STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
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WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2011-0019
Waste Discharger Identification No. 3 430307001
Proposed for Adoption at the May 4-5, 2011 Board Meeting

FOR
RECOLOGY PACHECO PASS CLASS III
AND INERT WASTE LANDFILL
SANTA CLARA COUNTY

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

LANDFILL OWNER AND LOCATION

1. Recology Pacheco Pass (hereafter "Discharger") owns and operates the Recology Pacheco Pass Class III Landfill and Inert Waste Landfill (hereafter "Landfill").

2. The Landfill is located in Santa Clara County in an unincorporated area approximately seven miles east of the city of Gilroy, as shown on Landfill Location Map, **Figure 1**. The physical address of the Landfill is 3675 Pacheco Pass Highway, Gilroy, California 95020. The Landfill is located in Section 12, Township 2 South, Range 4 East, Mount Diablo Baseline and Meridian. The Landfill latitude is 36°99 North and the longitude is 121°49 West.

PURPOSE OF ORDER

3. The purpose of Waste Discharge Requirements Order No. R3-2011-0019 (hereafter "Order" or "Order No. R3-2011-0019") is to revise and update the Landfill's description, update the Discharger's requirements for closure construction and post-closure maintenance and monitoring of the Landfill, and to prohibit discharges of waste to the closed Landfill.

4. The Discharger is currently regulated by Waste Discharge Requirements Order No. R3-2004-0111 (hereafter "Order No. R3-2004-0111"), adopted by the Water Board on December 3, 2004. Order No. R3-2011-0019 replaces Order No. R3-2004-0111.

5. The Discharger will design, construct, and close the Landfill pursuant to California Code of Regulations (CCR) Title 27, Solid Waste (hereafter "CCR Title 27") effective July 18, 1997, and pursuant to Code of Federal Regulations Title 40, Parts 257 and

258, Solid Waste Facility Disposal Criteria, Final Rule, as promulgated on October 9, 1991 (hereafter "40 CFR 258").

LANDFILL DESCRIPTION AND HISTORY

6. The 170-acre Landfill property comprises seven parcels of land with County of Santa Clara Assessor Parcel Numbers, as follows:

   - 841-41-014 (Parcel 1A), 841-41-015 (Parcel 1B), 841-41-010 (Parcel 3) – These parcels cover 91 acres and include the Landfill waste footprint containing the 66-acre Class III Landfill and inert waste Landfill; and a portion of the compost operations;
   - 841-41-016 (Parcel 2B) and 841-41-017 (Parcel 2A) – These parcels cover 45 acres and includes a portion of the compost operations and undeveloped land;
   - 841-41-007 – This parcel covers 31.5 acres and includes an environmental easement; and,
   - 841-41-012 – This parcel covers 2.5 acres and includes an access road.

7. The Landfill property consists of 170 acres, as shown on Landfill Property Boundary, **Figure 2**. The waste disposal footprint comprised 91 acres, within which the Discharger used 31 acres for municipal solid waste disposal, 35 acres for inert waste disposal, and 25 acres for access roads, stockpiling areas, excavation areas, and other activities related to previous landfill operations (i.e., minor maintenance of on-site equipment, fuel storage, parking, storage of household hazardous waste, and resource recovery activities [staging or sorting of materials for alternate uses such as boiler fuel, chipping and grinding, composting, and storage of alternative daily cover, etc.]).

8. The Discharger previously conducted waste disposal operations on three of the seven parcels:

   - Parcel 1A, Parcel 1B (collectively, Parcel 1), and a portion of Parcel 3, totaling approximately 66 acres, as shown on Landfill Configuration, **Figure 3**. Disposal occurred in lined and unlined (pre-Subtitle D) waste management units (WMUs). Thirty-one acres comprise the municipal solid waste Landfill, including 15-acre Module A (lined) and 16-acre Parcel 1 (unlined). Module A WMU and Parcel 1 WMU overlap each other by approximately seven acres.
   - Thirty-five acres comprise the inert waste disposal area, including Modules B, C, and D, with the Discharger designing fill operations in Modules B and D to buttress Module A. Module C did not receive waste, but the Discharger currently uses a portion of Module C for stormwater runoff control facilities.
   - The other parcels associated with the Landfill property include an environmental easement of 31.5 acres, the access road of 2.5 acres, and Parcel 2 of approximately 45 acres. The Discharger uses a portion of Parcel 2 and Parcel 3 to operate a composting facility.

9. The Discharger stopped receiving municipal solid waste at the Landfill on September 30, 2008 and prepared a closure/post-closure plan. Final capacity used at the Landfill for waste disposal is 3,888,000 cubic yards (2,813,585 tons). Of the total, municipal solid waste comprises 3,240,000 cubic yards (2,295,885 tons) and inert waste comprises 648,000 cubic yards (517,700 tons).

10. The Landfill is located on the western flank of the Diablo Range adjacent to, and east of, the Santa Clara Valley with natural southwest-facing hillsides ranging in elevation from 300 to 550 feet above mean sea level (msl). Southwest-trending drainages that drain to the southern Santa Clara Valley dissect the local southwest facing slopes.

11. The Landfill originally occupied three parcels of land that the Discharger subsequently subdivided into five parcels. The Discharger and Mr. and Mrs. F.L Furtado jointly owned Parcel 1 and 2, which were approximately 31 and 45 acres, respectively. The Discharger owns Parcel 3, which encompasses approximately 60 acres of land. In 1986, the Discharger and the Furtados split Parcels 1 and 2 resulting in the current parcel designations of 1A, 1B, 2A, and 2B (**Figure 3**). The Furtados sold Parcels 1A and 2A to a separate landowner in 2005, and the Discharger owns Parcels 1B and 2B. In 1991, the Discharger obtained an environmental easement from the Furtados of approximately 31.5 acres adjacent to and southwest of Parcels 1A and 1B for construction and access to necessary environmental control facilities (drainage structures, monitoring wells, Landfill gas collection and control systems, etc.).

12. Gilroy Garbage first operated the Landfill in 1963. To accommodate local agricultural processing activities, filling took place mostly in the summer months from 1963 through 1974. During the winter, operations moved to the Gilroy Landfill on the Santa Clara Valley floor. Year-round use of the Landfill began in 1974. The Discharger assumed operations from Gilroy Garbage for the entire Landfill in 1973.

13. Since 1963, the Discharger received commercial, agricultural, and residential wastes from Gilroy, Morgan Hill, and the unincorporated areas of Santa Clara County, including San Martin. Limited information is available on Landfill practices during the early years of operation, but records indicate that disposal began on unlined Parcel 1 in 1963 and continued until August 1989. After 1989, the Discharger moved disposal operations from Parcel 1 to Parcel 3 with the exception of Parcel 1B where the Discharger continued disposal (the Discharger split Parcel 1 into 1A and 1B in 1989). The Discharger closed Parcel 1A in 1989 prior to construction of lined Module A on Parcel 3.

14. The Water Board has regulated waste discharge at the Landfill since 1972. The Water Board adopted Waste Discharge Requirements Order No. 72-55 on September 8, 1972, which the Water Board then revised with Order No. 78-09, adopted on September 8, 1978, to include Water Quality Control Plan basin objectives. On February 8, 1985, the Water Board Adopted Order No. 85-11, and thereby approved a Landfill expansion. The Order allowed continued disposal of

Class III wastes in Parcel 1 and permitted expansion of disposal operations from Parcel 1 into Modules A, B, and C in Parcel 3 (**Figure 3**).

In 1986, the Discharger found Holocene faults of the Calaveras Fault system underlying the Landfill. Identification of these faults during excavation of Module A established that the expansion design did not meet the siting requirements of CCR Title 23, Subchapter 15 (now CCR Title 27) for disposal of Class III waste. On February 16, 1990, the Water board adopted Order No. 90-34 to approve changes to the conceptual development plan for the Landfill. However, due to additional fault discoveries the Water Board requested another conceptual development plan for the Landfill. In response to the Water Board's request, the Discharger submitted "The Operations Plan, Pacheco Pass Class III and Inert Waste Landfill" (Operations Plan) which proposed development of Modules B, C, and D for inert waste, and a stabilizing buttress fill to the north and west of Module A. The Discharger proposed the stabilizing buttress north and west of Module A to allow for continued placement of Class III waste in Module A. The Water Board approved the Operations Plan and adopted Order No. 94-72 on October 14, 1994.

The Water Board adopted revised Order No. R3-2004-0111 for continued disposal operations including municipal solid waste in Module A and inert waste in Modules B and D. Module C never received waste; however, the Discharger utilizes the area for stormwater runoff controls, including two retention basins; one for the compost area and one for the Module A area of the Landfill (and future Recology Pacheco Pass Transfer Station). The Discharger stopped receiving municipal solid waste and inert waste at the Landfill on September 30, 2008. The Discharger placed a temporary cover over Landfill waste consisting of a layer of compacted soil with a minimum thickness of one foot on side slopes and a maximum thickness of approximately 10 feet on the top deck. The Discharger also graded the temporary cover and constructed drainage controls to reduce infiltration into the Landfill prior to construction of the final cover. The Discharger also established a temporary vegetation cover to provide erosion control.

15. The Discharger submitted a Final Closure and Post-Closure Maintenance Plan (CPCMP) in January 2010. The Discharger provided support and rationale for a proposed engineered alternative final cover design pursuant to Order No. 2004-0111. The performance of the alternative composite cover's components, in combination, equal and exceed the waste containment capability of the prescriptive design and performance specifications of CCR Title 27 (i.e., **C. Specifications 2. b. or c.** of this Order). The Discharger also proposed a leachate and gas condensate recirculation and infiltration system within the lined portion of the closed Landfill, as shown on Landfill Leachate-Condensate Recirculation System, **Figure 4**. The Executive Officer approved the closure design in a letter dated March 30, 2010.

16. The Discharger plans to construct a final cover over Modules A, B, and D as described in further detail in the next finding. The final cover is a protective barrier layer placed over those areas of the Landfill that are undergoing final closure. The final cover system for Module A is designed in conformance with performance

standards in CCR Title 27 §17388.3, §20950(a)(2)(A)1, §21790(b)(8)(B), §21790(b)(8)(D), §21140, §21145, and §21150. Modules B and D are unlined inert waste disposal areas; therefore, the Discharger is not required to construct a final cover system pursuant to CCR Title 27; however, the Discharger designed a final cover system to conform to Santa Clara County non-irrigated open space requirements.

17. The Discharger's final cover design consists of the following:

- **Module A –** The final cover system will consist of a 1.5-foot thick soil foundation layer overlain by a 40-mil low permeability layer consisting of a double–textured, linear low-density polyethylene (LLDPE) geomembrane overlain by a 1.5-foot thick protective cover soil layer, which also serves as the required vegetation layer. The Discharger will place a geocomposite drainage layer over the LLDPE geomembrane below the cover soil on the Landfill side slopes. As an Executive Officer-approved option, the Discharger may use a new geomembrane termed "Super Gripnet" (manufactured by Agru America) in lieu of the 40-mil LLDPE on the side-slopes of the Landfill. The product consists of a 50-mil LLDPE geomembrane with a spike texturing on the bottom and a 150-mil thick stud texturing on the top. On the Landfill side slopes, the Discharger will place an eight ounce per square yard, non-woven geotextile over the stud liner to create a high-flow drainage layer on top of the geomembrane.
- **Modules B and D –** The final cover system will consist of a minimum of three feet of cover soil over the waste with a suitable vegetative seed mix applied to control erosion. Over a portion of the modules, the Discharger has already placed three feet of soil over the intert waste. The Discharger will place no additional soil in these areas. In the remaining area of Modules B and D, there is from one to two feet of soil overlying the inert waste; therefore, the Discharger will place one to two feet of additional soil during Landfill closure construction in those areas.

