

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**TENTATIVE ORDER NO. R2-2020-00XX**

**UPDATED WASTE DISCHARGE REQUIREMENTS AND RESCISSION OF ORDER  
NO. R2-2008-0027 FOR:**

**VISTA CORPORATION  
CLOVER FLAT LANDFILL, INC.**

**CLOVER FLAT RESOURCE RECOVERY PARK (CFFRP)  
CLASS III SOLID WASTE DISPOSAL FACILITY  
CALISTOGA, NAPA COUNTY**

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

- 1) The Vista Corporation owns the site on which Clover Flat Inc. operates the Clover Flat Resource Recovery Park, or the Clover Flat Landfill (hereinafter, CFL or landfill). The Vista Corporation and Clover Flat Landfill, Inc., are hereinafter referred to as the Discharger. The CFL is located at 4380 Silverado Trail in Calistoga, Napa County (Figure 1).
- 2) The landfill began accepting waste in 1963, providing waste disposal services for communities within the northwestern portion of Napa County. The CFL is a Class III municipal refuse disposal site that accepts only municipal solid waste generated within the service area. No hazardous, liquid, or infectious wastes or sewage sludge are accepted at the landfill.

**PURPOSE OF ORDER**

- 3) The purpose of this Order is to:
  - a) Update the site name;
  - b) Update waste discharge requirements (WDRs) to reflect the construction of an additional landfill module since the last WDR update;
  - c) Specify liner and leachate collection and recovery system construction requirements for future module construction, consistent with the requirements of title 27, Division 2, Subdivision 1 of the California Code of Regulations (CCR, title 27);
  - d) Require a comprehensive effectiveness assessment of the current groundwater monitoring well and landfill gas well networks;
  - e) Require an updated Self-Monitoring Plan;
  - f) Require permanent, adequate storage for leachate, and proper conveyance for stormwater;
  - g) Require the Discharger to measure landfill leachate levels in fill modules and restore riser and cleanout pipes; and
  - h) Rescind previous Water Board Order No. R2-2008-0027.



- 4) This Order does not authorize the filling of wetlands or waters of the State. Such activities require separate authorization by the Water Board pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code §§ 13000 et seq.; Porter-Cologne Act) and/or Section 401 of the Clean Water Act. Such activities, if permitted, may require an amendment or update of WDRs contained in this Order for any proposed fill area.

## **SITE DESCRIPTION AND LOCATION**

- 5) The CFL is located in a steep east-west trending canyon in the northeastern portion of the Napa Valley. An unnamed ephemeral creek runs along the eastern border of the site which drains to the Napa River approximately one mile to the south. The landfill is located off the Silverado Trail approximately three miles east of the town of Calistoga (See the Site Location Map, Figure 1). The properties within one mile of the landfill are designated as “Agriculture, Watershed and Open Space” and “Agricultural Resource” by the Napa County Conservation Development and Planning Department.
- 6) The CFL has a permitted refuse area that occupies 44 out of 79 acres within the permitted facility boundary; the facility is located within a larger parcel of approximately 180 acres owned by Vista Corporation. The permitted refuse disposal area is divided into “fill areas” referred to as Modules (Figure 4). As a canyon-fill operation, modules are constructed in phases until the final build-out of the entire landfill configuration is reached. Surface elevations along the perimeter of waste range from approximately 610 to 925 feet above mean sea level (msl). The final landfill elevation is permitted to reach 1000 feet msl.

## **REGULATORY HISTORY**

- 7) In April 1988, the Water Board adopted WDRs for the site (Order No. 88-058). In November 1988, the Discharger submitted the “Master Development Report” for the landfill, which contained the Report of Waste Discharge (ROWD). The ROWD requested an expansion of the operating waste footprint from 12 acres to 44 acres.
- 8) In June 1990, the Napa County Department of Conservation, Development, and Planning Commission issued a Use Permit for the site, which has since been modified numerous times (1996, 2000, 2010, 2011, and 2018). The most current permit, dated February 12, 2018, allows composting in aerated static piles instead of in-vessel composting and will expire on February 12, 2021, should composting not begin by then. An updated Use Permit (Major Modification P19-00385) is currently in draft.
- 9) In November 1991, the Water Board updated the CFL’s WDRs with the adoption of Order No. 91-160, which required a leachate management plan and Water Quality Protection Standards (WQPS) and rescinded Order No. 88-058.
- 10) In April 2001, the California Integrated Waste Management Board (now known as CalRecycle) issued a Solid Waste Facility Permit (SWFP) No. 28-AA-0002 for the landfill. As the Local Enforcement Agency (LEA) acting on behalf of CalRecycle, the Napa County Department of Environmental Health reissues the SWFP approximately every 5 years. The current SWFP is dated July 30, 2014, and an update to the SWFP is forthcoming, upon approval by CalRecycle.



- 11) On May 14, 2008, the Water Board updated the WDRs (Order No. R2-2008-0027) to reflect the construction of additional landfill modules, the construction of a new landfill gas extraction system, and changes to the groundwater and surface water monitoring program. Order No. R2-2008-0027 required an evaluation of stormwater and leachate production and storage capacity and rescinded the previous WDRs (Order No. 91-160).
- 12) In December 2011, the Discharger requested a revision to the SWFP to allow an increase in the permitted area from 78 to 79 acres for a 1-acre recycling center expansion with proposed gate entrance grading; extension of the closure date from 2021 to 2047; a decrease in landfill capacity from 5.1 to 4.56 million cubic yards; an increase in storage capacity for recyclables; and the addition of in-vessel food waste composting operations. With this major modification to the Use Permit, the name of the facility became the Clover Flat Resource Recovery Park (CFRRP).
- 13) In April 2013, a Joint Technical Document was prepared to incorporate the SWFP, updated in May 2011, and the major modifications to the Use Permit (dated December 2011), which contained the revisions approved in connection with the 2011 Mitigated Negative Declaration (see Findings #57-58 below).
- 14) The site is covered by the State Water Resources Control Board Water Quality Order No. 2014-0057-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Industrial Activities (NPDES No. CAS000001).

## **WATER QUALITY IMPACTS AND COMPLIANCE HISTORY**

- 15) On March 29, 2019, a Notice of Violation (NOV) was issued to the Discharger for improper storage of both leachate and stormwater, and intentional release of a stormwater/leachate mixture into the unnamed creek along the eastern perimeter of the site. The NOV cited failure to comply with Order No. R2-2008-0027 and the State Board Order No. 2014-0057-DWQ.
- 16) On April 10, 2019, an Emergency Cleanup and Abatement Order No. R2-2019-0014 (CAO) was issued which required the Discharger to perform corrective actions to address water quality violations and unlawful discharges of landfill leachate to waters of the state, as detailed in the March 2019 NOV. The CAO required the following:
  - a) Immediately cease all discharges to the creek (completed)
  - b) Cease spraying of leachate during rain events (completed)
  - c) Cease all leachate seeps from the active landfill area (not completed)
  - d) Collect creek samples (completed)
  - e) Submit a work plan to repair erosion on the final soil cap of Modules 1 and 2B (completed)
  - f) Repair and replace the leachate collection system (partially completed)
  - g) Install a stormwater capture and storage system (partially completed)
  - h) Submit a cleanup and creek restoration plan- see #17 below.



Each of the items that have not been fully completed to date are discussed in the Specifications section below. Most of the work completed at the site in response to the Emergency CAO was done to alleviate immediate water quality concerns at the site, and in some cases were temporary solutions. Certain Provisions in Section C below require permanent solutions to site operations to prevent future water quality impacts, per title 27 CCR.

17) On August 27, 2019, an Amendment to CAO No. R2-2019-0014 was issued to address ongoing sources of sediment due to lack of appropriate erosion and sediment controls at the site, and the potential for sediment deposited in the two unnamed creeks (see Figure 3 for creek locations) to be mobilized and transported further downstream. The modified creek channel (referred to as creek 2) that flows along the northwesternmost portion of the site joins with the main creek flowing from north to south (referred to herein as either creek 1, or the creek, as in Finding 22 below). This Amendment (Order No. R2-2019-0027) required the following:

- a) A technical report describing the unauthorized activities that resulted in the vegetation clearing and discharge of sediment to creeks 1 and 2; delineation of the extent of waters of the State and U.S.; and extent of impacts to aquatic resources including volume of sediment discharged (completed)
- b) A Corrective Action Plan to address the threat of sediment discharge by 1) implementing appropriate erosion and sediment controls to adequately stabilize and protect all disturbed areas at the Site; 2) remove sediment discharged to creeks 1 and 2 including sediment transported downstream; and 3) prevent sediment that was previously discharged to the creek from being transported further downstream (completed)
- c) A Restoration, Mitigation, and Monitoring Plan (RMMP, not completed)

## **GEOLOGY AND SEISMICITY**

18) Clover Flat is located in the Upper Napa Valley in a region consisting of a relatively thin cover of Quaternary alluvium overlying a thick sequence of older volcanic, sedimentary, metamorphic, and ultramafic rocks exposed in the hills surrounding the valley. Bedrock in the area consists of predominantly Pliocene-age Sonoma Volcanics with minor amounts of Cretaceous age sedimentary and metamorphic rocks of the Franciscan Formation. The Quaternary alluvium consists of unconsolidated and poorly sorted deposits of gravel, sand, silt, and clay. Sonoma Volcanics underlie the site and are composed predominantly of tuffaceous rocks with relatively minor amounts of interbedded siliceous rocks, claystone, and siltstone. The tuffaceous rocks consist primarily of fine-grained lapilli tuff, tuff, agglomerate tuff, and breccia. Some of the volcanic rock units at the landfill site contain crystalline pyrite, which, when exposed through weathering, can lower the pH of water. The surficial deposits include soil and colluvium, shallow landslide materials, and discontinuous alluvial deposits associated with the unnamed ephemeral creek located adjacent to the toe (east) of the waste footprint.

19) The landfill is located in a very seismically active area, and is surrounded by several major faults, including:

- a) San Andreas, 33 miles west
- b) Green Valley, 30 miles southeast



- c) Healdsburg-Rodgers Creek, 12 miles southwest
- d) Maacama, 8 miles northwest

A fault zone and three small thrust faults have been mapped at the site. The fault zone is well exposed in excavations of the canyon walls and on the north-facing slopes. None of these faults could be traced for an appreciable distance, and measurable offset was observed (EMCON, 1996).

## HYDROGEOLOGY AND SURFACE HYDROLOGY

- 20) Groundwater beneath the site occurs primarily within the fractured Sonoma Volcanics bedrock. In general, groundwater levels in on-site monitoring wells completed in the Sonoma Volcanics (B-2, B-3, B-4, B-5B, B-11, and B-12) indicate minor amounts of groundwater occurs at depths ranging from approximately 70 to 240 feet below ground surface (bgs). Groundwater yields in the on-site monitoring wells are generally low; most of the monitoring wells require several days to recover completely after sampling. The degree of interconnection of the fracture network is not well known but is judged to be low on the basis of wide differences in static groundwater levels in monitoring wells with similar ground-surface elevations. This is exhibited by the 160-foot difference in groundwater elevation between wells B-5B and B-11/B-12. The groundwater potentiometric surface within the fractured bedrock drops to the east and generally coincides with the fall of the former canyon that is now occupied by the landfill. In addition to the fractured bedrock groundwater system, minor amounts of groundwater occur seasonally within alluvial deposits along the ephemeral creek east of the landfill. Groundwater collects within these deposits in response to precipitation and recharge from seasonal surface flow in the creek. Groundwater in the alluvial deposits does not appear to be in direct communication with groundwater in the fractured bedrock groundwater system, as indicated by contrasting groundwater levels between alluvial monitoring well B-5A (less than 20 feet bgs) and adjacent bedrock monitoring well B-5B (typically 80 to 85 feet bgs) (Golder, 2019).
- 21) Surface water occurs at the site as improved springs, surface runoff from precipitation, and an ephemeral creek along the eastern boundary of the site. Two improved springs are located within the footprint of the landfill expansion area, downgradient of well B-2 (see Figure 3). Water from these springs was previously collected in a piping system and stored for non-potable domestic uses. Site runoff from precipitation is collected in ditches, routed around the active filling area, and diverted to the creek.
- 22) The creek flows from north to south past the landfill toe area and along the eastern perimeter of the facility (creek 1), before flowing off-site onto neighboring properties (including several vineyards) and then draining into the Napa River more than one mile downstream. The upper portion of the landfill is separated from creek 1 to the east by a branch ravine containing an ephemeral stream known as creek 2, see Figure 3.
- 23) Stormwater runoff at the landfill has recently been divided into 11 drainage areas, as shown in Figure 3. There are three basins currently acting as sedimentation and/or flow-through basins. Two are located outside of the landfill footprint in the northernmost portion of the site, and the third is located along the westernmost landfill footprint.



