-promulgated requirements of [Title 27]."
80. Disposal of solids, which gradually accumulate over the working life of the surface impoundment, accounts for the majority of estimated clean-closure costs. The longer a surface impoundment is in operation, the more expensive disposal will be. When a surface impoundment is prematurely closed, the volume of accumulated solids for disposal will therefore be proportionally less than the volume on the planned closure date. For this reason, Order No. R5-2014-0125, allowed the Discharger to provide prorated financial assurances based on estimated solids accumulation in each Class II surface impoundment. This Order continues to allow financial assurances prorated over the operating life of each surface impoundment, based on estimated solids accumulation by 1 September every year, as described in Provision H.11.a.3 of this Order.
81. Pursuant to Title 27, section 22222, the Central Valley Water Board also requires operators of Class II surface impoundments to "establish an irrevocable fund (or to provide other means) pursuant to [Chapter 6 of Title 27, i.e., sections 22240-22254] ... to ensure funds are available to address a known or reasonably foreseeable release[s]...."
82. The Discharger identified two reasonably foreseeable corrective actions associated with former Pond A and existing Pond B in *Musco Family Olive Company Financial Assurance Report*, dated 17 April 2015. Further, the Discharger assumed that no corrective action for Ponds C and D as these ponds were constructed in 2014, and waste had not been discharged to Ponds C-D at the time of

report submittal. Estimated cost for reasonably foreseeable corrective action associated with the former Pond A and B is \$59,000 in 2015 dollars.

83. The Discharger did not distinguish between cost estimates for closure and corrective action in its *Musco Family Olive Company Financial Assurance Plan* dated 22 March 2018. Additionally, a cost estimate for corrective action was not included in the design documents submitted for proposed Ponds E-G. This Order requires the Discharger submit a corrective action cost estimate for existing and proposed ponds, as described in Provision H.11.a.3 of this Order.
84. Upon approval of the corrective action cost estimate for the existing and proposed ponds, the Discharger shall establish financial assurances for corrective action in accordance with the approved cost estimate naming the Central Valley Water Board as the beneficiary, and submit corrective action cost estimate annually adjusted to account for inflation and financial assurances by 1 September every year, as described in Provision H.11.a.4.
85. To the extent that the Discharger seeks to use the “financial means test” as a financial assurance mechanism for closure or corrective action, Chapter 6 of Title 27 does not expressly permit for such an application. (See Title 27, § 22246; see also Title 27, § 22200 [defining the “financial means test” as the mechanism “by which an operator demonstrates his or her ability to pay third party claims ... and/or to pay future postclosure maintenance costs...”].) Even if the “financial means test” were permitted to be used as a financial assurance mechanism for closure or corrective action under Title 27, such applications will not ultimately provide adequate assurances. This is partly because the “financial means test” is functionally equivalent to self-insurance, which does not fully account for unforeseeable financial difficulties that might require diversion of funds otherwise set aside for closure or corrective action. Moreover, the “financial means test” does not adequately demonstrate that the Discharger is taking affirmative steps to fund the full cost of closing its surface impoundments.

CEQA AND OTHER CONSIDERATIONS

86. In accordance with the California Environmental Quality Act (CEQA)(Pub. Resources Code, § 21000 et seq.), the San Joaquin County Community Development Department prepared and circulated an Initial Study and Mitigated Negative Declaration (SCH #2018082020) that contained an analysis of the potential for the project (construction of three new Class II surface impoundments) to result in significant environmental effects. The Board, acting as a responsible agency, was consulted during the development of these documents. San Joaquin County’s Community Development Department certified the Initial Study and Mitigated Negative Declaration on 6 September 2018. As a CEQA responsible agency, the Central Valley Water Board finds that the mitigated negative declaration, including issuance of these WDRs, will ensure that any water quality impacts are less than significant.
87. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the facility is assigned a threat-complexity rating of **2-B**, based on the following:
 - a. Threat to Water Quality—Category 2: “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. Complexity—Category B: “Any discharger not included in 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.”

88. Water Code section 13267, subdivision (b)(1) provides that:

[T]he Regional Board may require that any person who has discharged, discharges..., or who proposes to discharge waste 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.