18. The primary land use surrounding the Landfill consists of cattle grazing, farmland, and open space with typical 20- to 40-acre spacing. Adjacent land use zones vary within one mile of the Landfill and include the following, in order of decreasing area:

- Exclusive agricultural (greenbelt) - grazing and farmland
- Hillside - principally grazing land and undeveloped land
- Agricultural ranchlands - similar to hillside zoning
- Agricultural productive - exclusively farmland
- Scenic Highway

19. There are no residences within 1,000 feet of the Landfill boundaries. Grazing and farming comprise land use within 1,000 feet of the Landfill. The nearest residence is approximately 2,800 feet west of the Landfill.

CLASSIFICATION AND WASTE TYPE

20. The Landfill is classified by the Water Board as a Class III WMU, approved for discharge of non-hazardous municipal solid waste, pursuant to CCR Title 27 §20200.

21. Previous disposal at the Landfill included non-hazardous municipal solid waste and inert waste.

GEOLOGY/HYDROGEOLOGY

22. **Setting** – The Landfill is located on the western flank of the Diablo Range adjacent to and east of the southern Santa Clara Valley. The main trace of the northwest-trending Calaveras Fault Zone is approximately 800-feet to 1,000-feet northeast of Parcel 1 and 3 and is an active Holocene fault.

23. **Topography** – Natural southwest facing hillsides ranging in elevation from 300 to 550 feet above msl characterize the Landfill. Southwest trending drainages locally dissect the southwest facing slopes and drain to the Santa Clara Valley. The elevation of the Santa Clara Valley floor southwest of the Landfill is approximately 150 feet above msl. Natural side slopes of the Landfill range in grade from 10 to 40 percent. The proposed maximum final Landfill elevation is 523 above msl, as shown on Landfill Top of Cover Closure Grades, **Figure 5**. Figure 5 also depicts existing grades for areas surrounding the Landfill.

24. **Geologic Structure** – The Diablo Range near the Landfill is composed primarily of Pleistocene to Cretaceous sedimentary and volcanic rocks. On the western margin of the range, rocks are folded and faulted along the Calaveras Great Valley Sequence. The Santa Clara Valley, a northwest-trending structural depression between the Diablo Range on the east and the Santa Cruz Mountains on the west, is underlain by Quaternary alluvium that overlies the older Santa Clara Formation and the Pliocene-age Purisima Formation. Bedrock materials beneath the Landfill consist entirely of the Santa Clara Formation and bedding and structural features generally trend northwest. The Santa Clara Formation was originally deposited in an alluvial fan environment and is composed of discontinuous lenticular irregularly bedded claystone, siltstone, sandstone, and conglomerate.

25. **Stratigraphy** – The soil within one mile of the Landfill consists of loams and gravelly loams with lesser amounts of clay. The three predominant soil series are the Altamont, the Azule, and the Gaviota. The Altamont Clay underlies the southern corner of the Landfill encompassing the majority of the previous disposal area. The Azule Clay Loam underlies the central portion of the Landfill including the northeastern strip of the previous disposal area. The Azule Clay Loam also comprises a narrow strip of soil along the northeast border of the Landfill.

26. **Faulting/Seismicity** – The Landfill is located along the southwest zone of the Calaveras Fault. The Calaveras Fault is an active Holocene age fault because of the movement recorded within the last 10,000 to 12,000 years. Active segments of the Calaveras Fault system divide the Landfill property into unique fault blocks. The fault blocks comprise northwest-trending strikes and opposing dips. The main trace of the northwest-trending Calaveras Fault is approximately 800-feet to 1,000-feet northeast of Parcels 1 and 3. Kelson (2001) performed a study documenting the movement along the Calaveras Fault on the Furtado Ranch area in Parcel 2A and 2B, east of the former active Landfill and compost facility. This study showed a "right-lateral offset of 400 +/-30 millimeters (mm) across a well-defined zone less than five meters wide. These data indicate a 29-year-long creep rate of 14 +/-1 mm/year". The Discharger traced three active secondary faults trending sub-parallel to the Calaveras Fault beneath Parcels 1 and 3. Structural displacement across the secondary faults includes active lateral displacement estimated to be four mm/year to seven mm/year (Hall, 1974), as well as a significant vertical component. The first two traces of the Calaveras Fault system dip steeply to the northeast toward the main trace of the Calaveras Fault. They divide the bedrock underlying the Landfill into four fault blocks known as the Far Eastern, Eastern, Central, and Western Fault Blocks. Where the fault traces are exposed, they contain cohesive sheared clayey gouge. The Calaveras Fault is capable of generating earthquakes up to magnitude 7.0 with ground accelerations estimates of 0.69g at the Landfill. The nearby San Andreas could generate earthquakes up to magnitude 8.3 with ground accelerations of 0.47g at the Landfill.

27. **Hydrogeology** – The Landfill is located in a complex fractured bedrock hydrogeologic regime situated on the eastern margin of the southern Santa Clara Valley groundwater basin. Aquifers beneath the Santa Clara Valley are the principal sources of groundwater in the area. Wells in the basin draw water from a combination of alluvial deposits in the underlying Santa Clara and Purisima Formations. Stratigraphy and geologic structure control the more permeable conglomerate and sandstone beds of the Santa Clara Formation that contain groundwater. Individual fault traces of the Calaveras Fault Zone appear to act as barriers to groundwater flow and strongly influence groundwater flow in the Santa Clara Formation on the upland margins near the Landfill. Within the fault blocks, lithology influences groundwater flow. Although the regional hydraulic gradient is toward the valley, complex pathways exist because of the restrictions in groundwater flow caused by fault boundaries in the area.

SURFACE WATER AND GROUNDWATER

28. **Surface Water** – The Landfill property is located within the Pacheco-Santa Ana Creek Hydrogeologic Area of the Pajaro River Hydrologic Unit. Surface drainage could potentially reach the Pajaro River but the Landfill lies outside the Pajaro River 100-year floodplain. There are three unnamed tributaries and one drainage way adjacent to the Landfill. One tributary borders the east-northeast Landfill boundary, with flows to the north-northwest, and does not receive runoff from the Landfill. The

other two tributaries are located at the northwestern and southern Landfill boundaries with flows to the west-southwest and southwest, respectively. The drainage way is located at the southwestern Landfill boundary with flows to an infiltration basin. Tributary flows are toward LLagas Creek and the Pajaro River. The length of the tributaries between the Landfill and LLagas Creek and the Pajaro River are between 2.5 to 5 miles, depending on the tributary. Flows are ephemeral and infiltrate to groundwater in low-lying areas.

29. **Flooding** – The Landfill is located above the 100-year flood plain. The Discharger identified flood elevation information in the Federal Emergency Management Agency Flood Insurance Rate Map for Santa Clara County.

30. **Precipitation** – Rainfall is seasonal with the majority of the precipitation falling between November and March. Average annual average precipitation is 18.9 inches based on current and historic data from whether stations in the city of Gilroy and surrounding area. Based on the isohyetal map of California, the annual precipitation at the Landfill is approximately 16 inches. The Landfill-specific 100-year, 24-hour storm is 7.5 inches.

31. **Springs** – There are no springs within the vicinity of the Landfill.

32. **Groundwater** – Piezometric elevation contours at the Landfill are generally sub-parallel to the topographic contours, with an overall gradient (approximately 0.1 foot/foot) to the southwest, toward the Santa Clara Valley. Bedding and faulting strongly influence groundwater flow beneath the Landfill and are oriented roughly parallel to the hills and perpendicular to the groundwater gradient. Groundwater flow patterns within each fault block behave as if restricted by the less permeable geologic material (i.e., claystone, siltstone, and clayey fault gouge). Therefore, a large component of groundwater flow within the fault blocks is within the plane of highest hydraulic conductivity, which is to the northwest, parallel to the strike of the bedding. The groundwater bearing sandstones and conglomerates form a complex, but generally continuous, flow zone bounded by low-permeability siltstone, claystone, and faulting gouge layers. Connection between water-bearing beds occurs generally along strike and not across non-water-bearing beds.

    The Discharger calculated groundwater flow velocity for the central fault block, over which the main portion of the Landfill lies, for the second quarter of 2010. The Discharger's assumption for their calculations is that wells E-6 and E-19 monitor the same groundwater flow zone. The Discharger interpreted groundwater to have a component of flow to the northwest, parallel to the strike of bedding at the Landfill. Based on the difference in hydraulic head between wells E-6 and E-19, the Discharger estimated the hydraulic gradient between the two wells at approximately 0.012 foot per foot. Water bearing materials within this flow zone include silty sandstone, with hydraulic conductivities ranging from 4.3×10^{-6} to 2.5×10^{-4} centimeters per second (cm/s), and sandy gravel, with hydraulic conductivities ranging from 7×10^{-3} to 1.6×10^{-4} cm/s. The Discharger estimated the effective

porosity at 0.3. Based on these data, the Discharger calculated that the average linear groundwater flow velocities within the Central Fault Block range from 0.2 to approximately 300 feet per year (ft/yr) for the silty sandstone and sandy gravel units, respectively.

33. **Groundwater Quality** – The Discharger has monitored groundwater at the Landfill since August 1985 through a network of monitoring wells, as shown on Landfill Monitoring and Control Systems, **Figure 6**. Volatile organic compounds (VOCs) and inorganic constituents impact areas of groundwater beneath and downgradient from the Landfill. The Discharger first detected VOCs in groundwater in 1987. The Discharger performed analyses of their groundwater monitoring data and they have indicated the source of the VOCs resulted from Landfill gas migration from the older unlined portion of the Landfill (Parcel 1), and possibly from lined Module A. The Discharger also established that upward trends in the concentrations of select inorganic constituents may have resulted from leachate migration from the unlined Parcel 1 Landfill.