- a) Drainage area 1 includes the northernmost portion of the facility, where stormwater runoff sheet flows from north to south into a vegetated drainage channel, then to a flow through sedimentation basin. The flow through sedimentation basin is designed to accumulate no more than 2 feet of water under the 100-year, 24-hour design storm event. A culvert conveys stormwater in the flow through basin under the road to another the second shallow sedimentation basin.
- b) Drainage area 2 includes portions of the haul road and the densely vegetated areas north of the cut slope. Runoff from this area collects in down-drains which discharge to a v-ditch along the top of the cut slope.
- c) Drainage area 3 includes the cut slope and north slope of the active landfill area. Runoff from this area collects in a sedimentation basin at the bottom of Module 5A. The sedimentation basin features rip-rap berms spaced approximately 100 feet apart to enhance sedimentation prior to discharge.
- d) Drainage area 4 includes a portion of the top deck of the landfill, including the working face, and the materials processing facility (MPF).
- e) Drainage area 5 includes the maintenance area, scale house, and office area. Runoff in this area is collected in roadside ditches which convey water to a culvert at the top of the main access road.
- f) Drainage areas 6 through 11 are each a portion of the main facility access road. Runoff from the main facility access road sheet flows into a roadside ditch which is drained by seven culverts.

## **LANDFILL DESIGN, CONSTRUCTION, AND OPERATION**

- 24) The CFL solid waste disposal facility has been constructed as a series of canyon-fill waste modules, as described below (see Figure 4, Fill Sequencing Plan):
  - a) The initial module (Module 1 shown on figure 4) located in the southeast portion of the landfill's current footprint and is approximately 3 acres in size. Its base is unlined and was constructed at an approximate elevation of 730 feet msl. The module was closed with a final cover consistent with the 1979 Closure Plan.
  - b) Module 1, the second disposal cell to be constructed, is in the central and southern portions of the landfill. Module 1 was constructed in two vertical phases identified as Phases 1A (unlined) and 1B (lined). Phase 1A was constructed over existing waste and has no base liner but has a leachate barrier at the toe. Phase 1B was constructed to partially overlap Phase 1A and has a liner system and leachate collection and removal system (LCRS) at its base.
  - c) Module 2 was constructed in the eastern portion of the landfill in two phases identified as Phases 2A and 2B, both of which are lined and have an LCRS. Module 3 was constructed in the western portion of the landfill at the same time as Module 2B.
  - d) Module 3 is lined and has an LCRS.
- 25) Wastes accepted at the landfill include residential garbage and rubbish, commercial and nonhazardous industrial refuse, demolition and construction waste, brush and stumps, large appliances, tires, street refuse, and occasionally grape pomace. The material recovery operations accept mixed loads of construction and demolition materials, self-haul loads, and dry loads of mixed commercial recyclables for processing. The site receives street sweepings from Yountville, and leaves from Calistoga in October and November. The facility accepts



large volumes of grape stakes and vines from vineyard renovation projects. This Order also allows the landfill to receive nonhazardous solid waste such as small dead animals, and sludge from the St. Helena and Calistoga wastewater treatment plants.

- 26) The landfill does not accept hazardous or treated wood waste for on-site disposal, but it does facilitate recycling of household hazardous wastes such as: waste motor oil, used car batteries, and latex paint for the general public. Waste oil is temporarily stored on the paved area near the entrance building in a 1,000-gallon double-wall tank. Accumulated waste oil is periodically collected for recycling by a licensed hazardous waste hauler. Used batteries are stored in a lined recycling container inside of a small building on the paved area near the entrance building. The used batteries are collected once every two weeks by a battery recycler. Latex paint is received each day and stored within the recycling center at the landfill. Paints are separated between oil-based and water-based and stored in double contained boxes, which are disposed of once per month. Treated wood waste collected at CFL is sent to Potrero Hills and Hay Road Landfills for disposal in Class II cells.

## **LANDFILL SEQUENCING**

- 27) The landfill was and continues to be developed in phases, or modules. The original construction and waste placement began with Phase 1A of Module 1, which is unlined. Phase 1B of Module 1 entails a horizontal and a vertical expansion, whereby refuse is placed beyond the original landfill footprint and above the Phase 1A disposal area. Phase 1B has a liner system and a leachate barrier, constructed on the finished grade of the Phase 1A disposal area, which was completed in 1995.
- 28) Module 2A was constructed in 1997 as a horizontal and vertical expansion, where refuse was placed beyond the original landfill footprint and above Module 1, Phase 1A. Construction included an earth fill toe berm, liner system, groundwater interceptor underdrain, and a geonet over the Phase 1A slope to provide a continuous leachate barrier.
- 29) Modules 2B and 3 were constructed in 2002 and 2003. The construction included installation of a base liner system, a stormwater outlet pipe, and extension of both the underdrain system and leachate collection and recovery system (LCRS). Module 2B also had a stability toe berm installed, which formed the eastern edge of the Module.
- 30) Since the previous WDRs (Order No. R2-2008-0027) were adopted, Module 5A was constructed in 2015. Module 5A covers an area of approximately 6 acres and is currently receiving waste. The liner design for Module 5A (approved by Water Board staff in September 2014) includes the following major components, from bottom to top:
- 1-foot thick soil operations layer
  - 8 oz/sy geotextile separator
  - 1-foot thick granular leachate collection layer
  - 80-mil high density polyethylene (HDPE) geomembrane
  - geocomposite liner (GCL)
  - 1-foot-thick low-permeability subgrade preparation layer.



- 31) Wastes are currently being placed over portions of Modules 2A and 5A. Module 4 is the next planned expansion in approximately two to three years.

### Leachate Management

- 32) CFL has two leachate collection systems, one for the older unlined portion of the landfill, and the other for the lined expansion area. A leachate barrier was constructed in 1987 at the toe of the unlined Module 1A to control the migration of leachate from the refuse fill area. Leachate is intercepted and conveyed to a riser and pump at the low point (the toe) of the landfill, then pumped up to five temporary leachate storage tanks. The toe barrier is approximately 150 feet long and consists of a clay core approximately 10 feet wide, which is backed by a geotextile-wrapped gravel drain that runs along the refuse side of the barrier. The core is tied to a two-foot wide clay key in the bedrock along the entire length of the toe barrier. Leachate is also extracted from a leachate extraction well (LEW-2), which is located approximately 100 feet upslope of the toe barrier, and then pumped up to five temporary leachate storage tanks.
- 33) Leachate generated within the lined expansion area is collected in the Module 2 sump (M-2S) and the Module 5 sump (M-5S) and gravity-fed to five leachate temporary leachate storage tanks (Figure 5). Landfill gas condensate is captured by a series of separate transmission lines and gravity-fed to a separate storage tank near the flare station.
- 34) Up until September 2019, leachate was pumped to three concrete tanks, each with a 10,000-gallon storage capacity. Landfill gas condensate was pumped into an adjacent cylindrical steel tank with a 5,000-gallon capacity. Per CAO No. R2-2019-0014, CFL was required to repair or replace these tanks as they were in disrepair and did not provide adequate storage capacity. The steel condensate tank was removed in April 2019 and the three concrete leachate tanks were removed in September 2019. In October 2019, Golder prepared an “Interim Leachate and Landfill Gas Condensate Management Plan” to address management of leachate and condensate at the CFL.
- 35) Five temporary leachate storage tanks, each with a capacity of 21,000 gallons, were brought in to replace the older tanks that were removed. The tanks are placed on a secondary containment system of plastic liners, with a pump system to capture any stormwater that may accumulate on the liners. The tanks are interconnected with a high-density polyethylene (HDPE) piping manifold and pump system to pump collected liquids to a 10,000-gallon polyethylene tank located near the flare station. An additional 10,000-gallon poly tank was installed adjacent to the first poly tank for temporary storage of gas condensate; these 10,000-gallon tanks are also within a secondary containment system. Figure 5 shows the new configuration.
- 36) Approximately 12 temporary storage tanks are also located on the landfill’s top deck for interim leachate management during the 2019-2020 wet season. Two additional tanks are located adjacent to the northern side of the Materials Diversion Facility (MDF) to collect pumped contact water from the MDF pad, and two tanks are located above the basin adjacent to Module 5A. These tanks will serve as a standby storage container in the event leachate is detected in the basin.



- 37) Leachate seeps and discharges have been observed in numerous locations within both the active filling areas and the closed portions of the landfill. To mitigate these seeps, French drains have been installed by digging down below the interim soil cover and placing pea gravel across the interval where leachate was observed to facilitate drainage to the LCRS. This Order (see Provision 2 below) requires the Discharger to develop a long-term leachate management strategy to prevent the future occurrence of leachate seeps and alleviate the need for temporary solutions as discussed above.

#### Stormwater and Surface Water Management

- 38) Stormwater entering the site was previously conveyed via drainage ditches, conveyance berms, and drains and inlets that ultimately discharged to the creek. As discussed in CAO No. R2-2019-0014, improper stormwater management resulted in severe erosion in multiple areas and discharge of excess sediment into the creek. Additionally, stormwater and leachate were mixing in several locations due to the aforementioned leachate seeps, resulting in the discharge of a mixture of stormwater and leachate into the creek. In September 2019, Golder prepared a “Hydrologic Evaluation and Surface Water Management System Design Report” (“Hydrologic Evaluation”) to address these issues.
- 39) The Hydrologic Evaluation determined the appropriate sizing of the V-ditches, down drains, culvert pipes, and riprap pads needed to accommodate the peak flow resulting from a 100-year, 24-hour design storm event (as required by title 27, CCR). Also addressed in the Evaluation was the landfill’s surface water management system and the need to provide enhanced erosion and sediment control as far upstream as possible into the northern soil-borrow area. CFL has since installed V-ditches that are lined with jute netting and hydroseeded; Filtrexx wattles in the V-ditches; corrugated HDPE down-drain pipes and culverts; flared inlets and outlets for the down-drain and culvert pipes to promote positive surface water drainage into and out of the pipes; riprap pads at the outlet of the down drains and culverts; and Filtrexx wattles immediately downstream of the riprap pads.
- 40) During the investigation of impacts to the creek from the leachate seeps, it was determined that low-pH water was entering the creek in several locations. This is believed to be directly related to an abundance of sulfur-rich rocks and sediment at the site. A historical document titled “Pyrite Oxidation, Clover Flat Landfill” (dated May 25, 1991) was prepared prior to adoption of WDR No. 91-160 due to staff concerns about potential hydrogen sulfide and acid drainage issues. The 1991 report concluded that there is a potential for oxidation of sulfide minerals such as pyrite and generation of acid drainage in the presence of oxygen and water in areas where the land is disturbed. The report also recommended that neutralization of pyrite oxidation can be controlled by the application of carbonate minerals. Over the past few years, significant earthwork has been performed in the northernmost portion of the site, upslope from the landfill area. This area has been used as a soil borrow area, and a soil stockpile area.
- 41) Two flow-through sedimentation basins were constructed in this northernmost area to allow sediment to settle out of suspension before flowing to creek 2 (see Finding #22 above, and Figure 6 for locations). These basins are not designed to hold stormwater for any length of time, and water was observed leaking beneath the adjacent access road and down the hillside directly above Module 5, before flowing through a drain under the main access road, and



down to creek 1. The pH levels in this water drop significantly across this span and the water is highly acidic by the time it discharges above the creek. An "Acid Seep Tech Memo" was prepared by Aptim, recommending placement of limestone-filled bags in locations where low-pH seeps are observed, namely along creek 2 and downslope and east of Module 5 upslope of creek 1. See Figure 6 for proposed monitoring locations after the remedy is implemented, and Provision 4 below.

## MONITORING, COLLECTION, AND CONTROL PROGRAMS

### Groundwater:

- 42) The Discharger conducts groundwater monitoring in accordance with the landfill's Self-Monitoring Program (SMP), which was issued as an attachment to Order No. R2-2008-0027. The groundwater monitoring network at the site is designed to monitor groundwater in the fractured bedrock and the alluvium. Groundwater in bedrock has been monitored upgradient from waste at wells B-2 and B-3, and cross gradient from the waste at well B-4. Groundwater has been monitored in the bedrock downgradient from waste at wells B-5B, B-11, and B-12. These monitoring wells range in depth from approximately 85 to 325 feet bgs. Groundwater is monitored in the alluvium downgradient from the landfill's toe at well B-5A. Cross-gradient well B-4 has been buried and inaccessible since early 2019. See Provisions 1 and 4, which require an assessment of the current groundwater monitoring network and subsequent SMP updates.
- 43) The groundwater monitoring network contains "unimpacted" and "impacted" monitoring wells based on historical water-quality characteristics and trends. Wells B-2, B-3, B-4, B-5A and B-5B are categorized as unimpacted based on the relatively stable nature of general water-quality chemistry, and only sporadic detections of volatile organic compounds (VOCs) in groundwater samples. These wells are sampled in the first and third quarter of each year for the parameters listed in Table 1. Wells B-11 and B-12 are categorized as impacted because of historical low-level VOC detections in groundwater samples. These two wells are sampled quarterly for VOCs and semiannually (first and third quarter) for the general water quality parameters. Figure 3 shows groundwater monitoring locations.