89. The technical reports required by this Order, as well as under the separately-issued Monitoring and Reporting Program No. R5-2019-0005, are necessary to verify the Discharger’s compliance with WDRs prescribed in this Order.

PROCEDURAL REQUIREMENTS

90. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.
91. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
92. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. R5-2014-0125 is rescinded (except for purposes of enforcement); and that Musco Olive Products, Inc. and The Studley Company, their agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of “hazardous waste,” as defined per Title 23, section 2510 et seq., is prohibited.
2. The discharge of solid waste or liquid waste to surface waters, surface water drainage courses, or groundwater is prohibited.
3. The discharge of wastes outside of a waste management unit (WMU) or portions of a WMU specifically designed for their containment is prohibited.

4. The Discharger is prohibited from allowing the pressure head on the secondary liner of any Class II surface impoundment to exceed one foot, except for LCRS sump area where liquid depth shall be kept at the minimum needed for safe pump operation.
5. The Discharger is prohibited from placing waste in Ponds E-G until all applicable construction quality assurance reports have been approved by Central Valley Water Board staff.
6. The Discharger shall comply with all applicable Standard Prohibitions listed in Section C of the Standard Provisions and Reporting Requirements dated April 2016 (Industrial SPRRs).

B. DISCHARGE SPECIFICATIONS

1. Only nonhazardous liquid wastes shall be discharged to the Class II surface impoundment. The discharge shall not cause a condition of pollution or nuisance as defined by the Water Code section 13050. The nonhazardous liquid wastes allowed to be discharged to the Class II surface impoundments are:
 - a. Process wastewater produced within the processing and storage areas;
 - b. Process wastewater generated as a result of processing and canning operations;
 - c. Process wastewater produced by the regeneration of the ion exchange water softener, from filter backwash wastewater and boiler blowdown; and
 - d. Stormwater runoff from the processing areas.
2. Prior to the discharge of waste to a Class II waste management unit, all wells within 500 feet of the unit shall have sanitary seals or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Central Valley Water Board and to the State Department of Water Resources.
3. The Discharger shall comply with all applicable Standard Discharge Specifications listed in Section D of the Industrial SPRRs.

C. FACILITY SPECIFICATIONS

1. Annually, prior to the anticipated rainy season but no later than **1 November**, any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed and reported as required by MRP No. R5-2019-0005.

Class II Surface Impoundments

2. All Class II surface impoundments shall have containment capacity for all wastewater flows into the impoundment, precipitation from a 100-year wet season of 21.0 inches distributed monthly, and a 1,000-year 24-hour storm event of 4.74 inches, and shall maintain at least 2.0 feet of freeboard at all times. To ensure compliance with this requirement, the Discharger shall maintain at least 2.4 feet (2.0 feet plus the amount needed to hold the design storm to the nearest tenth of a foot) of freeboard during the wet season except in the event of a storm equal to or exceeding

the 1,000-year 24-hour design storm event in which case at least two (2.0) feet of freeboard must be maintained.

3. The Discharger shall **immediately** notify Board staff by telephone and email, in the event that freeboard levels are equal to or less than the minimum freeboard requirements set forth in Specification C.2.
4. The Discharger shall record daily onsite rainfall using an onsite rain gauge, and continue using the California Irrigation Management and Information system, using station number 167 Tracy (or nearest alternate station if #167 is offline) as a backup to track the magnitude of precipitation events.
5. The Discharger shall also record surface impoundment freeboard levels in accordance with the attached monitoring and reporting program.
6. Any direct-line discharge to a surface impoundment shall have fail-safe equipment or operating procedures to prevent overflowing.
7. The surface impoundment(s) shall be designed, constructed, operated, and maintained to prevent scouring and/or erosion of the liners and other containment features at points of discharge to the impoundments and by wave action at the water line.
8. Leakage removed from a surface impoundment's primary LCRS shall be discharged to the impoundment from which it originated.
9. The **Action Leakage Rate** (ALR) for each Class II surface impoundment is as follows:

Pond Identification	B	C	D	E	F	G
Area (acres)	4.5	4.9	5.1	4.8	2.9	7.0
Action Leakage Rate (gpad)	1,000	3,000	3,000	3,000	3,000	3,000
Notification Level (gpd) ¹ (33% above ALR)	1,485	4,851	5,049	4,752	9,504	14,400
Evaluation Monitoring Trigger (gpd) ¹ (66% above ALR)	2,970	9,702	10,098	2,871	5,742	8,700
Corrective Action Level (gpd) ¹ (100% above ALR)	4,500	14,700	15,300	6,930	13,860	21,000

¹Gallons per day (gpd) shall be measured by a calibrated flow totalizer.