    The following Table summarizes the notable trends in concentrations of VOCs and concentrations of inorganic constituents in groundwater in comparison to Maximum Contaminant Levels (MCLs). Water Board staff culminated the data from the Discharger's "Third and Fourth Quarter Semi-Annual and Annual 2010 Monitoring Report" (Golder Associates, January 28, 2011):

Well	Constituent	Concentration Range[1] µg/L	MCL µg/L	Trend[2]
E-4	1,1-Dichloroethane (1,1-DCA)	Trace - 6.0	5.0	Down
	1,4-dichlorobenzene	Trace - 8.0	5.0	Down
	cis-1,2-Dichloroethene (cis-1,2-DCE)	Trace - 12.0	6.0	Down
	Vinyl chloride	Trace - 39.0	0.5	Down
	Benzene	Trace - 10.12	1.0	Down
	Trichloroethylene (TCE)	Trace below MCL	5.0	Down
	VOCs - other	Variable trace	--	Stable
E-6	1,1-DCA	Trace below MCL	5.0	No trend
	cis-1,2-DCE	Trace - 8.5	6.0	Up
	TCE	Trace - 62.0	5.0	Down
	VOCs - other	Variable trace	--	Stable
E-7	cis-1,2-DCE	1.0 - 12.0	6.0	Down
	VOCs - other	Variable trace	-	Down
E-8	1,1-DCA	Trace - 8.0	5.0	Down
	cis-1,2-DCE	Trace - 33.0	6.0	Down
	TCE	1.0 - 10.0	5.0	Down
	Vinyl chloride	Trace - 0.89	0.5	Down
	Benzene	Trace - 1.6	1.0	Down
	VOCs - other	Variable trace	--	Down
E-10	cis-1,2-DCE	Trace - 11.0	6.0	Up
	Tetrachloroethylene	1.0 - 59.0	5.0	Stable
	TCE	1.3 - 22.0	5.0	Up
	Benzene	Trace - 1.0	1.0	Down
	Vinyl chloride	0.51 - 1.8	0.5	Down
	1,1-DCA	Trace below MCL	5.0	Stable
	VOCs – other	Variable trace	--	Down
E-18	Manganese	Trace - 320	50[3]	Up
E-21	Vinyl chloride	0.93 (2005)	0.5	Down
	1,1-DCA	Trace below MCL	5.0	Up
	VOCs – other	Variable trace	--	No trend
E-23	Manganese	10 - 180	50[3]	Up
	Chloride	78,000 - 250,000	250,000[4]	Down

[1] The Concentration Range shows historic values. Highest concentrations are shown in relation to MCLs and do not reflect current site conditions. In all instances, current concentrations are lower, irrespective of their noted trends (up or down).
[2] The Trend column shows present trends in groundwater at the time Water Board staff drafted this Order.
[3] Secondary MCL.
[4] Recommended Secondary MCL Range (250,000 to 600,000 µg/L).

Since the Discharger installed groundwater monitoring wells at the Landfill, all the wells, including background well E-1, have consistently exceeded secondary MCLs for total dissolved solids (TDS) (500 milligram per liter [mg/l]) and specific conductance (900 micromhos per centimeter [µmhos/cm]), due to poor natural groundwater quality and variability. Historical concentrations of TDS range from 230 mg/l to 2,500 mg/l and specific conductance range from 653 µmhos/cm to 5,820 µmhos/cm. The Discharger also routinely analyzes groundwater for chloride, nitrate, sulfate, and manganese. The Discharger uses statistical methods for all inorganic parameters to evaluate: a) the occurrence of statistically significant trends as part of the detection monitoring program for detecting releases, and b) to verify the effectiveness of corrective action measures for releases. According to the Discharger's Third and Fourth Quarter Semiannual 2010 Monitoring Report, inorganic parameters for detection and corrective action monitoring wells exhibit both statistically significant upward and downward trends. These trends reflect the natural variability in groundwater inorganic parameters due to the complex hydrogeology/geology at the Landfill and possibly releases from both the unlined and lined WMUs. In wells E-18 and E-23, apparent upward trends in manganese have occurred, and previously upward trends in chloride in E-23 have occurred, indicating a possible leachate release from the unlined Parcel 1 Landfill (see Finding 37 for more details regarding controls and related corrective actions for manganese).

A detection of nitrate and nitrite (i.e., nitrate plus nitrite, sum as nitrogen) in well E-19 at 3.3 mg/L (MCL 10.0 mg/L) exceeded its concentration limit and appears to show an upward trend following the 2005-2006 wet season. Even though the nitrate concentration exceeds the E-19 intra-well concentration limit, the concentration is lower in comparison to other Landfill monitoring wells with concentrations of nitrate that are likely unrelated to waste disposal (the latter determined from the absence of upward trends in other monitoring parameters that in combination with nitrate, would have indicated a release from waste disposal in the Landfill). The Discharger analyzed other monitoring data for E-19 and concluded that the detected nitrate was most likely related stormwater runoff from their compost operations—which used to commingle with runoff from the Landfill in a single stormwater collection pond—and not related to a release from prior waste disposal at the Landfill (see Finding 39 for more details regarding controls and related corrective actions for nitrate).

34. **Groundwater Recharge** – Surface inflow and subsurface inflow recharge the groundwater basin near the Landfill. Surface inflow constitutes the principle source of recharge to the basin and includes infiltration of precipitation and excess irrigation water, percolation along streams, canals and other waterways and artificial recharge from percolation ponds.

35. **Groundwater Separation** – Proposed and existing excavation grades and liner designs provide separation between groundwater and waste, thus meeting the CCR Title 27 requirement for maintaining a minimum five-foot separation.

36. **Supply Wells –** Groundwater pumping from the eastern side of the Santa Clara Valley near the Landfill is for a variety of uses. As of 2011, there were 41 wells within one-mile of the Landfill. In 2008, the Discharger installed a well, not yet operational, to supply their compost operations and proposed Transfer Station on the Landfill property (the Discharger conducts compost operations in a separate area outside the Landfill WMUs). Landfill Well Survey Map **Figure 7** shows the locations of water producing wells within one-mile of the Landfill. Three wells are north and east of the Landfill and withdraw water from sediments of the Diablo Range for livestock use. The remaining wells are in the Santa Clara Valley and withdraw water primarily from the alluvial sediments. The Discharger indicates the valley wells are used for domestic supply, or a combination of domestic, agricultural, municipal, and industrial use. The nearest downgradient well is approximately 2,500-feet from Parcel 1 of the Landfill. The owner of the southern portion of Parcel 1 owns the well and uses water for municipal, industrial, and domestic supply. The next nearest wells are approximately 3,000-feet from Parcel 1 and supply water for agricultural, industrial, and domestic use. Based on the Discharger's groundwater monitoring system, the Landfill does not impact, or threaten to impact, any supply wells within the survey area.

CONTROL SYSTEMS AND MONITORING

37. **Landfill Leachate/Groundwater Control –** A gravel blanket type leachate collection and removal system (LCRS) overlies the base liner in Module A. The LCRS directs any collected leachate into one of four sumps (A-I, A-II, A-III, and A-IV). Riser pipes extend from the sumps and provide access to the sumps for leachate accumulation monitoring, sampling, and removal. Ten dual purpose Landfill gas extraction and Landfill leachate extraction wells, and five Landfill leachate monitoring/extraction wells are located in the older, unlined Parcel 1 Landfill (Parcels 1A and 1B), which the Discharger installed as part of a corrective action response in the 1990s. The Discharger currently pumps collected leachate from the sumps and wells to three tanks and combines collected Landfill gas condensate with collected leachate. The Discharger currently uses a portion of extracted leachate and condensate for dust control along Landfill roads utilizing tanker trucks, and hauls the remainder to the wastewater treatment plant in Watsonville for disposal. The Discharger will reconfigure portions of the leachate control systems during final closure.

    The Discharger plans to construct a final cover over Module A to reduce infiltration of precipitation into the lined portion of the Landfill, thereby reducing leachate generation and threats to groundwater quality. To address upward trends of VOCs in groundwater in corrective action wells related to Landfill gas migration, the Discharger expanded their Landfill gas collection system several times, with the most recent expansion occurring in 2008. To reduce VOCs in groundwater at wells E-6, E-10, E-21, E-23, and E-26, the Discharger implemented additional corrective actions including: a) expanding their Landfill gas collection system by installing new gas extraction wells, b) extracting landfill gas from leachate sump IV, and c) monitoring Landfill gas system performance in an effort to optimize gas extraction

across the entire Landfill gas extraction network. The Discharger located the new gas extraction wells within Landfill waste and converted a dry monitoring well (E-3) into a soil vadose zone gas extraction well. The Discharger is evaluating the effectiveness of their recent corrective actions to reduce Landfill gas impacts in the areas around Wells E-6, E-10, E-21, E-23, and E-26. The Discharger, in their "Third and Fourth Quarter Semi-Annual and Annual 2010 Monitoring Report" (Golder Associates, January 28, 2011), accurately concluded that the overall decrease in the total number of VOCs detected, along with the decreasing trends in VOC concentrations other wells, indicate that the Discharger's corrective actions have been effective in improving groundwater quality.

To address upward trends in manganese in wells E-18 and E-23, and previous upward trends in chloride in E-23, the Discharger has implemented further corrective actions by recently optimizing leachate collection from the unlined Parcel 1 Landfill. Optimization measures included upgrades to the extraction systems with the installation of additional Landfill gas extraction wells, upgraded pumps for leachate extraction, and additional storage capacity for collected leachate.

The Discharger will continue to monitor trends in concentrations of VOCs and inorganic constituents in groundwater to evaluate the effectiveness of their gas extraction, leachate control systems, and the final cover system, in improving groundwater quality. For all groundwater impacts, the Discharger must propose and implement further corrective actions in accordance with this Order if the final cover and/or other containment and control systems do not result in improved water quality over time in existing and any future corrective action monitoring wells.

The Discharger plans to re-circulate all collected leachate and gas condensate within lined Module A, which is equipped with a LCRS. The Discharger plans to evenly distribute the Landfill generated liquids among the four lined units of Module A (i.e., I, II, III, and IV) by pumping from a storage tank at a lower elevation, up to a distribution tank atop the closed Landfill. Liquids will then gravity drain to horizontal infiltration trenches spanning the four lined sections of Module A. The Discharger proposes backfilling constructed trenches with washed gravel or tire chips.

The Discharger successfully demonstrated that the capacity of their LCRS can handle the proposed recirculation system which is designed to broadly distribute liquids while maintaining compliance with CCR Title 27 requirements for liquid levels on top of the Module A liner. The Discharger designed the recirculation system to accommodate the entire daily flow at each of the four infiltration trenches. The Discharger designed the system to allow for a peak flow rate that will not exceed waste holding capacity in order to mitigate the potential occurrence of leachate seeps. Additionally, the Discharger will construct the trenches with set back distances from Landfill side slopes to prevent leachate seeps. The Discharger estimates that extracted Landfill leachate and Landfill gas condensate, along with existing liquids within the Landfill, are less than 40 percent of the hydraulic design capacity of the LCRS. Thus, the liquid volume within the Landfill and recirculation

system will not exceed the hydraulic capacity of the LCRS and will not exceed 85 percent of the LCRS sump pump capacity. The Discharger indicates that the recirculation system will provide a long-term solution for leachate and condensate disposal throughout the post-closure period for the Landfill. The Discharger also indicates that with the construction of the final cover system, landfill leachate will diminish over time due to reduced infiltration of precipitation through the cover.

38. **Landfill Gas Control** – Sixty-one Landfill gas collection wells, 13 soil vapor extraction wells, and 10 dual purpose Landfill gas extraction and Landfill leachate extraction wells, comprise the gas collection system to control gas migration from the lined and unlined WMUs (**Figure 6**). The Landfill gas control system began permitted operations in December 1995. The collection system consists of the following: vertical gas wells, gas control valves, gas condensate drain points, and an above ground gas collection piping system connecting the wells with a blower/flare complex. As described above, the Discharger proposes to collect and re-circulate gas condensate within the lined portion of the closed Landfill.

39. **Stormwater Control** – The Discharger maintains facilities necessary for collecting and diverting stormwater run-off from the Landfill and compost operations. The Landfill does not receive run-on and thus there are no run-on control features. Run-off facilities include drainage diversion berms, various drainage ditches and benches, corrugated steel pipe or high-density polyethylene (HDPE) over-side drains and inlets, energy dissipaters; and three retention basins, two unlined and one lined. The two unlined basins will continue to capture runoff from the closed Landfill. One of the two unlined basins retains then discharges runoff after filling to design capacity, while the other basin retains and infiltrates captured runoff. The lined retention basin captures and stores runoff from the Discharger's compost operations, and the Discharger keeps compost runoff segregated from Landfill runoff. In the event the lined basin fills to design capacity, the excess compost runoff overflows through an engineered spillway and commingles with Landfill runoff in the unlined basin that discharges to the unnamed tributary through monitoring point SW-3 (**Figure 6**). The Discharger also uses rock-lined channels for over-side drains.