### Leachate

- 44) Leachate monitoring is conducted at the LCS and LEW-2 to meet the semiannual requirements in the SMP. Samples from the LCS are collected by manually activating the submersible pump system, which is connected to a spigot at the wellhead for direct transfer of leachate into sampling containers. Leachate samples are analyzed for field parameters and VOCs.
- 45) A backup system consisting of a riser is installed in the Module 2 LCRS (M-2S sump) in case the gravity drain becomes clogged; however, it is inaccessible. The presence of leachate seeps and flooded landfill gas wells around the site suggests there may be excess leachate buildup on the liner and/or the LCRS sumps may be clogged, preventing adequate drainage to the LCRS conveyance pipes. Provision 3 requires that leachate thickness be measured, and cleanout pipes located and made accessible.



- 46) This Order (and previous WDRs) have allowed CFL to use collected leachate for dust control over the lined areas only, provided it meets certain conditions. When leachate is not needed for dust control, such as during rain events, it is hauled offsite to the Santa Rosa wastewater treatment plant or the Yolo County Landfill for disposal.

#### Stormwater and Surface Water

- 47) Chapter 40 of the Code of Federal Regulations (CFR), Parts 122, 123, and 124, require specific categories of industrial activities, including landfills, to obtain a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges. The State Water Resources Control Board (State Board) has issued a General Permit for Stormwater Discharges Associated with Industrial Activities (NPDES Permit Order No. 2014-0057-DWQ). The landfill is subject to the requirements of the State Board's General Permit and as such is required to (1) submit a Notice of Intent for coverage under the General Permit, (2) prepare and implement a monitoring program, and (3) submit an annual report. To comply with the Stormwater General Permit, the CFL samples four qualified storm events per year from five of eleven designated industrial stormwater discharge locations (Figure 3).
- 48) Surface water samples are collected from among ten locations (SL-1 through SL-10) on the creek per the updated Stormwater Pollution Prevention Plan. In accordance with the updated Stormwater Pollution Prevention Plan, samples are collected from locations SL-1 through SL-4 and one additional sample is collected from one of the sample locations SL-5 through SL-10. Since December 2019, additional surface water samples have been collected to monitor and investigate the low-pH conditions in the creek. Surface water sampling and monitoring locations are shown on Figures 3 and 6, respectively.

#### Landfill Gas Management

- 49) In April 2004, a landfill gas extraction system comprised of 18 vertical gas extraction wells (GV-01 through GV-18), four horizontal collectors (GZ-1 through GZ-4), and a gas flare station, were installed to capture and burn off potential pollutant emissions. Three landfill gas monitoring wells located around the southern perimeter of the disposal area boundary (GP-2 through GP-4) are used to monitor atmospheric concentrations of landfill gases. Five additional landfill gas collection wells were added to the system in 2010 to convey landfill gas to a lean-burning combustion control system that was installed in 2013. Operation of this combustion unit began in 2015 and now generates energy that is fed into the PG&E power grid. The Bay Area Air Quality Management District regulates the gas collection systems.
- 50) Currently, six of the 30 gas collection and monitoring wells are not producing methane. Of those six wells, one has been re-purposed as a leachate extraction well for Module 1. The remaining 5 wells require rehabilitation, as discussed in Specification 10 and Provision 1 below.

#### **BASIN PLAN AND RIGHT TO WATER**

- 51) Basin Plan: The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and



groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted and amended by the Water Board and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required.

- 52) The Basin Plan considers all groundwater within the Region to be suitable, or potentially suitable, for municipal or domestic water supply (MUN) and that, in making any exceptions, the Water Board will consider the criteria referenced in Water Board Resolution No. 88-63, "Sources of Drinking Water," where:
- (a) The total dissolved solids exceed 3,000 mg/l (5,000  $\mu$ S/cm, electrical conductivity), and it is not reasonably expected by the Water Board that the groundwater could supply a public water system, or
  - (b) There is contamination, either by natural processes or human activity (unrelated to the specific pollution incident), that cannot reasonably be treated for domestic use using best management practices or best economically achievable treatment practices, or
  - (c) The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.
- 53) California Safe Drinking Water Act and Human Right to Water: It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes (Water Code §106.3, subd. (a)). The Safe Drinking Water Act provides that all Californians have a right to pure and safe drinking water (Health & Safety Code §116270, subd. (a)). This order promotes that policy by requiring Discharges to handle and dispose of waste in a manner that will protect water quality objectives, including those that protect drinking water supplies.

## **BENEFICIAL USES OF SURFACE WATER AND GROUNDWATER**

### Groundwater

- 54) The site is located just outside the boundary of the Napa-Sonoma Valley Groundwater Basin, as defined in the Basin Plan. The existing and potential beneficial uses identified for groundwater in this basin, according to the Basin Plan, include:
- a. Municipal and Domestic Supply (MUN)
  - b. Industrial Process Supply (PROC)
  - c. Industrial Service Supply (IND)
  - d. Agricultural Supply (AGR)
- 55) Based on the hydrogeologic characterization and water quality data for the site, groundwater underlying the site qualifies as a potential source of drinking water in accordance with Water Board Resolution No. 88-63. Therefore, all of the above current and potential beneficial uses apply to groundwater beneath the site.



- 56) There is one water supply well located on the Cantrell property immediately adjacent to Silverado Trail at the southern end of the landfill that is used to supply water to the site, and one improved spring in the northern portion of the site that has been converted to a well. Water is present in the spring well only seasonally, and this well is no longer used as a water supply for the landfill.

Surface Water

- 57) Existing or potential beneficial uses identified for surface water in the northern Napa Valley watershed, according to the Basin Plan, include:
- a. Municipal and Domestic Supply (MUN)
  - b. Industrial Process Supply (PROC)
  - c. Industrial Service Supply (IND)
  - d. Agricultural Supply (AGR)
  - e. Water Contact Recreation (REC1)
  - f. Non-Water Contact Recreation (REC2)
  - g. Cold Fresh Water Habitat (COLD)
  - h. Wildlife Habitat (WILD)
  - i. Preservation of Rare and Endangered Species (RARE)
  - j. Fish Migration (MIGR)
  - k. Fish Spawning (SPWN)

**CALIFORNIA ENVIRONMENTAL QUALITY ACT**

- 58) In June 1990, the County of Napa, as lead environmental agency certified the Final Environmental Impact Report (EIR) for expansion of the landfill from 12 to 44-acres. The EIR identified adverse water quality impacts for which mitigation measures would be necessary in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et. seq.). The EIR mandated that the site operations fully comply with WDR 88-058 and any subsequent requirements issued by the Water Board. The mitigation measures identified were and continue to be imposed by this Order.
- 59) In December 2011, a Mitigated Negative Declaration (MND) was adopted by the Napa County Department of Conservation, Development, and Planning Commission to increase the permitted area by one acre for the recycling center expansion and gate entrance grading; extension of the closure date from 2021 to 2047; a decrease in landfill capacity from 5.1 to 4.56 million cubic yards; an increase in storage capacity for recyclables, and the addition of in-vessel food waste composting operations. The MND required no mitigation measures related to water quality issues.
- 60) Adoption of this Order setting forth requirements related to the continued operation and filling of modules within the permitted waste disposal area is categorically exempt from the provision of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, section 15301. Specifically, this Order is a permitting action for an existing facility involving no expansion of use beyond that which is already or will be permitted by both the lead agency, and the Napa County Department of Conservation, Development, and Planning Commission.



## NOTIFICATION AND PUBLIC MEETING

- 61) The Water Board has notified the Discharger and interested agencies and persons of its intent to update waste discharge requirements and has provided them with an opportunity to submit their written views and recommendations.
- 62) The Water Board in a public meeting heard and considered all comments pertaining to the proposed waste discharge requirements for the site.

**IT IS HEREBY ORDERED** pursuant to the authority in Division 7, section 13263 of the California Water Code (CWC), title 27, Division 2, Subdivision 1 of the California Code of Regulations (title 27), and State Board Resolution No. 93-62 that the Discharger, its agents, successors, and assigns shall meet the applicable provisions contained in title 27, Division 7 CWC, and State Board Resolution No. 93-62, and shall comply with the following:

### A. PROHIBITIONS

1. Waste shall not be exposed at the surface of any cell where active filling is not occurring.
2. No designated (i.e., Class II) waste shall accepted or disposed of at the landfill.
3. Wastes shall not be disposed of in any location where they can be transported from the disposal site and discharged into waters of the State or of the United States.
4. The discharge of wastes, which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the unit could produce chemical reactions that create heat, pressure, fire, explosion, toxic by-products, or reaction products, is prohibited.
5. The relocation of wastes is prohibited without prior Water Board staff concurrence.
6. The relocation of wastes to or from any module shall not create a condition of pollution or nuisance as defined in section 13050 (l) and (m) of the California Water Code. Any relocated waste shall not be placed in or allowed to contact ponded water from any source whatsoever. Wastes shall not be relocated to any location where they can be discharged into waters of the State or of the United States.
7. Excavation within or reconfiguration of any existing module is prohibited without prior concurrence of Water Board staff. Minor excavation or reconfiguration activities such as installation of signs or landscaping, or for routine maintenance and repair, do not require prior staff concurrence.
8. Wastes shall not be placed in any newly constructed disposal cell without Executive Officer approval based on receipt of an adequate construction quality assurance report(s) certified by a California-registered civil engineer or California-registered engineering geologist.



9. Construction of the containment features of all future cells must comply with this Order, title 27, and State Board Resolution No. 93-62.
10. The discharge or storage of hazardous waste, as defined in Sections 2521 and 2522 of title 23 of the CCR and as defined in CCR title 22 Division 4.5, at the landfill is prohibited.
11. Groundwater quality shall not be degraded as a result of waste disposal operations.
12. Filling of waters of the State without authorization by the Water Board pursuant to the Porter-Cologne Act and/or Section 401 of the Clean Water Act is prohibited.
13. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes during the life of the site.
14. Buildup of leachate levels within the landfill is prohibited and shall be prevented by operation of a leachate extraction system. The thickness of leachate shall not be greater than 12 inches above the bottom liner.
15. Leachate, or stormwater or groundwater containing leachate, or in contact with waste, shall not be discharged to waters of the State or of the United States unless specifically authorized under an NPDES permit.
16. The treatment, storage, or discharge of groundwater or leachate shall not create a condition of pollution or nuisance as defined in Section 13050(m) CWC, nor degrade the quality of waters of the State or of the United States.
17. The Discharger shall not cause the following conditions to exist in waters of the State or of the United States at any place outside the landfill boundary:
  - a. Surface Waters:
    - (1) Floating, suspended, or deposited macroscopic particulate matter or foam
    - (2) Bottom deposits or aquatic growth
    - (3) Adverse changes in temperature, turbidity, pH levels, or apparent color beyond natural background levels
    - (4) Visible, floating, suspended, or deposited oil or other products of petroleum origin
    - (5) Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
  - b. Groundwater:
    - (1) Degradation of groundwater quality; or
    - (2) Substantial worsening of existing groundwater impacts
18. Migration of pollutants through subsurface transport to waters of the State is prohibited.



**B. SPECIFICATIONS**

1. The Discharger shall conduct monitoring activities according to the SMP attached to this Order, and as may be amended by the Executive Officer, to verify the effectiveness of landfill closure systems including groundwater, stormwater, surface water, leachate, and landfill gas containment, collection, treatment, and removal.
2. At any time, the Discharger may file a written request (including supporting documentation) with the Executive Officer, proposing modifications to the attached SMP. If the proposed modifications are acceptable, the Executive Officer may issue a letter of approval that incorporates the proposed revisions into the SMP.
3. The Discharger shall install any reasonable additional monitoring devices for groundwater, stormwater, surface water, leachate, landfill gas, and landfill gas condensate required to fulfill the terms of any future SMP issued by the Executive Officer for the landfill.
4. The Discharger shall maintain, inspect, repair, and replace all devices installed in accordance with this Order such that they continue to operate as intended without interruption.
5. The Discharger shall design and construct precipitation and drainage control facilities with a minimum capacity to accommodate a 100-year, 24-hour storm event.
6. The Discharger shall protect the site from any washout or erosion of wastes from inundation, which could occur as a result of a 100-year, 24-hour storm event, or as the result of flooding with a return frequency of 100 years.
7. The Discharger shall construct and maintain all landfill foundation and structures or devices for erosion control and water, leachate, and gas containment and monitoring to withstand conditions generated during the maximum credible earthquake.
8. The Discharger shall operate and maintain containment, collection, drainage, and monitoring systems for groundwater, stormwater, surface water, and leachate for as long as waste or leachate is present and poses a threat to water quality.
9. The Discharger shall operate and maintain the leachate discharge system to minimize undue buildup of hydraulic head on the bottom of the landfill and ensure that accumulated fluid is being adequately removed from the landfill and appropriately contained and disposed.
10. Methane and other landfill gases shall be adequately vented, removed from the landfill, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions and the impairment of beneficial uses of water due to gas migration.
11. Discharge of leachate is 1) limited to areas of the landfill that are equipped with a liner system and a leachate collection and removal system and 2) limited to the unit of the landfill from which derived except as otherwise approved by the Executive Officer.
12. Final and interim covers for the landfill shall be graded and maintained to promote lateral runoff of precipitation and prevent ponding or infiltration of water on or within the landfill.