- a. If leakage in the LCRS of the Class II surface impoundment exceeds the **Notification Level**, the Discharger shall:
 1. Submit written notification within **seven days** that includes historical and graphical information which describes how the leakage in the class II surface impoundment has increased over time to reach the Notification Level.
 2. Discuss any noticeable increases in leakage rates that may indicate a significant defect has developed in the primary liner.

- b. If leakage in the LCRS of the Class II surface impoundment exceeds the **Evaluation Monitoring Trigger**, the Discharger shall:
 1. **Immediately** notify Central Valley Water Board staff by telephone and email.
 2. Submit written notification within **seven days** with an evaluation monitoring plan that proposes increased monitoring and reporting of the LCRS and unsaturated zone, and a contingency plan for how the facility will operate if the pond level reaches the Corrective Action Level.
 3. Provide information specified at the notification level.
 4. Provide estimated schedule of when pond can be repaired to meet facility operational needs.
- c. If leakage in the LCRS of the Class II surface impoundment exceeds the **Corrective Action Level**, the Discharger shall:
 1. **Immediately** notify Central Valley Water Board staff by telephone and email.
 2. Submit written notification within **seven days** that includes a time schedule to locate and repair leak(s) in the liner system.
 3. Submit a plan to reduce head pressure on the primary liner such that leakage through the primary liner is reduced to the evaluation monitoring trigger leakage rates.
 4. If repairs do not result in a leakage rate less than the required Notification level leakage rates, the Discharger shall submit written notification within seven days that includes a time schedule for replacement of the upper liner of the surface impoundment or other action necessary to reduce leakage production.
 5. Complete repairs or liner replacement in accordance with the approved time schedule under "2" and/or "4", above.
10. For existing and proposed surface impoundments, the Discharger shall perform an annual LCRS transmissivity test to determine the ability of the LCRS to contain and transmit liquid to its sump pump without allowing excessive head pressure upon the secondary liner. At least 60 days prior to performing the test, the Discharger shall submit a workplan including proposed pass/fail criteria. The workplan, once approved by Central Valley Water Board staff shall be used to determine when the LCRS is failing and when the Discharger is required to perform evaluation monitoring and corrective action.
11. Free liquid detected in a pan lysimeter of a Class II surface impoundment is an indication of a release from the secondary containment structure. In this case, the Discharger shall:
 - a. **Immediately** notify Board staff by telephone and email that free liquid has been detected in the pan lysimeter.
 - b. **Immediately** sample and test the liquid in accordance with the unsaturated zone monitoring requirements in MRP R5-2019-0005.

- c. Submit written notification to Board staff within **seven days** including a time schedule to repair the containment structures, if a release has been confirmed.
 - d. Complete repairs of the containment structures in accordance with the approved time schedule.
12. The Discharger shall distribute wastewater to the class II surface impoundments as shown in Attachment C, the Discharger's wastewater distribution diagram, which is incorporated herein and made part of this Order by reference. Any modification to the Discharger's wastewater distribution diagram contained in Attachment C shall be submitted to the Executive Officer for prior approval as modifications to the Discharger's operations plans per Title 27 sections 20375(b) and 21760(b).
 13. Solids that accumulate in the Class II surface impoundments shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for surface impoundment inflows. Prior to removal of these solids, sufficient samples shall be taken for their characterization and classification pursuant to Article 2, Subchapter 2, Chapter 3, Division 2 of Title 27. The rationale for the sampling protocol used, the results of this sampling, and a rationale for classification of the solids shall be submitted to Board staff for review at least 60 days prior to the date for the removal of the solids.
 14. Solids that accumulate in the solids removal screen as shown in Attachment C (prior to discharge to the Class II surface impoundments) shall be collected in a manner that prevents liquid or other waste from coming in contact with the ground surface.
 15. The Discharger shall operate and maintain the Class II surface impoundments in accordance with an approved O&M plan that complies with Title 27 sections 20375 and 21760(b).
 16. The Discharger shall comply with all applicable Standard Facility Specifications listed in Section E of the Industrial SPRRs.