    The Discharger proposed a design for the post-closure drainage network to carry stormwater at velocities that minimize ditch erosion. For the final cover, the Discharger will equip side slope benches and access roads with drainage ditches for erosion control and drainage needs. The Discharger currently captures stormwater runoff from areas around Landfill Modules A, B, and D and directs the runoff to a sedimentation basin. Water from the basin then discharges west through an overflow spillway into the unnamed tributary (monitoring point SW-3). The Discharger captures stormwater runoff from the Parcel 1 Landfill area and directs a portion of the runoff to an infiltration basin (discharge monitoring point SW-1), with the remaining portion of runoff directed to the unnamed tributary located to the south of the Landfill (discharge monitoring point SW-2 [**Figure 6**]). Upon Landfill closure, stormwater controls will remain similar to present.

To address the upward trend in nitrate concentrations in groundwater at well E-19, and in response to a Notice of Violation issued by Water Board staff to the Discharger for having discharged concentrated compost stormwater runoff with Landfill stormwater, the Discharger reconfigured their stormwater pond. In 2006, the Discharger constructed two new ponds immediately adjacent to each other to segregate stormwater runoff from the compost area and the Landfill area. The Discharger lined one pond while leaving the other unlined. The lined pond is for storage of stormwater runoff from compost area operations and the unlined pond is for capture and discharge of Landfill runoff (**Figure 6**). In the event of high rainfall, the Discharger designed the compost pond to overflow into the Landfill pond through an engineered spillway; however, the Discharger designed the compost pond with sufficient excess capacity to store the volume of runoff generated during yearly wet seasons. The Discharger also installed a series of tanks to capture the "first flush" runoff from their compost area; i.e., those stormwater flows containing the highest initial concentrations of pollutants during rainfall events. The Discharger reuses the captured runoff in their on-going compost operations. The Discharger indicated that the construction of the lined pond might have removed the source of nitrate in Well E-19. However, for further controls and corrective actions, the Discharger also indicated they would submit a plan to Water Board staff proposing to conduct an electronic leak detection survey, and repair any holes found in the pond's liner, as needed. Discharger indicated that discovering and repairing any leaks could mitigate possible contributions of increased nitrate concentrations in groundwater at well E-19 resulting from the storage of compost stormwater runoff. The Discharger will also continue to evaluate nitrate concentrations to determine the need for any additional corrective actions to improve groundwater quality in the area around well E-19.

40. Monitoring and Reporting Program (hereafter "MRP Order No. R3-2011-0019") No. R3-2011-0019, issued by the Water Board's Executive Officer, requires the Discharger to monitor and report on the following: groundwater, leachate collection and removal, Landfill gas, stormwater runoff, rainfall data, and Landfill observations. MRP Order No. R3-2011-0019 establishes groundwater monitoring points, monitoring frequency, monitoring parameters, constituents of concern, criteria for sample collection and analyses, methods for analyzing data both statistically and non-statistically, reporting requirements, minimum monitoring report content, and definition of terms.

41. **Stormwater Monitoring** – The Landfill is enrolled in the "Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities (General Storm Water Permit for Industrial Activities)," under State Water Resources Control Board (State Water Board) Water Quality Order No. 97-03-DWQ and National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00001. The Discharger monitors and collects stormwater samples from three locations at the Landfill designated as "SW-1, SW-2, and SW-3" (**Figure 6**).

42. **Groundwater Monitoring** – The Discharger designed the groundwater monitoring program to monitor for potential impacts from previous disposal operations (**Figure 6**). The Discharger monitors groundwater with 10 Detection Monitoring wells, six Corrective Action wells, and five groundwater elevation monitoring wells. Faults divide the Landfills groundwater systems into distinct zones that the Discharger denotes as the Far Eastern Fault Block, the Eastern Fault Block, the Central Fault Block, and the Western Fault Block. The Discharger differentiates wells based on the following designations: E-22 monitors groundwater in the Far Eastern Fault Block; E-21 and E-23 monitor groundwater in the Eastern Fault Block; E-6, E-18, and E-19 monitor groundwater in the Central Fault Block; and E-4, E-7, E-8, E-9, E-10, E-17, E-25, E-26, and E-27 monitor groundwater in the Western Fault Block.

43. **Leachate Monitoring** – The Discharger equipped leachate sumps A-I, II, III, and IV with riser pipes to allow monitoring and removal of collected leachate from lined Module A. The Discharger also monitors and removes collected leachate from extraction wells in unlined Parcel 1. The Discharger conducts all monitoring pursuant to MRP Order No. R3-2011-0019.

44. **Surface Water Monitoring** – There is no surface water (in-stream) monitoring program, as the waste discharged at the Landfill does not impact surface waters.

45. **Unsaturated Zone Monitoring** – The current unsaturated zone monitoring system consists of the unsaturated zone gas probe monitoring locations to meet the requirements of CCR Title 27 §20415(d).

46. **Landfill Gas Monitoring** – The Discharger will continue to measure Landfill gas quantity and quality pursuant to MRP Order No. R3-2011-0019.

BASIN PLAN

47. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Water Board on September 8, 1994, and approved by the State Water Board on November 17, 1994. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the water quality objectives stated in the Basin Plan.

48. The Basin Plan identifies the following present and anticipated beneficial uses for surface water in the vicinity of the Landfill:

    a. Domestic and Municipal Supply
    b. Agricultural Supply
    c. Groundwater Recharge
    d. Water Contact Recreation
    e. Non-Contact Water Recreation
    f. Wildlife Habitat
    g. Cold freshwater Habitat

h. Fish Migration
i. Fish Spawning

49. Observed groundwater use in the vicinity of the Landfill is agricultural and domestic water supply. The Basin Plan identifies the following beneficial uses of groundwater in the vicinity of the Landfill:

    a. Domestic and Municipal Supply
    b. Agricultural Supply
    c. Industrial Supply

CALIFORNIA ENVIRONMENTAL QUALITY ACT

50. This Order is for an existing facility and therefore is exempt from provisions of the California Environmental Quality Act (Public Resources Code, §21000, and et seq.) in accordance with Title 14, Chapter 3, §15301.

51. On June 7, 1984, the Santa Clara County Department of Planning and Development approved a Mitigated Negative Declaration for the project. The Water Board, as a Responsible Agency, reviewed and considered the Mitigated Negative Declaration and finds that the identified mitigation measures in combination with the requirements contained in this Order will reduce water quality impacts to less than significant. On December 7, 2010, the Santa Clara County Board of Supervisors approved a Mitigated Negative Declaration for the Landfill closure and the proposed Recology Pacheco Pass Transfer Station (Transfer Station). The Regional Board, as a Responsible Agency, has reviewed and considered the Mitigated Negative Declaration and finds that the identified mitigation measures in combination with the requirements contained in this Order will reduce water quality impacts to less than significant. On February 3, 2011, the Santa Clara County Planning Commission approved the Use Permit for the Transfer Station, which included the Board of Supervisors' approved Mitigated Negative Declaration for the project, which includes Landfill closure. The Landfill closure, when constructed in compliance with this Order, will be protective of water quality.

GENERAL FINDINGS

52. In accordance with California Water Code (CWC) §13263(g), no discharge into waters of the State, whether or not the discharge is made pursuant to waste discharge requirements, must create a vested right to discharge. All discharges of waste into waters of the State are privileges, not rights. Authorization to discharge waste is conditioned upon the Discharger complying with provisions of CWC Division 7 and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with Order No. R3-2011-0019 should assure conditions are met and mitigate any potential changes in water quality attributed to the Landfill.

53. The Landfill meets the criteria of CCR Title 27 and 40 CFR 258 for a Class III Landfill that received non-hazardous solid waste and inert waste. Order No. R3-2011-0019 implements, but is not limited to, the prescriptive standards and performance standards of CCR Title 27 and 40 CFR 258.

54. **Antidegradation:** State Water Board Resolution No. 68-16 Statement of Policy with Respect to Maintaining High Quality of Waters in California (Resolution No. 68-16) requires Water Boards, in regulating the discharge of waste, to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in Water Board policies (e.g., quality that exceeds applicable water quality standards). Resolution No. 68-16 also states, in part:

    "Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in best practicable treatment and control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."

55. The discharges regulated by this Order are required to comply with the land disposal regulations contained in CCR Title 27, which are intended to prevent discharges of waste to waters of the State, preventing degradation of waters of the State. The discharge is subject to waste discharge requirements, which will result in best practicable treatment or control.

56. The goal of Landfill closure, including but not limited to the construction of a final cover system, is to minimize infiltration of water into the waste, thereby minimizing production of leachate and gas. After closure, the final cover constitutes the Landfill's principal waste containment feature.

57. The goal of post-closure maintenance is to assure the Landfill continues to comply with CCR Title 27 and 40 CFR 258 closure requirements and the goal described in the prior Finding, until the waste in the Landfill no longer constitutes a potential threat to water quality.

58. The Santa Clara County Health Department, Environmental Division, is the Local Enforcement Agency (LEA) responsible for issuing a Solid Waste Facility Permit on behalf of the California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle is responsible for regulating the Landfill pursuant to applicable portions of CCR 27, but delegates regulation of this Landfill to the Santa Clara County Health Department, Environmental Division, as the Local Enforcement Agency. The Santa Clara County Health Department, Environmental Division issues a Solid Waste Facility Permit for the Landfill, following concurrence by CalRecycle.

59. On November 17, 2010, CalRecycle staff stated in a letter that the Discharger has demonstrated availability of financial resources to conduct closure and post-closure maintenance activities and that the Discharger provided an appropriate financial assurance instrument for corrective action for a reasonably foreseeable release at the Landfill. The financial instruments for closure, post-closure maintenance, and corrective action adjust annually for inflation.

60. On **March 1, 2011**, the Water Board notified the Discharger and interested agencies and persons of its intent to issue Waste Discharge Requirements for the Landfill, and has provided the opportunity to review a copy of the proposed Order and submit written views and comments.

61. After considering all comments pertaining to this discharge during a public hearing on **May 5, 2011**, Water Board staff found that this Order is consistent with the above Findings.

IT IS HEREBY ORDERED pursuant to authority in CWC §13263 and §13267, the Discharger, its agents, successors, and assigns in maintaining the Recology Pacheco Pass Class III Landfill and Inert Waste Landfill, must comply with the following:

A. COMPLIANCE WITH OTHER REGULATIONS AND ORDERS

1. Discharge of waste, closure, post-closure maintenance, and long-term monitoring must comply with all applicable requirements contained in CCR Title 27 and 40 CFR 258. If any applicable regulation requirements overlap or conflict in any manner, the most water quality protective requirement must govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.

2. The Discharger must control stormwater runoff releases from the Landfill by complying with all requirements contained in the General Storm Water Permit for Industrial Activities.

B. PROHIBITIONS

1. Discharge of waste at the Landfill is prohibited except as provided in the Executive Officer approved closure and post-closure maintenance plan for the Landfill.