13. The Discharger must install final landfill covers upon reaching the final fill height for each disposal module.
14. The Discharger shall implement a Detection Monitoring Program (DMP) pursuant to title 27, CCR, section 20420. The DMP shall be designed to identify any water quality impacts from the landfill and demonstrate compliance with the Water Quality Protection Standard (WQPS) required pursuant to title 27, CCR, section 20390. The SMP attached to this Order is intended to constitute the DMP for the landfill.
15. The WQPS for the CFL shall include the following:
  - a. Constituents of Concern: Section 20395 of title 27, CCR, defines Constituents of Concern (COCs) as “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit.” COCs for the CFL include monitoring parameters identified in the SMP attached to this Order, or any future amendment thereof, and all Appendix II parameters in the federal Subtitle D regulations.
  - b. Monitoring Parameters: Monitoring parameters (MPs), a subset of the COCs, are typically the most mobile and commonly detected COCs in groundwater at the site and are measured on a more frequent basis than the entire list of COCs. The MPs for the CFL shall include, at a minimum, all constituents identified as such in the SMP attached to this Order, or any future amendments thereof. The Discharger may propose modification to the MPs as additional data become available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.
  - c. Concentration Limits: Concentration limits (CLs) for all COCs detected at the specified points of compliance shall be established using the background data set pursuant to Title 27, CCR, Section 20400. A control chart limit shall be calculated from the background data set using statistical methods as appropriate.
  - d. Point of Compliance: Title 27 of the CCR defines the Point of Compliance (POC) as the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC for the CFL shall be the hydraulically downgradient perimeter of the waste fill area.
  - e. Monitoring Points: Title 27 of the CCR defines Monitoring Points as “a well, device, or location specified in the waste discharge requirements at which monitoring is conducted and at which the water quality protection standard applies”. Monitoring points for the CFL, shall be placed along the POC and at additional locations, are specified in the SMP attached to this Order, or any future amendments thereof.
16. Whenever there is “measurably significant” evidence (as defined in title 27, CCR, section 20164) or significant physical evidence of a release, the Discharger shall be prepared to implement an Evaluation Monitoring Program (EMP) pursuant to title 27, CCR, section 20425, at the direction of the Water Board. In such a case, the Discharger shall continue



implementing the DMP as prescribed in any SMP attached to this Order. If required, the EMP shall be implemented to determine the nature and extent of any release detected by the DMP.

17. Future landfill module liners shall be constructed consistent with the design and components specified below, from bottom to top, which are consistent with the newest phase of Module 5. Alternative liner designs and/or components must be approved by the Executive Officer. Liner designs consistent with the following specifications will likely streamline the Water Board staff liner design review process.

<b><u>Module Base</u></b>	<b><u>Module Slopes &amp; Benches</u></b>
• Prepared subgrade	• Prepared subgrade
• Underdrain system (heat-bonded geocomposite) if needed	• Underdrain system (heat-bonded geocomposite) if needed
• 2-foot compacted clay liner (CCL), or encapsulated GCL	• 2-foot CCL, or encapsulated GCL
• 80-mil single-sided textured HDPE geomembrane, textured side down	• 80-mil single-sided textured HDPE geomembrane, textured side down
• 1-foot gravel layer	
• Non-woven geotextile	
• 1-foot min. soil operations layer	• 1-foot min. soil operations layer

18. Nonhazardous solid waste shall be discharged only into composite-lined cells equipped with leachate collection and removal systems meeting federal municipal solid waste construction and design requirements specified in the Subtitle D regulations and meeting State Class III siting, construction, and design requirements specified in CCR Title 27, Section 20250 and specifications B.5 through B.17 of this Order.
19. The Discharger shall provide and maintain a minimum of two surveyed permanent monuments near the landfill from which the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance periods. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
20. The Discharger shall notify the Water Board immediately of any structural failure occurring in the landfill. Any failure that threatens the integrity of containment or control features or structures at the landfill shall be promptly corrected after approval of the method and schedule by the Executive Officer.
21. All reports submitted pursuant to this Order shall be prepared under the supervision of and signed by appropriately licensed professionals, such as a California registered civil engineer, professional geologist, and/or certified engineering geologist.

### **C. PROVISIONS**



1. Evaluation of the Groundwater and Landfill Gas Monitoring Networks: The Discharger shall evaluate the current groundwater monitoring well network and determine if the network provides sufficient, representative monitoring capability. Since one of the wells is currently inaccessible and/or unusable, the Discharger shall either propose to rehabilitate the existing well, or properly abandon and replace it by installing one or more new wells in appropriate locations. The landfill gas monitoring well network shall also be evaluated for efficacy, given that six of the existing wells are no longer providing reliable gas monitoring data due to the presence of water within the screened intervals, and no new gas or groundwater wells have been installed since Module 5 was constructed. If either the groundwater or landfill gas monitoring network is determined to be insufficient, a work plan and schedule shall be submitted, acceptable to the Executive Officer, proposing the installation of new monitoring and/or gas wells.

COMPLIANCE DATE: June 30, 2020

2. Workplan for Improving the Leachate Storage and Stormwater Conveyance Systems: The Discharger shall submit an evaluation of the average annual leachate generation at the site and propose a long-term solution for storage and management of leachate and stormwater. As stated in Findings 32-37, CFL currently lacks adequate leachate management capacity, and has resorted to temporary measures to store leachate in an effort to prevent seeps and discharges of leachate to the unnamed creek. To remedy this situation, the Discharger shall submit a work plan, which considers the designs for 1) an improved leachate management and storage system that provides adequate capture and leachate storage capacity and eliminates discharges, and 2) an improved stormwater management system that conveys stormwater around waste disposal areas and prevents stormwater from mixing with leachate. Upon approval of the work plan, the Discharger shall implement the approved changes to the systems within 90 days.

COMPLIANCE DATES: Work Plan- July 30, 2020

3. Evaluation of Leachate Thickness and Location of Riser Cleanout Pipes: The Discharger shall submit a technical report that determines the leachate thickness on each lined module and in existing riser cleanout pipes for each lined module. If leachate levels are found to exceed one foot, then a proposal shall be submitted within 60 days of discovery detailing how leachate buildup will be mitigated. If cleanout pipes are found to be inaccessible, they shall be located and restored to full functionality.

COMPLIANCE DATE: September 30, 2020

4. Self-Monitoring Program: After Provisions 1 through 3 are completed, the Discharger shall propose an update to the Self-Monitoring Program (SMP). The current SMP attached to this Order (Part A and Part B) is intended to serve as an interim monitoring program until the groundwater, leachate, condensate, stormwater, and landfill gas monitoring and collection systems are evaluated and results report to and approved by this Board. The updated SMP shall contain a monitoring plan for surface water in creeks 1 and 2, detailing the sampling plan to ensure pH levels are monitored until background conditions are attained.



Once an SMP is submitted and approved by the Executive Officer, a one-time sampling event shall be performed to evaluate contaminants of emerging concern (CECs). Since landfills are the final repository for a heterogeneous mixture of liquid and solid wastes from residential, industrial, and commercial sources, the leachate generated can contain a diverse mixture of chemicals. Therefore, this WDR requires that the Discharger to prepare a Work Plan, acceptable to the Executive Officer, to analyze for CECs from both leachate and groundwater. The Work Plan shall include consideration of CEC lists developed by SWRCB and USEPA, and may include testing for pharmaceuticals, steroid hormones, and household and industrial chemicals. The Work Plan should also discuss how the data will be utilized.

The SMP is intended to constitute a Detection Monitoring Program (DMP) pursuant to Title 27, CCR, Section 20420, and is designed to identify significant water quality impacts from the landfill and demonstrate compliance with the WQPS established pursuant to Title 27, CCR, Section 20390. The attached SMP may be amended as requested by the Discharger (see Specification 2) or at the discretion of the Executive Officer.

COMPLIANCE DATES: SMP Update – September 1, 2020  
Work Plan – October 1, 2020

5. Report of Waste Discharge: The Discharger shall submit a technical report, acceptable to the Executive Officer, describing any proposed material change in the character, location, or volume of a discharge, or in the event of a proposed change in use or development of the landfill [CWC Section 13260(c)]. The technical report shall describe the project, identify key changes to the design that may impact any portion of the landfill, and specify components of the design necessary to maintain integrity of the landfill cover and prevent water quality impacts. No material changes to any portion of the landfill shall be made without approval by the Executive Officer.

COMPLIANCE DATE: 120 days prior to any material change

6. Financial Assurance for Post Closure Monitoring and Maintenance: The Discharger shall submit to this Board evidence of an Irrevocable Fund acceptable to the Executive Officer, to ensure monitoring and maintenance of the landfill during the post-closure period. Every five years, for the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism and verification that the fund has been created. Fund value should be supported by calculations, to be included with this submittal, providing cost estimates for all post-closure monitoring, maintenance, repair and replacement of landfill containment, cover, and monitoring systems. The fund value should be based on the sum of these estimates. The cost estimates and funding should be updated to reflect change to monitoring systems as they occur. The post-closure maintenance period shall extend as long as the landfill wastes pose a threat to water quality, however for purposes of calculating cost estimates, a period of no less than 30 years may be used.

COMPLIANCE DATE: October 1, 2020, then every five years thereafter

7. Financial Assurance for Corrective Action: The Discharger shall submit to this Board evidence of an Irrevocable Fund acceptable to the Executive Officer, to ensure any corrective action and remediation actions that may be necessary as a result of current or future



unforeseen releases from the landfill. Every five years, for the duration of the post-closure monitoring period, the Discharger shall submit a report that includes an outline of the financial assurance mechanism and verification that the fund has been created. Fund value should be supported by calculations, to be included with this submittal, providing cost estimates for all corrective action measures and remediation that may be required at the landfill. The fund value should be based on the sum of these estimates. The cost estimates and funding should be updated as necessary. The post-closure maintenance period shall extend as long as the landfill wastes pose a threat to water quality, however for purposes of calculating cost estimates, a period of not less than 30 years may be used.

COMPLIANCE DATE: October 1, 2022, then every five years thereafter

8. Construction-Related Stormwater Control Plans: For each grading or development project outside of the permitted landfill footprint proposed greater than one acre, the Discharger shall a) submit a Notice of Intent to the State Board; b) submit a Stormwater Pollution Prevention Plan acceptable to the Executive Officer; and c) implement best management practices (BMPs) for the control of stormwater, in accordance with requirements specified in the State Board's General Industrial Permit for Stormwater Discharges Associated with Construction Activities (NPDES Permit No. 2014-0057-DWQ). The Discharger will be deemed in compliance with this provision if another party constructing improvements on property owned by the Discharger, pursuant to an easement granted by the Discharger, has obtained coverage under the General Permit.

COMPLIANCE DATE: 30 days prior to construction

9. Well Installation Report: The discharger shall submit a technical report, acceptable to the Executive Officer, that provides well construction details, geologic boring logs, and well development logs for all new wells installed as part of the Discharge Monitoring Program (Attachment A).

COMPLIANCE DATE: 60 days following completion of well installation

10. Earthquake Inspection: The Discharger shall submit a detailed Post-Earthquake Inspection Report acceptable to the Executive Officer, in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the landfill. The report shall describe the containment features, groundwater monitoring, and control facilities potentially impacted by the static and seismic deformations of any cell. Damage to any waste containment facility that may impact State waters must be reported immediately to the Executive Officer.

COMPLIANCE DATE: Within 2 weeks of qualifying earthquake

11. Availability: A copy of these waste discharge requirements shall be maintained by the Discharger and shall be made available by the Discharger to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.) at the landfill.
12. Change of Ownership: The Discharger must notify the Executive Officer in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a



new Discharger. The notice must include a written agreement between the existing Discharger and the new Discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current Discharger and the new Discharger. This agreement shall include an acknowledgment of which Discharger is liable for violations up to the transfer date and which Discharger is liable from the transfer date on.

13. Revision: These waste discharge requirements are subject to review and revision by the Water Board.
14. Termination: Where a Discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Water Board, it shall promptly submit such facts or information.
15. Vested Rights: This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from liability under Federal, State or local laws, nor do they create a vested right for the Discharger to continue the waste discharge.
16. Operation and Maintenance: The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this order.
17. Reporting of Hazardous Substance Release: If any hazardous substance is discharged into any waters of the State, or discharged or deposited where it is, or probably will be, discharged into any waters of the State, the Discharger shall report such discharge to the Water Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00). The Discharger shall file a written report with the Water Board within five working days. The report shall describe the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.
18. Entry and Inspection: The Discharger shall allow the Water Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:
  - a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;



- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
  - d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this order or as otherwise authorized by the California Water Code, any substances or parameters at any location.
19. Discharges To Navigable Waters: Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act, which are subject to water quality certifications by the Water Board) must file an NPDES permit application with the Water Board.
20. Endangerment of Health or the Environment: The Discharger shall report any noncompliance that may endanger health or the environment. Any such information shall be provided orally to the Executive Officer, or an authorized representative, within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission to the Water Board shall also be provided within five days of the time a Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
21. Document Distribution: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
- a. San Francisco Bay Regional Water Quality Control Board
  - b. County of Napa, LEA representative
- The Executive Officer may modify this distribution list as needed.
22. Duty to Comply: The Discharger shall comply immediately, or as prescribed by the time schedule below, with all Prohibitions, Specifications and Provisions of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Water Board.
23. Electronic Reporting Format: All reports submitted pursuant to this Order must be submitted as electronic files in PDF format, unless otherwise requested as a paper copy. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public, during file reviews conducted at the Water Board's office. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's GeoTracker database.