D. DESIGN AND CONSTRUCTION SPECIFICATIONS

1. Containment structures and precipitation and drainage control systems shall be constructed and maintained to prevent, to the greatest extent possible, inundation, erosion, slope failure, and washout under 1,000-year, 24-hour precipitation conditions.
2. WMUs shall be designed, constructed and operated to prevent inundation or washout due to flooding events with a 100-year return period.
3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over their operating life.
4. Materials used to construct the LCRS shall have appropriate physical and chemical properties to ensure the required transmission of primary liner leakage over the life of the surface impoundments and the post-closure maintenance period.

5. The LCRS shall be designed, constructed, operated, and maintained to collect twice the anticipated daily volume of leakage generated by each surface impoundment and to prevent the buildup of hydraulic head on the underlying liner at any time. The LCRS pump shall be capable of removing this volume of leakage or twice the Action Leakage Rate flow, whichever is greater.
6. The depth of the fluid in any LCRS sump shall be kept at the minimum needed for safe pump operation without excessive pump cycling that could damage the pump.
7. The Discharger shall submit a design report including plans, specifications, and a construction quality assurance plan for review and approval prior to constructing any new lined WMU.
8. The Discharger shall submit a final report documenting construction of any new lined WMU for review and approval prior to discharging wastes to the WMU.
9. The Discharger shall comply with all Standard Design and Construction Specifications listed in Section E of the Industrial SPRRs.

Class II Surface Impoundments

10. The Class II surface impoundment Ponds E, F and G liner system shall consist of:
 1. A primary synthetic liner (80-mil High Density Polyethylene (HDPE) geomembrane);
 2. A LCRS (Non-woven 6-ounce needle-punched geotextile bonded on both sides of a 300-mil tri-planar geonet);
 3. A secondary synthetic liner (45-mil scrim reinforced polypropylene geomembrane); and
 4. A compacted subgrade with minimum slope of 2% towards the LCRS sump that is properly constructed per manufacturer's specifications to accept the secondary liner without jeopardizing liner integrity due to surface irregularities.
11. All Class II surface impoundments shall have a LCRS sump to collect and return all liquid within the sump to the impoundment resulting from leakage through the primary liner. The LCRS sump shall include a dedicated automated pump to remove leakage and return it to the impoundment.
12. All Class II surface impoundments shall have backup provisions installed, operational, and routinely tested for the LCRS dedicated automated sump pump such that the time interval required to repair/replace a LCRS sump pump shall not cause leakage from the primary liner to exceed a maximum one-foot pressure head limitation on the secondary liner.
13. All Class II surface impoundments shall have a flow totalizer to measure liquid volumes pumped from the LCRS sump in order to track leakage rates.

14. All new Class II surface impoundments shall have an unsaturated zone monitoring system consisting of a pan lysimeter beneath the entire LCRS sump area of the impoundment that is capable of detecting a release to the unsaturated zone at the earliest time possible per Title 27 requirements.
15. All Class II surface impoundments and any overflow basin shall have permanent markings on the liner, or a permanent freeboard gauge so that the freeboard can be observed and recorded at any time. The reference point zero shall be in relation to the lowest point along the top of the surface impoundment containment berm e.g. spillway. The markings or gauge shall have increments no greater than 0.10 feet in vertical height. The freeboard gauge shall also have major markings clearly indicating critical freeboard depths including 2-foot vertical freeboard level below the reference point.
16. The Discharger shall comply with all applicable Standard Construction Specifications listed in Section F of the Industrial SPRRs.
17. The Discharger shall comply with all applicable Storm Water Provisions listed in Section L of the Industrial SPRRs.