2. Discharge of waste, leachate, or gas condensate to ponded water, or waters of the State, including groundwater, is prohibited.

C. SPECIFICATIONS

1. The Discharger must ensure the Landfill remains closed and that it maintains the Landfill in conformance with the Water Board Executive Officer approved closure plan, except where the plan conflicts with this Order. In the event of conflict, this Order shall govern in cases where it is more protective of water quality. The

Executive Officer must approve any changes to the closure plan that may affect compliance with this Order prior to the Discharger implementing any changes.

2. Closure and containment systems must be as follows: All Landfill WMUs and disposal areas, except inert waste disposal areas, at final elevations must receive final cover pursuant to CCR Title 27 §21090, which meets either a. or b. below:

   a. Final cover slopes must not be steeper than a horizontal to vertical ratio of one and three quarters to one, and must have a minimum of one fifteen-foot wide bench for every fifty feet of vertical height. Designs having any slopes steeper than a horizontal to vertical ratio of three to one, or having a geosynthetic component [under CCR Title 27 21090 §(a)(2)], shall have these aspects of their design specifically supported in the slope stability report required under CCR Title 27 §21750(f)(5); and
   b.
      i. Must have a minimum two-feet-thick foundation layer placed over waste, compacted to maximum density obtainable at optimum moisture conditions [CCR Title 27 §1090(a)(1)].
      ii. A low-hydraulic-conductivity (or low through-flow rate) layer consisting of not less than one foot of soil containing no waste or leachate, that is placed on top of the foundation layer and compacted to attain a hydraulic conductivity of either $1x10^{-6}$ cm/sec (i.e., 1 ft/yr) or less, or equal to the hydraulic conductivity of any bottom liner system or underlying natural geologic materials, whichever is less permeable, or another design which provides a correspondingly low through-flow rate throughout the post-closure maintenance period.
      iii. At least one foot of soil capable of supporting vegetation, resisting erosion, and protecting the underlying low hydraulic conductivity layer; or,

   c. An engineered alternative design for Landfill final cover areas approved by the Executive Officer. Engineered alternative designs must satisfy the performance criteria in 40 CFR Part 258, and satisfy the criteria for an engineered alternative to the above prescriptive design, as provided by CCR Title 27. Performance of the alternative composite cover's components, in combination, must equal or exceed the waste containment capability of the prescriptive design outlined in (a.) above.

3. Throughout the post-closure maintenance period, the Discharger must:

   a. Maintain the structural integrity and effectiveness of all containment structures, and maintain the final cover as necessary to correct the effects of settlement or other adverse factors.
   b. Maintain monitoring systems as specified in this Order.
   c. Prevent erosion and related damage of the final cover due to drainage.
   d. Protect and maintain surveyed monuments.

4. The Discharger must design, construct, and maintain to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage to all Landfill WMUs and disposal areas, containment structures, and drainage facilities resulting from natural disasters (e.g., floods with a predicted frequency of once in 100 years, the maximum probable earthquake, and severe wind storms).

5. The Discharger must grade all Landfill surfaces to minimize precipitation/surface water from infiltrating into waste, to prevent ponding of water, and to resist erosion. The Discharger must repair erosion rills greater than six inches in depth, or when rills leave insufficient cover to prevent infiltration of precipitation/surface water. The Discharger must provide positive drainage to divert precipitation/surface water runoff from areas containing waste.

6. As part of final closure, the Discharger must route runoff from the proposed Transfer Station, or from any other future land use on the Landfill or Landfill property that has the potential to discharge waste to waters of the state, and store the runoff separately from compost runoff and leachate generated at the Landfill.

7. Pursuant to the General Storm Water Permit for Industrial Activities, the Discharger must use best management practices to maintain the capacity of stormwater retention facilities and thereby reduce or prevent pollutants in stormwater from discharging into receiving waters to the best available technology standard. CCR Title 27 §20365 requires that the Discharger periodically a) remove accumulated sediment from the stormwater retention facilities and b) empty or otherwise manage the facilities to maintain their capacity.

8. Discharge of Landfill leachate or Landfill gas condensate must comply with all of the following:

    a. The Discharger may only return liquids to a Landfill WMU equipped with a containment system that meets or exceeds the performance standard of CCR Title 27, CFR 40 Part 258.40(a)(2), or the standard set in this Order, whichever is more protective of water quality;
    b. The Discharger must measure liquids by volume and record the volume on a monthly basis. The Discharger must include the monthly volume records in the monitoring submittals required in MRP Order No. R3-2011-0019;
    c. A secondary containment system sized to hold 100 percent of the primary containment system holding capacity; and,
    d. An approved alternate method of leachate disposal (e.g., wastewater treatment plant, recirculation within lined WMUs) that is acceptable to the Executive Officer.

9. Discharged waste must not cause a condition of pollution or contamination to occur through a measurably significant release of pollutants and/or contaminants, or waste constituents, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method listed in MRP Order No. R3-2011-0019.

10. Discharged waste must not create nuisance, as defined by CWC §13050(m).

11. Waste discharges in violation of this Order, must be removed and relocated.

12. The Discharger must prevent formation of a habitat for carriers of pathogenic microorganisms.

13. The Landfill Post-Closure Maintenance Period and Compliance Period, pursuant to CCR Title 27 §20380(d)(1), §20410, §20950 and 40 CFR 258.61(a) is a minimum of 30 years or until waste discharged at the Landfill no longer poses a threat to water quality. The Landfill Post-Closure Maintenance Period start date must correspond with the later of:

    - The final closure construction completion date; or,
    - The date the Executive Officer approves all documents, pursuant to CCR Title 27 [i.e., §20323 – Construction Quality Assurance Plan, §20324(a) – Construction Quality Assurance Performance Standards, §20324(d)(1)(C) – Final Documentation Report and §21760(a)(1) – As Built Plans].

D. WATER QUALITY PROTECTION STANDARDS

1. Discharged waste must not cause a statistically significant difference in water quality over background concentrations for proposed concentration limits for each constituent of concern or monitoring parameter (per MRP Order No. R3-2011-0019) at the point of compliance. The Discharger must maintain concentration limits for as long as the waste poses a threat to water quality. Discharged waste must not adversely impact the quality of State waters.

2. Pursuant to CCR Title 27 §20400, the Water Board must specify concentration limits in waste discharge requirements. The Water Board complies with the intent of CCR Title 27 §20400 by requiring the Discharger to establish and review concentration limitations on an annual basis in accordance with MRP Order No. R3-2011-0019.

3. Pursuant to CCR Title 27 §20405, the point of compliance is a vertical surface located at the hydraulically downgradient limit of a WMU that extends through the uppermost aquifer underlying the WMU.

4. Discharged waste must not cause concentrations of chemicals and radionuclides in groundwater to exceed the State Department of Public Health's latest recommended Drinking Water Action Levels or Maximum Contaminant Levels of CCR Title 22, Division 4, Chapter 15, Article 5.5.

5. Discharge of waste must not cause a violation of any applicable water quality standard for receiving waters adopted by the Water Board or the State Water Board.

6. Discharged waste must neither cause nor contribute to any surface water impacts including, but not limited to:

    a. Floating, suspended, or macroscopic particulate matter, or foam.
    b. Increases in bottom deposits or aquatic growth.
    c. An adverse change in temperature, turbidity, or apparent color beyond natural background levels.
    d. The creation or contribution of visible, floating, suspended, or oil, or other products of petroleum origin.
    e. The introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of the beneficial uses of State waters.

7. MRP Order No. R3-2011-0019 lists constituents of concern and monitoring parameters for groundwater, leachate, and Landfill gas. Monitoring points and background monitoring points must be those specified in MRP Order No. R3-2011-0019.

E. PROVISIONS

1. Order No. R3-2004-0111 "Waste Discharge Requirements for the Pacheco Pass Class III and Inert Waste Landfill," adopted by the Water Board on December 3, 2004, is hereby rescinded.

2. The Discharger is responsible for waste containment, monitoring, and correcting any problems resulting from the discharge of waste for as long as the waste poses a threat to water quality.

3. The Discharger must comply with MRP Order No. R3-2011-0019, as specified by the Executive Officer.

4. **By October 1 of each year**, the Discharger must complete all necessary runoff diversion and erosion prevention measures. The Discharger must complete all necessary construction, maintenance, or repairs of precipitation and drainage control facilities to prevent erosion or Landfill flooding and to prevent surface drainage from contacting or percolating through waste. The Discharger must repair erosion rills greater than six-inches deep immediately after storm events that cause the erosion, if it is safe to do so.

5. **By October 1 of each year**, the Discharger must seed and maintain vegetation at a minimum areal coverage of not less than 95 percent over all slopes within the entire Landfill area to prevent erosion. The Discharger must select vegetation that requires minimum irrigation and maintenance and a rooting depth of less than the vegetative layer thickness. After receiving approval from the Executive Officer, the Discharger may utilize non-hazardous sludge as a soil amendment to promote vegetation. Soil amendments and fertilizers (including wastewater sludge) used to establish

vegetation must not exceed the vegetation's agronomic rates (i.e., annual nutrient needs).

6. By **December 31, 2011**, the Discharger must complete Landfill closure construction in accordance with the current Executive Officer-approved closure plan, or an Executive Officer-approved revised closure plan in accordance with **Specification E.2**. Not later than **October 31, 2011**, the Discharger may request an extension to the completion date for Landfill closure construction. The Discharger must provide sufficient rationale and documentation to the Executive Officer justifying their request for extension, and the Executive Officer, upon review of the Discharger's evidence, may grant the extension.

7. The Discharger must conduct Final Cover Surveys pursuant to CCR Title 27 §21090(e)(1), upon completion of all closure activities (e.g., construction of the final cover), the Discharger shall conduct an aerial photographic survey. The Discharger must use the data obtained from the survey to produce a topographic map of the site at a scale and contour interval sufficient to depict the as-closed topography, and to allow for the early identification of any differential settlement pursuant to §21090(e)(2). The map produced pursuant to this provision, shall act as a base line against which to measure the total settlement through time, of all portions of the final cover since the date the Discharger closed that portion of the landfill. Upon completion of the topographic map, the Discharger shall submit a copy to the Water Board and all other applicable agencies. Pursuant to Title 27 §21090(e)(2), the Discharger is required to produce and submit to the Water Board an iso-settlement map accurately depicting the estimated total change in elevation for the final cover, **at least every five years after** completion of the baseline map. The Discharger may propose alternative survey techniques pursuant to CCR Title 27 §210909(e)(3), and implement the alternative upon approval by the Executive officer.

8. Should additional data become available through monitoring or investigation that indicates compliance with this Order is not adequately protective of water quality, the Water Board will review and revise this Order as appropriate.

9. If the Discharger or the Water Board determines, pursuant to CCR Title 27 §20420, that there is evidence of a release from any portion of the Landfill, the Discharger must immediately implement the procedures outlined in CCR Title 27 §20380, §20385, §20430, and MRP Order No. R3-2011-0019.

10. The Water Board must be allowed, at any time and without prior notification:

    a. Entry upon the Landfill area or where the Discharger keeps records under the conditions of this Order and MRP Order No. R3-2011-0019.
    b. Access to a copy of any records that the Discharger keeps under the conditions of this Order and MRP Order No. R3-2011-0019.

c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order and MRP Order No. R3-2011-0019.
d. To photograph, sample, and monitor for the purpose of showing compliance with this Order.