24. This Order supersedes and rescinds Order No. R2-2008-0027, except for enforcement purposes.

I, Michael Montgomery, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on \_\_\_\_\_.

\_\_\_\_\_  
Michael Montgomery  
Executive Officer

Attachments:

Figure 1 – Site Location Map

Figure 2 – Site Plan

Figure 3 – Groundwater Monitoring Well, Stormwater, and Surface Water Sampling Locations

Figure 4 – Fill Sequencing Plan

Figure 5 – Leachate Collection, Storage, and Load Out Tank Locations

Figure 6 – Sedimentation Basins and Creek pH Monitoring Locations

Self- Monitoring Program (Part A and Part B)





**LEGEND**  
★ SITE LOCATION

0 0.5 1  
MILES

**NOTE(S)**  
1. HYDROGRAPHY DATA EXTRACTED FROM USGS FILE DOWNLOAD.

**REFERENCE(S)**  
1. AERIAL IMAGERY OBTAINED FROM ESRI BASEMAP WEB SERVICE TITLED WORLD\_IMAGERY. DATE OF IMAGERY: JUNE 2018.

**CLIENT**  
CLOVER FLAT LANDFILL  
4380 SILVERADO TRAIL  
CALISTOGA, CA

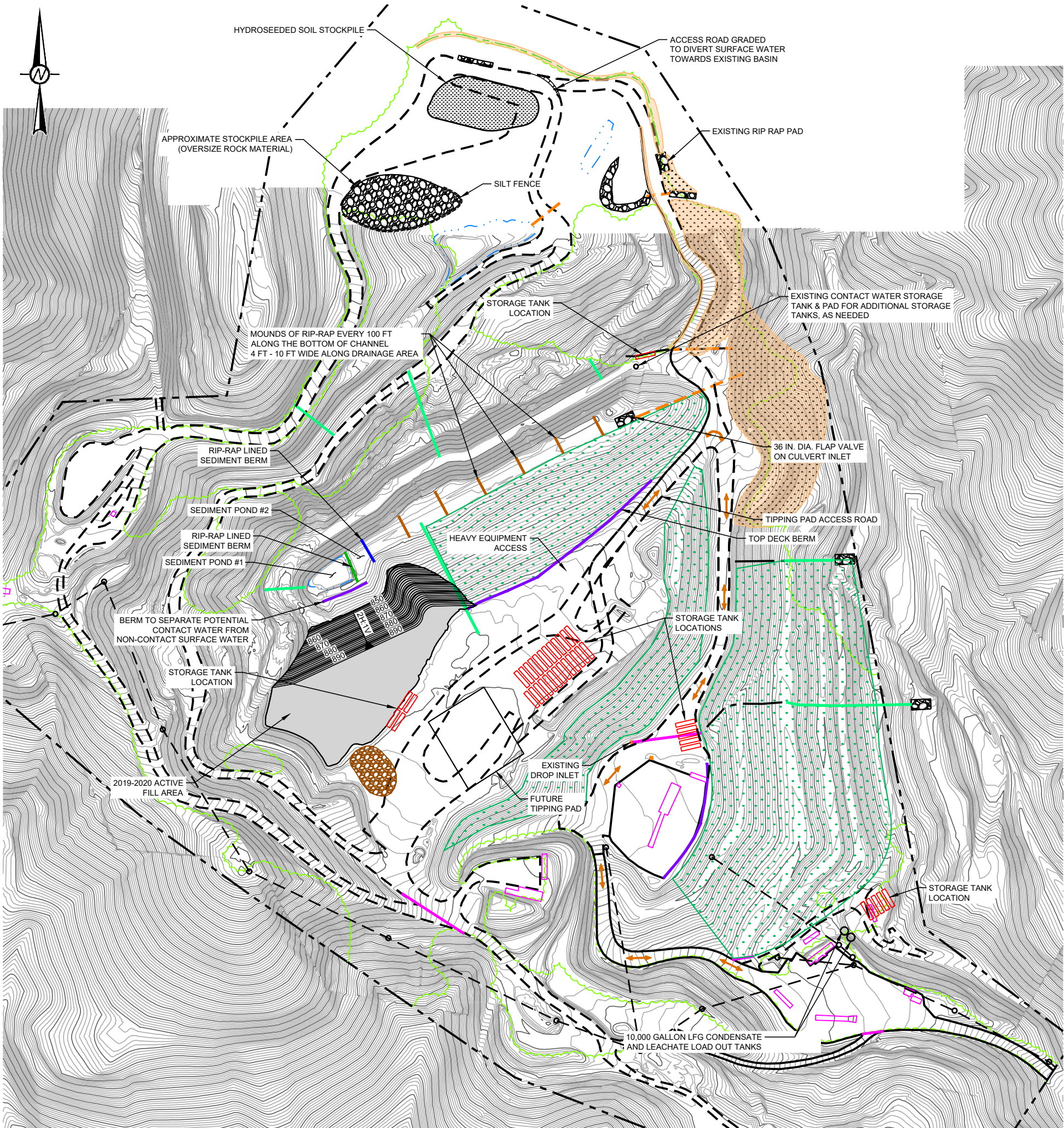
**PROJECT**  
WASTE DISCHARGE REQUIREMENTS

**TITLE**  
SITE LOCATION MAP

	CONSULTANT	YYYY-MM-DD	2019-09-03
	DESIGNED	JHC	
	PREPARED	JHC	
	REVIEWED	NB	
	APPROVED	MN	

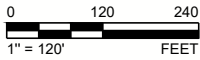
PROJECT NO. 19122160	REV. 0	FIGURE 1
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- NOTE(S)**
1. TOPOGRAPHIC CONTOURS PREPARED USING PHOTOGRAMMETRIC METHODS BY TETRA TECH GEOMATIC TECHNOLOGIES. DATE OF PHOTOGRAPHY: JULY 01, 2019. MERGED WITH PHOTOGRAPHY DATED: JUNE 30, 2017.
  2. 10,000-GALLON LEACHATE AND GAS CONDENSATE LOAD OUT TANKS.

- LEGEND**
- PROPOSED DOWNDRAIN
  - EXISTING CULVERT
  - EXISTING BERM
  - HYDROSEED AREA
  - RIP RAP PAD/ OVERSIZE ROCK
  - SOIL STOCK PILE
  - GEOGRID, GEOTEXTILE AND JUTE NETTING ON SLOPE AND BENCH
  - TRAFFIC DIRECTION



CLIENT  
CLOVER FLAT LANDFILL  
4380 SILVERADO TRAIL  
CALISTOGA, CA

CONSULTANT



YYYY-MM-DD	2019-09-20
DESIGNED	MAL
PREPARED	JGD
REVIEWED	JGD
APPROVED	

PROJECT  
WASTE DISCHARGE REQUIREMENTS

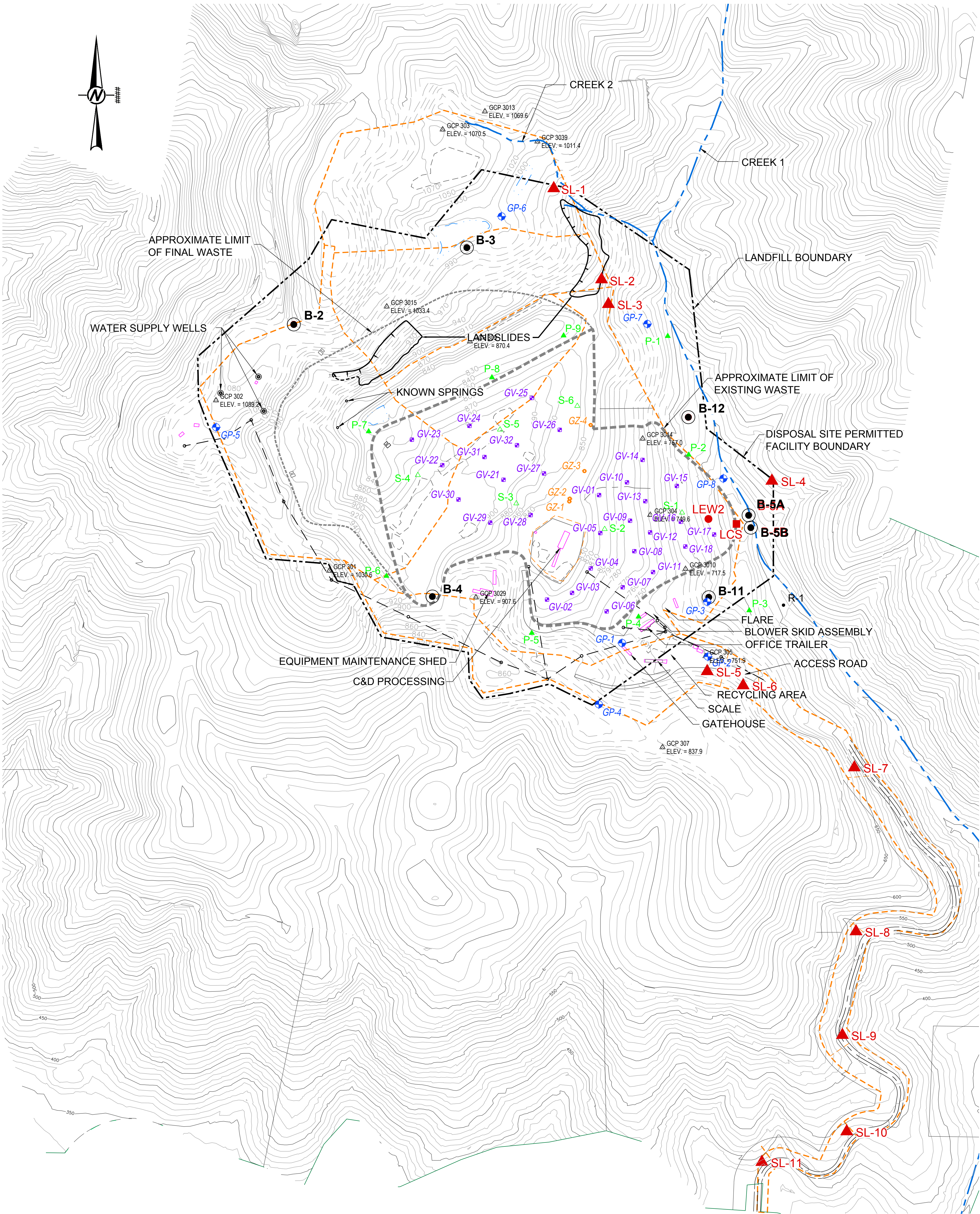
TITLE  
**SITE PLAN**

PROJECT NO.  
19122160

REV.  
0

FIGURE  
2





LEGEND

- B-5B

Groundwater monitoring well
- SL

Surface water monitoring location
- LEW2

Leachate extraction well
- LCS

Leachate collection sump
- GV-18

LFG extraction well
- Drainage Boundary
- GP-7

LFG probe
- GZ-4

LFG collector head
- S-1

On-site observation station
- P-3

Observation station
- R-1

Receiving water observation station
- Existing Permit Landfill Boundary

NOTE(S)