E. CLOSURE AND POST-CLOSURE MAINTENANCE SPECIFICATIONS

1. At closure of a Class II surface impoundment, the Discharger shall propose clean closure of the unit pursuant to Title 27 section 21400(b)(1) unless demonstrated and the Central Valley Water Board finds that it is infeasible to attempt clean closure. In the case of clean closure, all precipitates, settled solids, and liner materials contaminated by wastes, and adjacent natural geologic materials contaminated by wastes shall be completely removed for disposal to an approved Unit in accordance with an approved final closure plan. If after reasonable attempts to remove contaminated natural geologic materials, the Discharger demonstrates that removal of all remaining contamination is infeasible, the impoundment and/or overflow basins shall be closed as a landfill pursuant to Title 27 section 21400(b)(2)(A). In this event, the Discharger shall backfill and grade the area and submit a revised Final Closure and Post-Closure Maintenance Plan proposing a final cover meeting the requirements of Title 27 section 21090 and shall perform all post-closure maintenance in the approved Post-Closure Maintenance Plan. The Discharger shall also submit updated Financial Assurances for post closure maintenance and monitoring.
2. Prior to closure, the Discharger shall submit a Final Closure and Post-Closure Maintenance Plan prepared by a California-registered civil engineer or certified engineering geologist, and that contains all applicable information required in Title 27 section 21769. The plan shall include any applicable closure/post-closure elements proposed in the ROWD, and shall meet the requirements of this Order.
3. The Discharger shall comply with all Closure and Post-Closure Maintenance Specifications listed in Section F of the Industrial SPRRs dated April 2016.

F. FINANCIAL ASSURANCES

1. Financial Assurances for Closure of Surface Impoundments

- a. By **17 July 2019**, the Discharger shall submit a report demonstrating it has, in accordance with Title 27, section 22207, subdivision (a), either:
 - i. Established an irrevocable closure fund to pay for closure activities;
 - ii. Obtained another financial assurance mechanism expressly provided for with respect to closure activities under Title 27, Chapter 6, Article 2 [§ 22240 et seq.], or a combination of such mechanisms;³ or
 - iii. Obtained or established another mechanism not expressly provided for under Title 27, Chapter 6, Article 2, but approved by the Executive Officer in writing, with a determination that the proposed mechanism provides financial assurances at least equivalent to those mechanisms expressly provided for under Title 27, Chapter 6, Article 2 with respect to closure activities.
- b. The Discharger's irrevocable closure fund or other financial assurance mechanism shall be sufficient to pay for initial closure of each of the Discharger's four onsite surface impoundments at the Facility, in accordance with the Discharger's operative closure plan for each surface impoundment. (See Provision H.11; Finding 78.) The amount shall be individually prorated according to the operating life of each surface impoundment, particularly with respect to the accrual of accumulated solids estimated as of 1 September of each year.

2. Financial Assurances for Corrective Action

- a. By **17 July 2019**, the Discharger shall also submit a report demonstrating it has, in accordance with Title 27, section 22222, either:
 - i. Established an irrevocable fund to pay for corrective action;
 - ii. Obtained another financial assurance mechanism expressly provided for with respect to corrective action under Title 27, Chapter 6, Article 2 [§ 22240 et seq.], or a combination of such mechanisms; or
 - iii. Obtained or established another mechanism not expressly provided for with respect to corrective action under Title 27, Chapter 6, Article 2, but approved by the Executive Officer in writing, with a determination that the proposed mechanism provides financial assurances at least equivalent to those mechanisms expressly provided for under Title 27, Chapter 6, Article 2 with respect to corrective action.
- b. The Discharger's irrevocable fund or other financial assurance mechanism shall be sufficient to address known or reasonably foreseeable releases from its Class II surface impoundments. This amount shall not be prorated.

³ The "Financial Means Test" is not a financial assurance mechanism expressly contemplated with regard to either closure or corrective action. (See Title 27, § 22246.)