11. After notice and opportunity for a hearing, the Water Board may terminate or modify this Order for cause, including, but not limited to:

    a. Violation of any term or condition contained in this Order.
    b. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts.
    c. A change in any condition or endangerment to human health or environment caused by the discharged waste.
    d. A material change in character, location, or volume of the discharged waste.

12. The Discharger must provide notification to Water Board staff at least **30 days** prior to commencing Landfill closure construction activities.

13. Prior to the Discharger's construction of the final cover, a third party (e.g., unrelated to the Discharger, Landfill operator, project designer, contractor) must prepare a Construction Quality Assurance (CQA) Plan. The Executive Officer must approve the CQA Plan prior to the start of construction activities. The third party must implement the CQA Plan and provide regular construction progress reports to the Executive Officer.

14. The Discharger must obtain and maintain Financial Assurance Instruments (Instruments), which comply with CCR Title 27 (§22207 [Closure Fund], §22212 [Post Closure Fund], and §22220 et seq. [Corrective Action Fund]), and 40 CFR part 258. Pursuant to CCR Title 27 §20380(b), the Discharger must obtain and maintain assurances of financial responsibility, naming the Water Board as beneficiary, for initiating and completing corrective action for all known or reasonably foreseeable releases. As Landfill conditions change, and upon the Executive Officer's request, the Discharger must submit a report proposing the amount of financial assurance necessary for corrective action for the Executive Officer's review and approval.

15. The Discharger must take all reasonable steps to minimize or correct adverse impacts on the environment resulting from non-compliance with this Order.

REPORTING

16. The Discharger must sign all reports as follows:

    a. Either a principal executive officer or ranking elected official.
    b. Their "duly authorized representative."

c. A California Registered Civil Engineer or Certified Engineering Geologist for all engineering reports and geologic reports, respectively.

17. Any person signing a report makes the following certification, whether its expressed or implied:

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

18. Except for data deemed confidential under CWC §13267(b)(2), all reports prepared in accordance with this Order must be available for public inspection at the Water Board office.

19. The Discharger must submit reports in advance of any planned changes in the permitted Landfill or an activity, which could potentially or actually result in non-compliance. Advance submittal should reflect the relative need for Water Board review and concurrence

20. By **October 1** of each year, the Discharger must submit a Wet Weather Preparedness Report (WWPR). The WWPR must describe compliance with **Provisions E.4** and **E.5** above. The report must also detail preparedness actions taken to ensure discharges to surface water or groundwater do not occur during the impending rainy season, and ensure compliance with all other relevant CCR Title 27 and 40 CFR Part 258 standards.

21. Within **180-days** upon completion of Landfill closure construction, the Discharger must submit a final construction closure report detailing all relevant information pertaining to the Landfill closure including but not limited to final as-built drawings, construction modifications, start up and testing of the leachate and condensate recirculation system, and surface water runoff drainage controls.

22. The Discharger must notify the Water Board with a written request of any proposed change in ownership or responsibility for construction or operation of the Landfill in accordance with CCR Title 27 §21710(c)(1). The written request must be given at least **90-days** prior to the effective date of change in ownership or responsibility and must:

    a. Be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these Waste Discharge Requirements.

b. Contain the requesting entity's full legal name, the Sate of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Water Board.
c. Contain a statement indicating that the new Owner or Operator assumes full responsibility for compliance with this Order.

23. The Executive Officer, in writing, may approve or disapprove the Discharger's request for change in ownership or responsibility for the Landfill. In the event of any change in ownership, the Discharger must notify the succeeding Owner or Operator, in writing, of the existence of this Order. The Discharger must send a copy of that notification to the Executive Officer within **14 days** of the Discharger sending the notice to the new Owner or Operator.

24. The Discharger must furnish, within a reasonable time, any information the Executive Officer may request to determine compliance with this Order or to determine whether cause exists for modifying or terminating this Order.

25. The Discharger or persons employed by the Discharger must comply with all notice and reporting requirements of the State Department of Water Resources, Santa Clara County, and other applicable permitting agencies with concurrence of the Executive Officer regarding the permitting, construction, alteration, inactivation, destruction, or abandonment of all monitoring wells used for compliance with this Order or with MRP Order No. R3-2011-0019, as required by CWC §13750.5 through §13755 and §13267.

26. Should the Discharger discover that it failed to submit any relevant facts or that it submitted incorrect information, it must promptly submit the missing or corrected information.

27. The Discharger must notify the Executive Officer, within **24 hours** by telephone, or email, and within **14 days** in writing, of:

a. Any non-compliance that potentially or actually endangers health or the environment.
b. Any flooding, equipment failure, slope failure, or other change in Landfill conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.
c. Leachate seep(s) or spills occurring on or in proximity to the Landfill.
d. Violation of a discharge prohibition.
e. Violation of any treatment system's discharge limitation.

28. The Discharger must submit reports of compliance or non-compliance with, or any progress reports on, final requirements contained in any compliance schedule within **14-days** following each scheduled date. If reporting non-compliance, the report must include a description of:

a. The reason for non-compliance.
b. A description of the non-compliance.
c. Schedule of tasks necessary to achieve compliance.
d. An estimated date for achieving full compliance.

29. The Discharger must promptly correct any non-compliance issue that threatens the Landfill's containment integrity. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment and/or the Landfill's integrity (i.e., emergency corrective measures). For emergency corrective measures, the Discharger must report details of the corrections in writing within **seven** days of initiating correction.

30. By **January 31 of every year**, the Discharger must submit an Annual Summary Report to the Executive Officer addressing compliance with all terms of this Order (see MRP Order No. R3-2011-0019 **Part IV.B.1**).

31. The Discharger must demonstrate to the Water Board compliance with all financial instruments pursuant to **Provision E.14**. The Discharger must submit a Financial Assurance Report at a minimum of every five years that either validates the instrument's (described in Finding 59 of this Order) ongoing viability, or proposes and substantiates any needed changes. The next report is due **November 30, 2015** and every five years thereafter.

32. By **December 31, 2012**, the Landfill Owner must record a notation on the deed to the Landfill property, or some other instrument that a potential purchaser normally examines during title search. The deed notation shall include a detailed description of the closed Landfill, including a map. The description must include at a minimum:

    a. The date Landfill closure was completed;
    b. The Landfill boundaries including height and depths of the filled area;
    c. The boundaries of each waste management unit; and,
    d. The location for obtaining the closure and post-closure plans.

    The Owner must include a copy of the notation in the Landfill record and the Owner must submit a copy of the recorded notation to the Water Board Executive Officer within **14 days** following the recording. The notation must in perpetuity notify any potential purchaser of the property that:

    a. The land was used as a Landfill.
    b. The land use is restricted by the approved post-closure maintenance plan, pursuant to CCR Title 27 §21170 (the deed notation must include all information required by §21170).
    c. Pursuant to CCR Title 27 §21090, should the Discharger default in post-closure care, liability shifts to the new Owner/Operator.

33. By **May 31, 2016**, the Discharger must submit a Report of Waste Discharge (hereafter "ROWD") to the Executive Officer pursuant to CCR Title 27 §21710. The Discharger may submit the ROWD in the form of an addendum to the JTD, in accordance with CCR Title 27 §21585 et al., and meet the following criteria:

    a. Updated information on waste characteristics, geologic, and climatologic characteristics of the Landfill and the surrounding region, installed features, precipitation and drainage controls, and closure and post closure maintenance plans, in accordance with CCR Title 27 §21740, §21750, §21760, and §21769.
    b. Include a completed State Water Board JTD Index, in accordance with CCR Title 27 §21585(b).
    c. Discuss whether, in the Discharger's opinion, there is any portion of this Order that is incorrect, obsolete, or otherwise in need of revision.
    d. Include any other technical documents needed to demonstrate continued compliance with this Order and all pertinent State and Federal requirements.
    e. Include detailed updated information regarding regulatory considerations, operating provisions, environmental monitoring and control features, and closure and post-closure status.

34. The Discharger must file with the Water Board a ROWD pursuant to **Provision E. 33** of this Order, or secure a waiver from the Executive Officer at least **120-days** before making any material change to the closed Landfill.

ENFORCEMENT

35. The Discharger must comply with all conditions of this Order. Non-compliance violates State law and is grounds for enforcement action or modification of the Order.

36. Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of CWC §13267, or falsifying any information provided therein, is guilty of a misdemeanor.

37. The Discharger and any person who violates Waste Discharge Requirements and/or who intentionally or negligently discharges waste or causes or permits waste discharges into surface waters or groundwater of the State may be liable for civil and/or criminal remedies, as appropriate, pursuant to CWC §13350, §13385, and §13387.

38. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order will not be affected.

39. This Order does not authorize commission of any act causing injury to the property of another, does not convey any property rights of any sort, does not remove liability under Federal, State, or Local laws, and does not guarantee a capacity right.

40. The Water Board requires all technical and monitoring reports pursuant to this Order in accordance with CWC §13267. Failure to submit reports in accordance with schedules established by this Order, attachments to this Order, or failure to submit a report of sufficient technical quality acceptable to the Executive Officer, may subject the Discharger to enforcement action pursuant to CWC §13268.

41. The Discharger must 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. (CWC §13261, §13267, §13263, §13265, §13268, §13300, §13301, §13304, §13340, and §13350).

42. No provision or requirement of Order No. R3-2011-0019 or MRP Order No. R3-2011-0019 is a limit on the Discharger's responsibility to comply with other Federal, State and local laws, regulations, or ordinances.

43. The Discharger must comply with the following submittal and implementation schedule for all tasks and/or reports required by this Order.

TASK AND REPORT IMPLEMENTATION AND DATE DUE SUMMARY

TASK	IMPLEMENTATION DATE
Provision E.4: Runoff diversion and erosion prevention	October 1, of each year
Provision E.5: Seed and maintain vegetation	October 1, of each year
Provision E.6: Complete Landfill closure construction	December 31, 2011
Provision E.6: Extension request for completing final closure	Not later than October 31, 2011
Provision E.7: Final Cover Surveys	Completion of final cover survey; and every five years thereafter
Provision E.22: Notice of change in ownership or responsibility	At least 90 days prior to the effective date of change
Provision E.23: Notice of ownership transfer	Within 14 days of notice to new Owner or Operator
Provision E.32: Record notation to Landfill property deed	December 31, 2012
Provision E.32: Submit copy of recorded notation to deed	Within 14 days of recording the notation
Provision E.34: Waiver from Report of Waste Discharge	At least 120 days prior to implementing changes
REPORT	**DUE DATE**
Provision E.12: Notification of closure construction	At least 30 days prior to construction
Provision E.20: Wet Weather Preparedness Report	October 1, of each year
Provision E.21: Final construction closure report	Within 180 days after completion
Provision E.27: Notice of non-compliance	Within 24 hours verbally and within 14 days in writing
Provision E.28: Compliance and/or non-compliance	Within 14 days following each scheduled date
Provision E.29: Emergency corrective measures	Within seven days of initiating corrections
Provision E.30: Annual Summary Report	January 31, of each year
Provision E.31: Compliance with financial instruments	November 30, 2015; every five years thereafter
Provision E.33: Report of Waste Discharge	May 31, 2016