SITE TOPOGRAPHY PREPARED BY TETRA TECH GEOMATIC TECHNOLOGIES, LAFAYETTE, CALIFORNIA. DATE: 2019-07-01



CLIENT  
CLOVER FLAT LANDFILL, INC.  
CALISTOGA, CALIFORNIA

PROJECT  
WASTE DISCHARGE REQUIREMENTS

CONSULTANT

YYYY-MM-DD 2020-01-31

DESIGNED MT

PREPARED JGD

REVIEWED JGD

APPROVED JGD



TITLE  
GROUND WATER MONITORING WELL, STORMWATER, AND  
SURFACE WATER SAMPLING LOCATIONS

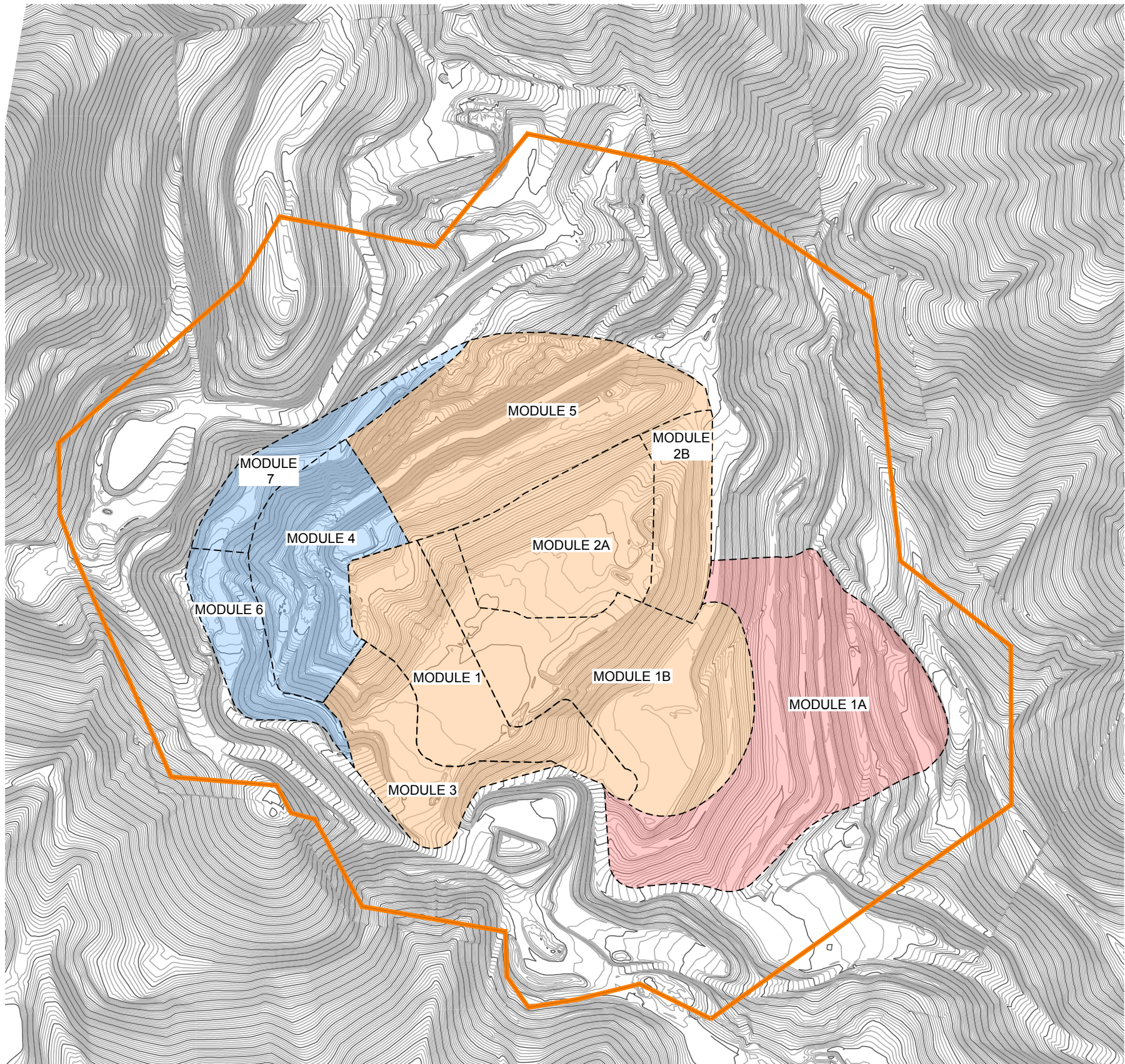
PROJECT NO.  
19122160

REV.

FIGURE

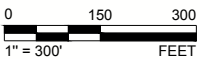
3





LEGEND	
	PERMIT LANDFILL BOUNDARY
	APPROXIMATE MODULE LIMIT
	CLOSED MODULE
	CURRENT MODULE
	FUTURE MODULE

**NOTE(S)**  
1. TOPOGRAPHY OBTAINED BY TETRA TECH, DATE OF TOPOGRAPHY: JULY 1,2019



CLIENT  
CLOVER FLAT LANDFILL  
4380 SILVERADO TRAIL  
CALISTOGA, CA

CONSULTANT



YYYY-MM-DD	2020-03-06
DESIGNED	JGD
PREPARED	MT
REVIEWED	JGD
APPROVED	JGD

PROJECT  
WASTE DISCHARGE REQUIREMENTS

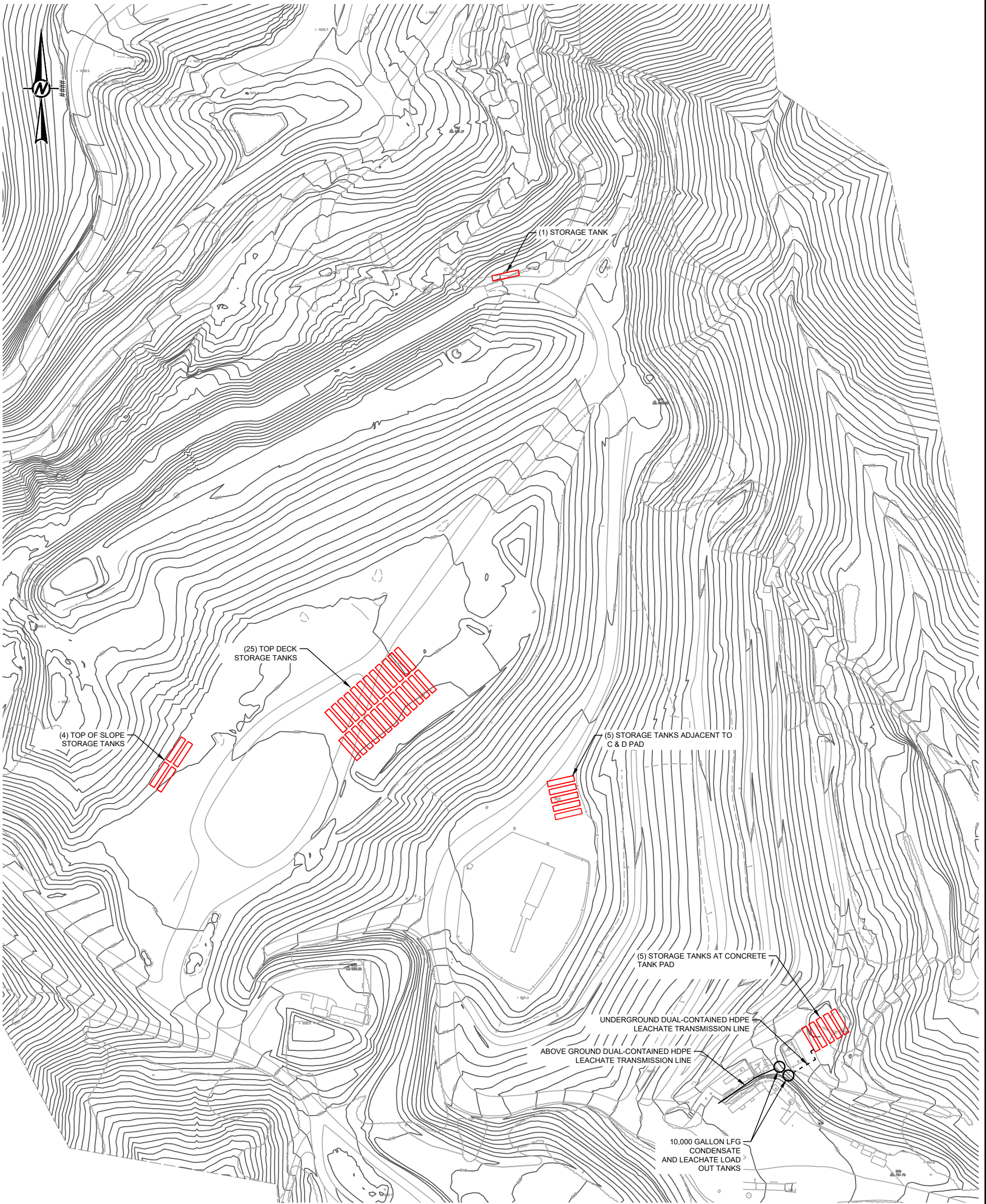
TITLE  
**FILL SEQUENCING PLAN**

PROJECT NO.  
19122160

REV.

FIGURE  
**4**







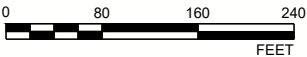
NOTE(S)

1. STORAGE TANKS LOCATIONS ARE APPROXIMATE.

LEGEND

 21,000 GALLON STORAGE TANK

 10,000 GALLON POLY TANK



CLIENT  
CLOVER FLAT LANDFILL  
4380 SILVERADO TRAIL  
CALISTOGA, CA

CONSULTANT



YYYY-MM-DD	2019-09-06
DESIGNED	JGD
PREPARED	MT
REVIEWED	JGD
APPROVED	JGD

PROJECT  
WASTE DISCHARGE REQUIREMENTS

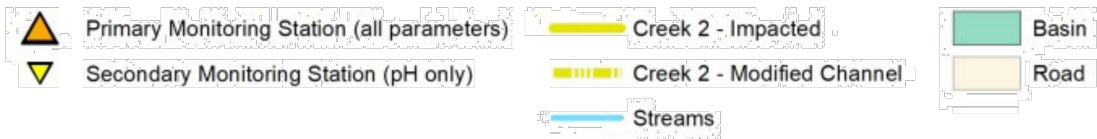
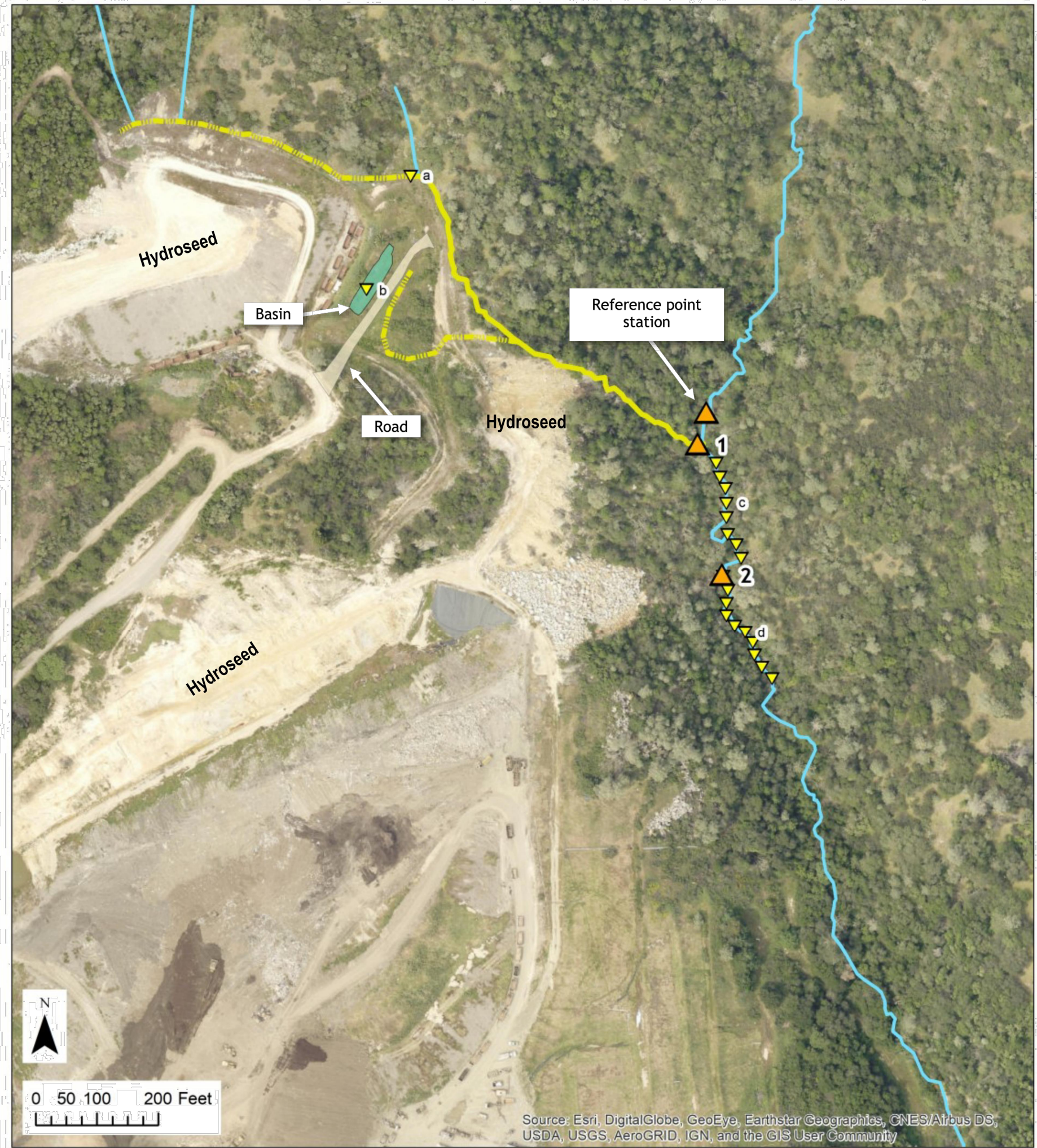
TITLE  
**LEACHATE COLLECTION, STORAGE AND LOAD OUT TANK LOCATIONS**

PROJECT NO.  
19122160

REV.  
0

FIGURE  
5





Date: 1-13-2020  
Data: Sol Ecology Inc., Napa Co.,  
National Center for Airborne Laser  
Mapping (NCALM) 2003

Datum: NAD 83  
Base: ESRI  
GIS: AJG



CLIENT  
CLOVER FLAT LANDFILL  
4380 SILVERADO TRAIL  
CALISTOGA, CA

CONSULTANT



YYYY-MM-DD	2020-01-31
DESIGNED	JGD
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REVIEWED	JGD
APPROVED	JGD

PROJECT  
WASTE DISCHARGE REQUIREMENTS

TITLE  
**SEDIMENTATION BASIN AND CREEK PH SAMPLING  
LOCATIONS**

PROJECT NO.  
19122160

REV.