3. Funding of Financial Assurance Mechanisms

- a. If the funding of any financial assurance mechanism is required, and no payment schedule is proposed, the mechanism shall be fully funded, in the amount required, as of **17 July 2019**.
 - b. In lieu of immediate funding, the Discharger may propose a graduated payment schedule for fully funding any of its chosen financial assurances.
 - c. No later than **1 September 2019**, the Discharger shall submit a report either (i) confirming that its chosen mechanisms are fully funded in the amount required, or (ii) proposing a graduated payment schedule capable of achieving full funding within an appropriate timeframe. (See Provision H.11.)
4. The Central Valley Water Board shall be designated as the beneficiary for all financial assurance mechanisms obtained or established pursuant to this Order.
 5. By **1 September** of each year following 2019, the Discharger shall submit a report to the Central Valley Water Board that reports the balance of both the closure and corrective action funds or the amounts of the Guarantees and the adjustments to account for inflation in accordance with Title 27, section 22236.
 6. The Discharger shall comply with all applicable Standard Financial Assurance Specifications listed in Section H of the Industrial SPRRs dated April 2016.

G. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program (MRP) No. R5-2019-0005, and the applicable Standard Monitoring Specifications listed in Section I of the Industrial SPRRs dated April 2016.
2. The Discharger shall, for any surface impoundment (waste management unit or WMU) in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-2019-0005, and the applicable Standard Monitoring Specifications listed in Section I of Industrial SPRRs dated April 2016.
3. The Discharger shall comply with the Water Quality Protection Standard (WQPS) as specified in this Order, MRP No. R5-2019-0005, and the applicable sections of the Industrial SPRRs dated April 2106.
4. The concentrations of the constituents of concern (COCs) in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the WMU) or Monitoring Points shall not exceed the concentration limits established pursuant to MRP No. R5-2019-0005.
5. For each monitoring event, the Discharger shall determine whether the WMU is in compliance with the WQPS using procedures specified in MRP No. R5-2019-0005 and the Standard Monitoring Specifications in Section I of the Industrial SPRRs dated April 2016.

6. The Discharger shall comply with MRP No. R5-2019-0005 regarding any changes to the Discharger's monitoring system for its Class II surface impoundments due to implementation of an Evaluation Monitoring Program or Corrective Action Program on any WMU.
7. The Discharger shall comply with all applicable Standard Monitoring Specifications and Response to a Release specifications listed in Sections I and J of the Industrial SPRRs dated April 2016.

H. PROVISIONS

1. The Discharger shall comply with the applicable sections of the Industrial Standard Provisions and Reporting Requirements, dated April 2016, which are attached hereto and made part of this Order by reference. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the applicable Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
2. Pursuant to Water Code section 13267, the Discharger shall comply with Monitoring and Reporting Program No. R5-2019-0005, which is attached to and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring groundwater, the unsaturated zone, and surface waters throughout the active life of the waste management units and any applicable post-closure maintenance period. A violation of Monitoring and Reporting Program No. R5-2019-0005 is a violation of these waste discharge requirements.
3. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
4. The Discharger shall maintain legible records of the volume and type of waste discharged to the surface impoundments and the manner and location of the discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period for each surface impoundment. These records shall be available for review by representatives of the Central Valley Water Board and of the State Water Resources Control Board. Copies of these records shall be sent to the Central Valley Water Board upon request.
5. The Discharger shall comply with all applicable provisions in Title 27 regulations that are not specifically referred to in this Order.
6. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order and of the California Water Code.
7. The Discharger shall immediately notify the Central Valley Water Board of any flooding, equipment failure, slope failure, or other change in site conditions that could impair the integrity of waste or wastewater containment facilities or precipitation and drainage control structures.
8. In the event of any change in control or ownership of the facility or disposal areas, 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 this office. 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 General Provision K.2.e in the Industrial Standard Provisions and Reporting Requirements 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 California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

9. In the event a surface impoundment is closed as a landfill, the Discharger shall provide proof to the Central Valley Water Board **within sixty days after completing the final closure** of the surface impoundment that the deed to the facility property, or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property stating that:
 - a. The parcel has been used for disposal of wastes.
 - b. Land use options for the parcel are restricted in accordance with post-closure land uses set forth in any post-closure plan (if applicable).
 - c. In the event that the Discharger defaults on carrying out either any corrective action needed to address a release, groundwater monitoring, or any post-closure maintenance (if applicable), then the responsibility for carrying out such work falls to the property owner.
10. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
11. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared in accordance with Provisions H.10:

<u>Task</u>	<u>Compliance Date</u>
a. Submit the following information:	
1. CQA: Submit all applicable Final Construction Quality Assurance (CQA) Reports for Ponds E, F and G to demonstrate that construction was completed in accordance with approved construction plans (see Standard Construction Specifications in Section F of the SPRRs). The CQA Reports shall include a description of the permanent pumps and pipes to be used to convey wastewater to Ponds E, F, and G	90 days after completion of construction

<p>2. WQPS: Submit a proposed Water Quality Protection Standard that complies with Title 27 section 20390 for groundwater and unsaturated zone for Ponds B, C, D, E, F, and G using a minimum of 8 samples. The WQPS shall establish background water quality for the purposes of anti-degradation analysis and for establishing concentration limits at each monitoring point and point of compliance.</p>	<p>180 days after approval of the CQA Report</p>
<p>3. Corrective Action Financial Assurance Estimate: Submit updated financial assurances estimate that complies with Title 27 section 22222 for corrective action for known or reasonably foreseeable releases from all class II surface impoundments.</p>	<p>17 July 2019</p>
<p>4. Preliminary Closure Plan and Financial Assurances: Submit Preliminary Closure Plan, cost estimates, and financial assurance demonstrations for closure and corrective action, as described in Specifications F.1 and F.2.</p>	<p>17 July 2019</p>
<p>5. Monitoring System Certification: Submit certification per Title 27 Section 20415(e)(1) that the Class II surface impoundment monitoring system for Ponds E, F, and G complies with Title 27 requirements.</p>	<p>90 days after Ponds E, F, and G are constructed</p>
<p>6. Revised Operations and Maintenance (O&M) Plan: Submit an O&M Plan that complies Title 27 section sections 20375 and 21760(b) as well as describes how freeboard violations will be prevented during the wet season (see Finding 117 and Facility Specification C.15)</p>	<p>30 August 2019</p>
<p>7. Revised Water Balance for the Class II Surface Impoundments The Discharger shall submit a revised water balance for the Class II surface impoundments including the proposed Ponds E, F and G for Water Board staff review and approval. The revised water balance shall take following factors into account:</p> <ul style="list-style-type: none"> a) The average daily base wastewater inflows. b) Evaporation losses from the Class II surface impoundment total gallons per year, and distributed monthly. c) The 100-year wet season distributed monthly in accordance with average monthly rainfall patterns. d) The total surface area of the Class II surface impoundment in square feet (or) acres. e) The total surface area of the site runoff area captured by 	<p>20 March 2019</p>

<p>the impoundment in square feet (or) acres, specially the uncovered process area.</p> <p>f) The design storm event requirements that translates to additional freeboard that needs to be maintained to accommodate the design storm event.</p> <p>g) The capacity of the lined impoundment at the 2-foot and 2.4 feet freeboard levels in gallons.</p> <p>h) Loss of storage volume in the surface impoundment due to solids accumulation each year.</p>	
<p>8. Pond D Compliance Well Placement: Submit a technical report that certifies that compliance point MW-35R is placed downgradient of Pond D sump and the two associated piezometers (constructed as monitoring wells) have been located such that they comply with Title 27 requirements for a groundwater monitoring system.</p>	<p>2 March 2019</p>

12. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Central Valley Water Board.
13. The Central Valley Water Board will review this Order periodically and may revise requirements when necessary.
14. This Order shall take effect upon the date of adoption.
15. The Discharger shall comply with all applicable General Provisions listed in Section K of the SPRRs dated November 2013.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5pm on the 30th day after the date that this Order becomes final, except that if the 30th day falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5 pm on the next business day. Copies of the law and regulations applicable to filing petitions are available on the Internet (at the address below) and will be provided upon request.

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

I, PATRICK PULUPA, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 February 2019.

ORIGINAL SIGNED BY

PATRICK PULUPA
 Executive Officer