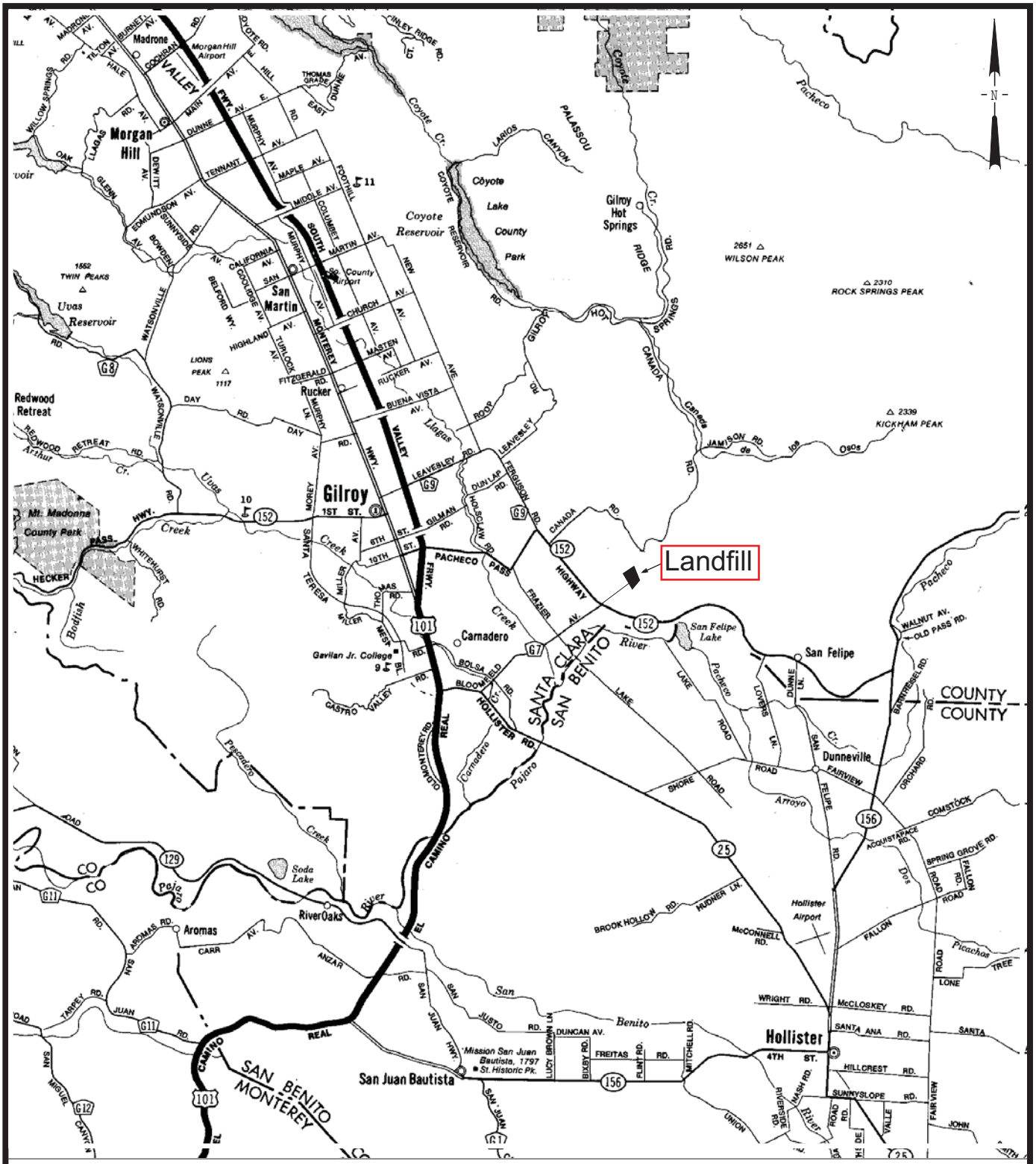
I, Roger W. Briggs, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on May 5, 2011.

_____
Executive Officer

Figures: Figure 1 – Landfill Location Map
Figure 2 – Landfill Property Boundary
Figure 3 – Landfill Configuration
Figure 4 – Landfill Leachate-Condensate Recirculation System
Figure 5 – Landfill Top of Cover Closure Grades
Figure 6 – Landfill Monitoring and Control Systems
Figure 7 – Landfill Well Survey Map

Attachment 1 – Monitoring and Reporting Program Order No. R3-2011-0019

S:\Land Disposal\Land Disposal Facilities\PERMITTED SITES\Recology Pacheco Pass\2011 WDR Revision\WDR Order No. R3-2011-0019 Recology Pacheco Pass.doc



Base from North American Maps; Street Map of Gilroy and Morgan Hill, Santa Clara County, CA.

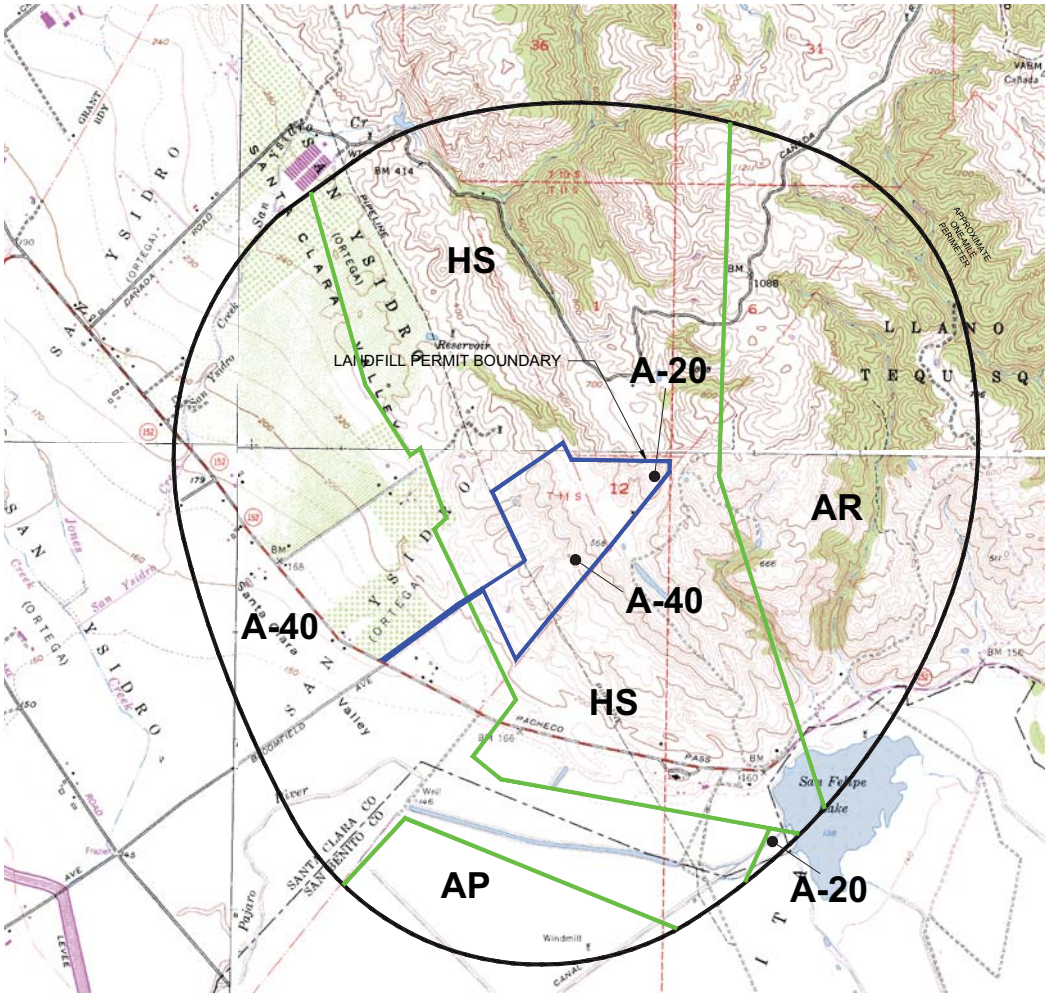
Golder Associates

RECOLOGY PACHECO PASS
SANTA CLARA COUNTY, CALIFORNIA

Landfill Location Map

Figure 1

G:\053-7445\FIGURES\SITELOC.DSF 5/13/10



GRAPHIC SCALE

1200' 0' 600' 1200' 2400' 4800'

LEGEND

- Perimeter Marker
- Property Boundary
- Landfill Boundary
- AP Agricultural Productive
- AR Agricultural Ranch Lands
- A Exclusive Agriculture
- HS Hillside
- Structures (1958)
- Structures (1987)

NOTES:

1. *NUMBER FOLLOWING ZONE DESIGNATION REFERS TO THE MINIMUM ACRE LOT SIZE PERMITTED. BASED ON SLOPE DENSITY CRITERIA.*
2. *LAND USE ZONING COMPILED FROM OFFICIAL ZONING BOOK OF COUNTY OF SANTA CLARA OCTOBER 25, 1985, (SHEETS 252, 253, 262, AND 263); AND SAN BENITO COUNTY ZONING MAP, 1984, (PAGE 2).*
3. *1995 USGS TOPO MAPS PROVIDED BY CALIFORNIA SPATIAL INFORMATION LIBRARY. DRG NUMBERS 036121H4, 036121H5, 037121A4, AND 037121A5.*
4. *SOURCE: EMCON ASSOCIATES, 1990. REPORT OF DISPOSAL SITE INFORMATION, PACHECO PASS SANITARY LANDFILL; SANTA CLARA COUNTY, CALIFORNIA, JUNE 1990.*

REV. NO.	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
0	03/11/09	ISSUED FOR REVIEW	RB	TVR	TVR	TVR

DATE OF ISSUE: 03/11/2009
DESIGNED BY: TVR
DRAWN BY: RB
CHECKED BY: TVR
APPROVED BY: TVR

VECTOR ENGINEERING, INC.
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People • Service • Environment
NORCAL WASTE SYSTEMS
PACHECO PASS LANDFILL, INC.

NORCAL WASTE SYSTEMS PACHECO PASS LANDFILL

FINAL CLOSURE PLAN

SANTA CLARA COUNTY, CALIFORNIA

Landfill Property Boundary

Figure 2

PROJECT NO. 001206.24

This drawing has not been published but rather has been prepared by Vector Engineering, Inc. for use by the client named in the title block, solely in respect of the construction operation, and maintenance of the facility named in the title block. Vector Engineering, Inc. shall not be liable for the use of this drawing on any other facility or for any other purpose.

ISSUED FOR REVIEW

LOCATION: N:\Pacheco Pass\001206.24 - 2008 Final Closure Plan\CAD\Rockley Drawings\FIG 2 & 3.dwg DATE: 2/9/2011 11:46 AM PLOT SCALE = 1:2 PLOTTED BY: RYAN BERGQUIST

GRAPHIC SCALE

150' 0' 75' 150' 300' 600'

LEGEND

- EXISTING 10 FT CONTOUR
- EXISTING 2 FT CONTOUR
- MODULE A LIMITS
- LIMITS OF EXISTING WASTE
- PARCEL BOUNDARY
- FAULT OBSERVED BY VECTOR OR PREVIOUS CONSULTANTS
- APPROXIMATE FAULT LOCATION
- UNCERTAIN FAULT LOCATION
- DIRT ROAD
- WATER BODY OR DRAINAGE PATH
- FENCE
- EXISTING DOWNDRAINS/CULVERTS (APPROXIMATE)
- EXISTING DRAINAGE STRUCTURE
- TANK STRUCTURE
- LIMIT OF MOISTURE BARRIER[2]
- MAP CONTROL POINT

NOTES:

1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY PERFORMED BY AERO-GEODETIC ON MAY 1, 2008 AND UPDATED WITH GPS SURVEY BY PACIFIC WASTE SERVICES, INC. ON OCTOBER 20, 2008.
2. PARCEL 1 MODULE WAS CLOSED IN 1989 PRIOR TO CONSTRUCTION OF MODULE A.