FIGURE

6



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

CLOVER FLAT LANDFILL, INC.

CLOVER FLAT RESOURCE RECOVERY PARK  
CLASS III SOLID WASTE DISPOSAL FACILITY  
CALISTOGA, NAPA COUNTY

ORDER No. R2-2020-XXXX

CONSISTS OF

PART A

AND

PART B



## **PART A**

This self-monitoring program (SMP) specifies monitoring and reporting requirements, including:

- General monitoring requirements for landfills and waste management units (Part A)
- Self monitoring report content and format (Part A)
- Self monitoring report submittal frequency and schedule (Part B)
- Monitoring locations and frequency (Part B)
- Monitoring parameters and analytes (Part B)

### **A. AUTHORITY AND PURPOSE**

For discharges of waste to land, water quality monitoring is required pursuant to the California Code of Regulations, Division 2, Title 27 (CCR title 27), Subdivision 1, Chapter 3, Subchapter 3, sections 20380 through 20435. The principal purposes of an SMP are: (1) to document compliance with waste discharge requirements and prohibitions established by the Water Board; (2) to facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from the waste discharge; (3) to develop or assist in the development of effluent standards of performance, and toxicity standards; and (4) to assist the Discharger in complying with the requirements of CCR title 27.

### **B. MONITORING REQUIREMENTS**

Monitoring refers to the observation, inspection, measurement, and/or sampling of environmental media, waste management units (WMUs), containment and control facilities, and waste disposed in each WMU. The following defines the types of monitoring that may be required.

#### **Monitoring of Environmental Media**

The Water Board may require monitoring of groundwater, surface water, stormwater, landfill gas, and any other environmental media that may pose a threat to water quality or provide an indication of a water quality threat at the site.

Sample collection, storage, and analyses shall be performed according to the most recent version of U.S. EPA-approved methods or in accordance with a sampling and analysis plan approved by Water Board staff. Analytical testing of environmental media required by this SMP shall be performed by a State-approved laboratory for the required analyses. The director of the laboratory whose name appears on the certification shall be responsible for supervision of all analytical work in his/her laboratory and shall have signing authority for all reports or may designate signing of all such work submitted to the Water Board.

All monitoring instruments and devices used to conduct monitoring in accordance with this SMP shall be maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once every two years.



### Standard Observations

Standard observations refer to observations within the limits of each WMU, at their perimeter, and of the receiving waters beyond their limits. Standard observations include:

1. WMUs:
  - a. Evidence of ponded water at any point on the WMU
  - b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source
  - c. Evidence of erosion and/or daylighted waste
2. Perimeter of WMUs:
  - a. Evidence of liquid leaving or entering the WMU, estimated size of affected area, and estimated flow rate (show affected area on map)
  - b. Evidence of odors, including their presence or absence, characterization, source, and distance of travel from source
  - c. Evidence of erosion and/or daylighted waste
3. Receiving Waters:
  - a. Floating and suspended materials of waste origin: including their presence or absence, source, and size of affected area
  - b. Discoloration and turbidity: description of color, source, and size of affected area
  - c. Evidence of odors, presence or absence, characterization, source, and distance of travel from source
  - d. Evidence of beneficial use: presence of water associated with wildlife
  - e. Estimated flow rate
  - f. Weather conditions: wind direction and estimated velocity, total precipitation

### Facilities Inspections

Facilities inspections refer to the inspection of all containment and control structures and devices associated with WMUs. Containment and control facilities may include the following:

1. Asphalt or earthen covers
2. Perimeter drainage or diversion channels
3. Detention ponds or collection tanks

## **C. REPORTING REQUIREMENTS**

Reporting responsibilities of waste dischargers are specified in Water Code sections 13225(a), 13267(b), 13383, and 13387(b) and this Water Board's Resolution No.73-16 and Order No. R2-2020-00XX. At a minimum, each Self Monitoring Report (SMR) shall include the following information:

1. **Transmittal Letter:** A cover letter transmitting the essential points shall be included with each monitoring report. The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall also certify the completion of all monitoring requirements. The letter shall be signed by the Discharger's principal executive officer or his/her duly authorized representative, and



shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

2. **Graphic Presentation:** The following maps, figures, and graphs (if applicable) shall be included in each SMR to visually present data collected pursuant to this SMP:
  - a. Plan-view maps showing all monitoring, sampling, and observation point locations, WMUs, containment and control structures, treatment facilities, surface water bodies, and site/property boundaries
  - b. Groundwater level/piezometric surface contour maps for each groundwater-bearing zone of interest showing inferred groundwater gradients and flow directions under/around each WMU, based upon the past and present water level elevations and pertinent visual observations
  - c. Post-plot maps with analyte concentration posted adjacent to each sampling location and/or isoconcentration contour maps displaying analyte concentrations and sample locations
  - d. Concentration vs. time graphs for key sampling parameters for each sampling location
  - e. Geologic cross-sections showing groundwater-bearing zones, sample locations, contaminant sources, and the extent of contamination
  - f. Any other maps, figures, photographs, cross-sections, graphs, and charts necessary to visually demonstrate the appropriateness and effectiveness of sampling, monitoring, characterization, investigation, or remediation activities relative to the goals of this SMP.
3. **Tabular Presentation:** The following data (if applicable) shall be presented in tabular form and included in each SMR to show a chronological history and allow quick and easy reference:
  - a. Well designations
  - b. Well location coordinates (latitude and longitude)
  - c. Well construction (including top of well casing elevation, total well depth, screen interval depth below ground surface, and screen interval elevation)
  - d. Groundwater depths
  - e. Groundwater elevations
  - f. Horizontal groundwater gradients
  - g. Vertical groundwater gradients (including comparison wells from different zones)
  - j. Current analytical results (including analytical method and detection limits for each constituent)
  - k. Historical analytical results (including at least the past five years unless otherwise requested)
  - l. Measurement dates
4. **Compliance Evaluation Summary and Discussion:**
  - a. A summary and certification of completion of all environmental media monitoring, standard observations, and facilities inspections
  - b. The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations, if applicable
  - c. A description of the waste stream including the percentage of each waste type (e.g., residential, commercial, industrial, construction/demolition), if applicable



- d. The signature of the laboratory director or his/her designee indicating that he/she has supervised all analytical work in his/her laboratory
  - e. Provide a discussion of the field and laboratory results that includes the following information:
    - (1) Data Interpretations
    - (2) Conclusions
    - (3) Recommendations
    - (4) Newly implemented or planned investigations and remedial measures
    - (5) Data anomalies
    - (6) Variations from protocols
    - (7) Condition of wells
    - (8) Effectiveness of leachate monitoring and control facilities
5. **Appendices:** The following information shall be provided as appendices in electronic format only, unless requested otherwise by Water Board staff and unless the information is already contained in a Sampling and Analysis Plan approved by Water Board staff.
- a. New boring and well logs
  - b. Method and time of water level measurements
  - c. Purging methods, and method of disposing of the purge water, and results including the type of pump used, pump placement in the well, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity, pH, temperature, conductivity, and turbidity measurements
  - d. Sampling procedures, field and travel blanks, number and description of duplicate samples, type of sample containers and preservatives used, the date and time of sampling, the name of the person actually taking the samples, and any other relevant observations
  - e. Documentation of laboratory results, analytical methods, detection limits, and Quality Assurance/Quality Control (QA/QC) procedures for the required sampling.

#### **D. CONTINGENCY REPORTING**

- 1. The Discharger shall report by telephone to the Water Board any discharge from the disposal area immediately after it is discovered. The Discharger shall submit a written report with the Water Board within five days of discovery of any discharge. The written report shall contain the following information:
  - a. A map showing the location(s) of discharge
  - b. Approximate flow rate
  - c. Nature of effects (e.g., all pertinent observations and analyses)
  - d. Corrective measures underway or proposed
- 2. The Discharger shall submit a written report to the Water Board within seven days of determining that a statistically significant difference occurred between a self-monitoring sample set and an approved Water Quality Protection Standard (WQPS). The written report shall indicate what WQPS(s) have been exceeded. The Discharger shall resample at the compliance point(s) where this difference has been found within 30 days.



3. If re-sampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and WQPS(s), the Discharger shall, upon determination by the Executive Officer, submit to the Water Board an amended Report of Waste Discharge as specified in CCR title 27, section 20420 for establishment of an Evaluation Monitoring Program meeting the requirements of CCR title 27, section 20425.

#### **E. ELECTRONIC REPORTING FORMAT**

All SMRs submitted pursuant to this SMP must be submitted as electronic files in **PDF format** to GeoTracker. The Water Board has implemented a document imaging system, which is ultimately intended to reduce the need for printed report storage space and streamline the public file review process. Documents in the imaging system may be viewed, and print copies made, by the public during file reviews conducted at the Water Board's office. Email notification should be provided to Water Board staff whenever a file is uploaded to the Water Board's GeoTracker website.

#### **F. MAINTENANCE OF WRITTEN RECORDS**

Dischargers shall maintain information required pursuant to this SMP for at least five years. The five-year period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Water Board.



## **PART B**

### **A. MONITORING LOCATIONS AND FREQUENCY**

Monitoring locations, frequencies, parameters, and analytes are specified in Tables B-1, B-2, and B-3 of this SMP and as indicated below. Monitoring locations are shown in Figures B-1 and B-2.

#### **1. Environmental Media**

##### **a. Groundwater:**

Groundwater shall be monitored at the locations specified in Table B-1 and shown in Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

##### **b. Leachate:**

Leachate shall be monitored at the locations specified in Table B-1 and shown in Figure B-1. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

##### **c. Stormwater and Surface Water:**

Stormwater and surface water shall be monitored at the locations specified in Table B-1 and shown in Figure B-2. Monitoring frequencies, parameters, and analytes shall be in accordance with Table B-1.

#### **2. Standard Observations**

Standard observations shall be made within the limits of each landfill cell, at their perimeter, and of the water courses and receiving waters beyond their limits. Standard observations shall be conducted at the locations and frequencies specified in Table B-2.

#### **3. Facilities Inspections**

The Discharger shall inspect all containment and control structures and devices associated with each landfill cell and the landfill as a whole to ensure proper and safe operation. Facilities inspections shall be conducted at the locations and frequencies specified in Table B-3.

### **B. REPORTING SCHEDULE**

The Discharger shall submit SMRs to Water Board staff in accordance with the schedule indicated in Table B-4. Reports due at the same time may be combined into one report for convenience, as long as monitoring activities and results pertaining to each monitoring period are clearly distinguishable.



**Table B-1**  
**Clover Flat Landfill**

**Monitoring Parameters and Frequencies - Order No. R2-2020-00XX**

Parameter (U.S. EPA Method)	Groundwater Monitoring Wells							Leachate Sampling Locations		Surface Water Sampling Locations
	B-2	B-3	B-4	B-5A*	B-5B*	B-11*	B-12*	LEW-2	LCS	SL-1 - SL-10
<b><u>Field Measurements</u></b>										
Water Elevation	Q	Q	Q	Q	Q	Q	Q	NA	NA	NA
Electrical Conductivity	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	NA	NA	Q
pH	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	Q
Temperature	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	Q
Turbidity	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	Q
<b><u>Laboratory Analyses</u></b>										
<b><u>Site-Specific Monitoring Parameters</u></b>										
Ammonia (350.1)	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	^
VOCs (8260B)	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	SA-2,4	^
Arsenic, Chromium, Zinc, Iron (6010)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	A-2	^
Cyanide (9010)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	SA-2,4	SA-2,4	^
Sulfide (9030)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	SA-2,4	SA-2,4	^
SVOCs (8270)	A-2	A-2	A-2	A-2	A-2	A-2	A-2	SA-2,4	SA-2,4	NA
<b><u>Constituents of Concerns (COCs)</u></b> <sup>(1)</sup>	5-year	5-year	5-year	5-year	5-year	5-year	5-year	SA-2,4	SA-2,4	NA

**Notes and Explanations:**

^ Stormwater sampling parameters are listed in the General Industrial Stormwater Permit (Order No. 2014-0057-DWQ)

<sup>(1)</sup> Next 5-year Constituents of Concern (herbicides - EPA Method 8151, pesticides and PCBs - EPA Method 8080, CAM 17 metals - EPA Methods 6010/7470) sampling event will occur during the second quarter of 2021.

\* Point of Compliance (POC) wells - B-5A, B-5B, B-11, and B-12

**KEY**

Q = quarterly monitoring according to the following schedule:

1st quarter = Jan thru Mar

2nd quarter = Apr thru Jun

3rd quarter = Jul thru Sep

4th quarter = Oct thru Dec

blank = no sampling required

VOCs = volatile organic compounds by EPA Method 8260B, Appendix I list of compounds.

SVOCs = semi-volatile organic compounds

SA-2,4 = semi-annual monitoring during second and fourth quarters    PCBs = polychlorinated biphenyls

A = Annual monitoring

NA = Not Applicable

Continued on page 2.



**Water Quality Protection Standard (WOPS) for the CFL**

**Constituents of Concern:** Section 20395 of Title 27 defines Constituents of Concern (COCs) as “all waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit”. COCs for the OMSL include the "site-specific detection monitoring parameters" identified in Table B-1 of this SMP, and all Appendix II parameters in the federal Subtitle D regulations. The Discharger may propose modifications to the parameter list as additional data becomes available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.

**Monitoring Parameters:** Monitoring parameters (MPs), a subset of the COCs, are typically the most mobile and commonly detected COCs in groundwater at the site and are measured on a more frequent basis than the entire list of COCs. The MPs for the OMSL shall include, at a minimum, all constituents identified as "site-specific detection monitoring parameters" in Table B-1 of this SMP. The Discharger may propose modification to the MPs as additional data become available concerning site-specific source characteristics and natural background water quality. However, modifications shall only be made upon written concurrence from the Executive Officer.

**Concentration Limits:** Pursuant to Title 27, section 20400, the Discharger utilizes both statistically and non-statistically-derived concentration limits (CLs). Statistically-derived CLs that are based upon evaluation of natural background groundwater conditions. Intra-well prediction limits are used to statistically evaluate the inorganic site-specific detection monitoring parameters. In cases where the detection frequency for a given parameter in a given well is less than 25%, a non-parametric prediction limit will be used provided sufficient data are available. If the statistical tests indicate no change in groundwater quality, then the background dataset is updated every two-years to provide more robust statistical comparisons for future analysis.

The CL for organic compounds, which are not naturally occurring and not detected in background groundwater samples, shall be taken as the contract laboratory’s practical quantification limit (PQL) of the analytical method used (e.g., U.S. EPA methods 8260 and 8270), provided that the PQL is less than or equal to the applicable and enforceable water quality standard, such as the California maximum contaminant level (MCL) for each constituent. The repeated detection of one or more non-naturally occurring organic compound above the PQL in samples from groundwater monitoring points is evidence of a potential release from the Unit. If the laboratory cannot achieve a PQL that is less than or equal to the water quality standard, re-sampling must occur within 30 days with analysis at a State-approved laboratory that can achieve the CL requirements.

**Point of Compliance:** Title 27 defines the Point of Compliance (POC) as the "vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit." The POC for the OMSL shall be the hydraulically downgradient perimeter of the waste fill area.

**Monitoring Points:** Title 27 defines Monitoring Points as “a well, device, or location specified in the waste discharge requirements at which monitoring is conducted and at which the water quality protection standard applies”. Monitoring points for the OMSL, which are located along the POC and at additional locations, are specified in Table B-1 of this SMP.



**Table B-2 Standard Observations**

STATION	FREQUENCY
WMUs	Weekly
WMU Perimeter	Weekly
Receiving Waters	Weekly

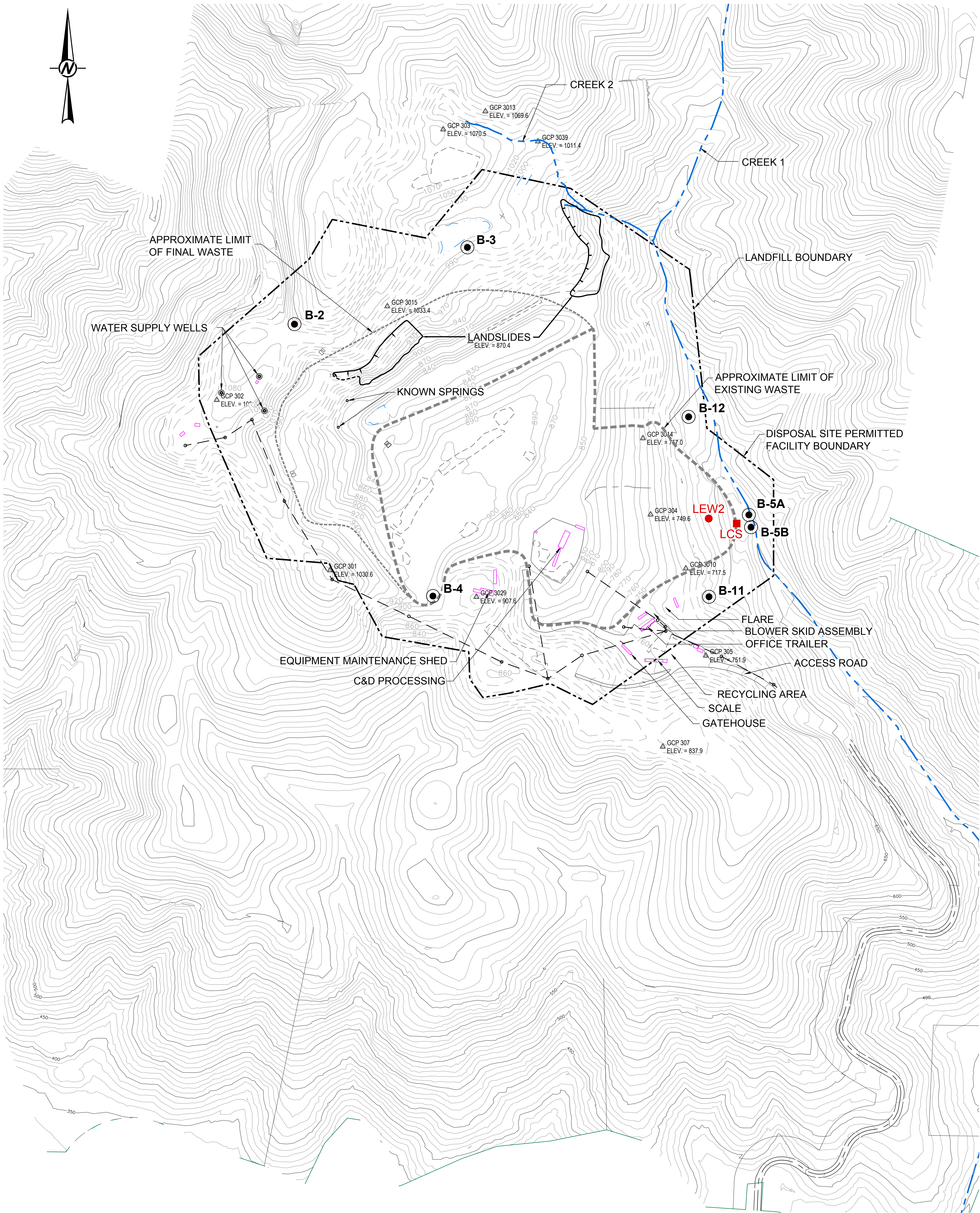
**Table B-3 Facilities Inspections**

CONTAINMENT AND CONTROL FACILITY	FREQUENCY
Leachate collection and removal systems (LCRS)	Quarterly
Stormwater impoundment (Sedimentation Ponds)	Quarterly
Vadose zone and subdrain collection systems	Quarterly
Perimeter diversion channels	Quarterly
Leachate management facilities and secondary containment (Leachate and condensate tanks, piping, etc.)	Quarterly




**Table B-4 Reports and Due Dates**

Report Type	Reporting Frequency	Report Due Dates
Environmental Media Monitoring (Groundwater, Leachate, Stormwater)	Semi-Annual	<b>Aug 15, Feb. 15</b>
Standard Observations and Facilities Inspections	Semi-Annual	<b>Aug 15, Feb. 15</b>





LEGEND

- B-5B  Groundwater monitoring well
- LEW2  Leachate extraction well
- LCS  Leachate collection sump
- Existing Permit Landfill Boundary

NOTE(S)

SITE TOPOGRAPHY PREPARED BY TETRA TECH GEOMATIC TECHNOLOGIES, LAFAYETTE, CALIFORNIA. DATE: 2019-07-01



CLIENT  
CLOVER FLAT LANDFILL, INC.  
CALISTOGA, CALIFORNIA

PROJECT  
WASTE DISCHARGE REQUIREMENTS

CONSULTANT

YYYY-MM-DD 2020-02-25

DESIGNED MT

PREPARED JDR

REVIEWED JGD

APPROVED JGD



TITLE  
**GROUNDWATER MONITORING WELLS AND LEACHATE SAMPLING LOCATIONS**

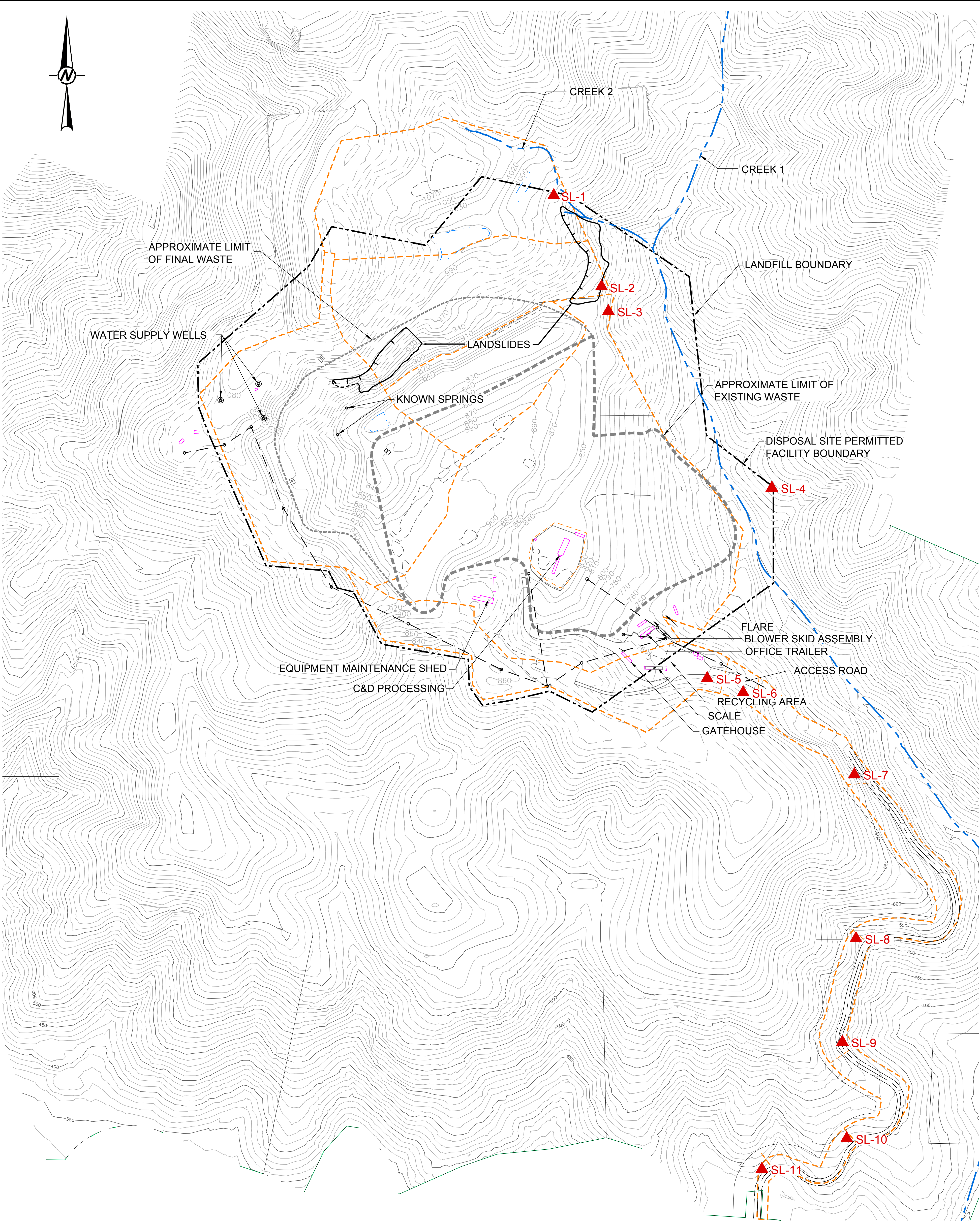
PROJECT NO.  
19122160

REV.

FIGURE

B-1





LEGEND

- SL ▲ Surface-water monitoring location
- - - - - Drainage Boundary
- - - - - Existing Permit Landfill Boundary

NOTE(S)

SITE TOPOGRAPHY PREPARED BY TETRA TECH GEOMATIC TECHNOLOGIES, LAFAYETTE, CALIFORNIA. DATE: 2019-07-01



CLIENT  
CLOVER FLAT LANDFILL, INC.  
CALISTOGA, CALIFORNIA

PROJECT  
WASTE DISCHARGE REQUIREMENTS

CONSULTANT	YYYY-MM-DD	2020-02-25
	DESIGNED	MT
	PREPARED	JDR
	REVIEWED	JGD
	APPROVED	JGD



TITLE  
SURFACE WATER MONITORING LOCATIONS

PROJECT NO.  
19122160

REV.

FIGURE  
B-2