REV. NO.	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
0	01/08/10	ISSUED FOR REVIEW	WC	TVR	TVR	TVR
1	05/25/10	ISSUED FOR BIDDING	RPB	TVR	TVR	TVR

DATE OF ISSUE: 05/25/2010
DESIGNED BY: TVR
DRAWN BY: RPB
CHECKED BY: TVR
APPROVED BY: TVR

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PACHECO PASS LANDFILL, INC.

NORCAL WASTE SYSTEMS PACHECO PASS LANDFILL

FINAL CLOSURE PLAN

SANTA CLARA COUNTY, CALIFORNIA

Landfill Configuration

Figure 3

PROJECT NO. 001206.24

ISSUED FOR BIDDING

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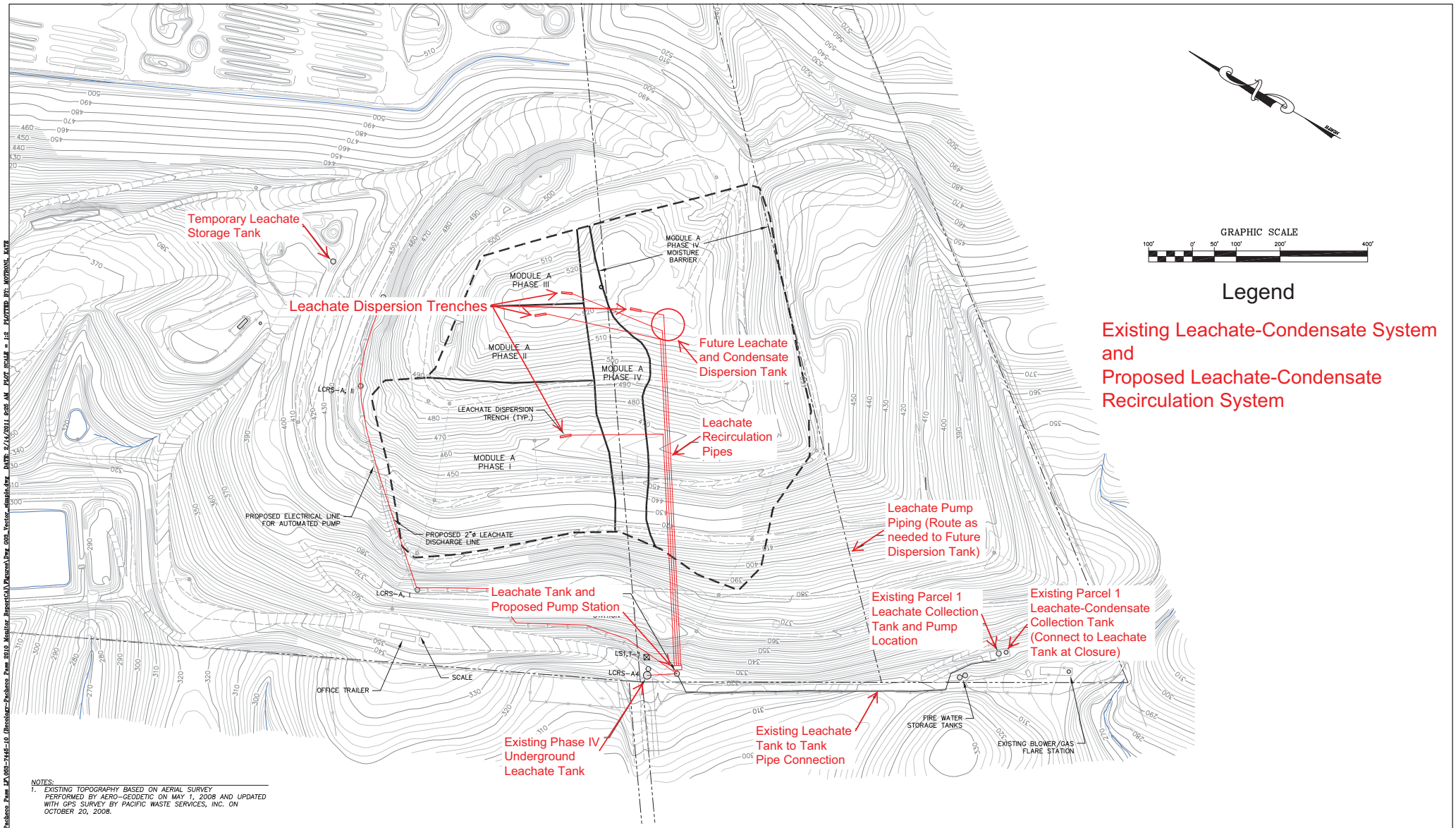
LOCATION: N:\Pacheco Pass\001206.24 - 2008 Final Closure Plan\CAD\Final Drawings\Rev 1 Issued for Bidding\DWG\DESIGN.dwg DATE: 5/25/2010 4:38 PM PLOT SCALE = 1:1 PLOTTED BY: RYAN BERQUIST

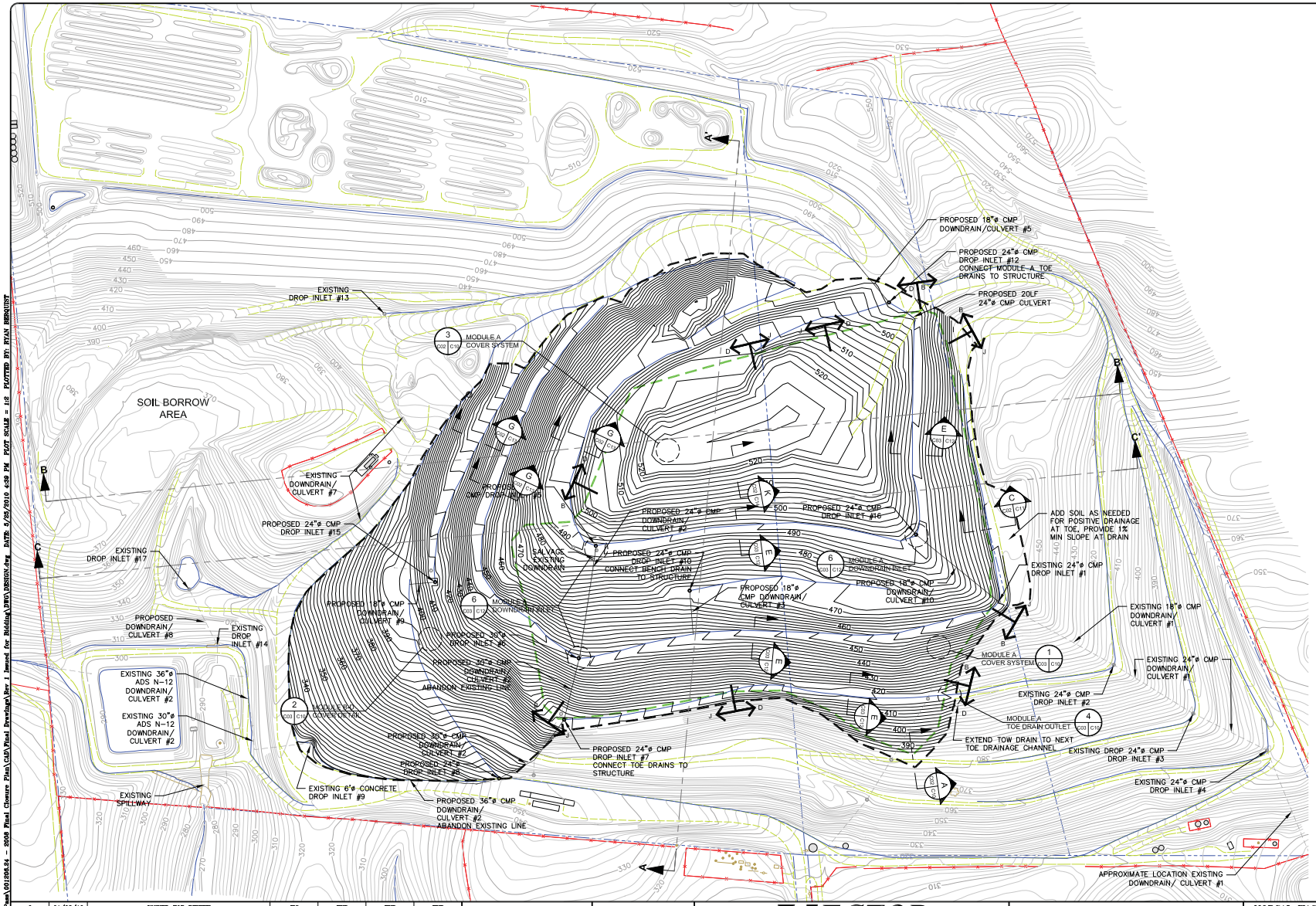


NOTES:
1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY PERFORMED BY AERO-GEODETIC ON MAY 1, 2008 AND UPDATED WITH GPS SURVEY BY PACIFIC WASTE SERVICES, INC. ON OCTOBER 20, 2008.

Figure 4

Recology Pacheco Pass Class III and Inert Waste Landfills

Landfill Leachate-Condensate Recirculation System



GRAPHIC SCALE

100' 0' 50' 100' 200' 400'

LEGEND

- EXISTING 10 FT CONTOUR
- EXISTING 2 FT CONTOUR
- PROPOSED 10 FT TOP OF COVER SYSTEM CONTOUR
- PROPOSED 2 FT TOP OF COVER SYSTEM CONTOUR
- MODULE A LIMITS
- LIMITS OF CLOSURE
- PARCEL BOUNDARY
- FAULT LINE
- DIRT ROAD
- WATER BODY OR DRAINAGE PATH
- FENCE
- PROPOSED DRAINAGE PIPE
- PROPOSED CULVERT
- EXISTING DRAINAGE PIPE
- DOWNDRAIN/CULVERT
- TANK STRUCTURE
- LINER TERMINATION DETAIL CALLOUT (EXAMPLE: REFERENCE SECTION B FOR LINER TERMINATION TO THE LEFT, REFERENCE SECTION C FOR LINER TERMINATION TO THE RIGHT.

QUANTITIES

MODULE A
1.5' VEGETATIVE COVER SOIL OVER LINER SYSTEM = 36,500 CY
LINER AREA = 704,230 SF
REVEGETATION AREA = 684,730 SF

MODULE B–D
REVEGETATION AREA = 434,750 SF

NOTES:
1. EXISTING TOPOGRAPHY BASED ON AERIAL SURVEY PERFORMED BY AERO-GEODETIC ON MAY 1, 2008 AND UPDATED WITH GPS SURVEY BY PACIFIC WASTE SERVICES, INC. ON OCTOBER 20, 2008.
2. COVER GRADES/SOIL COVER DEPTHS TO BE VERIFIED ON SITE BY THE CONTRACTOR.
3. BENCH GRADING DOES NOT REFLECT CHANNEL BERM CONSTRUCTION SHOWN IN DETAILS.

REV. NO.	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
0	01/08/10	ISSUED FOR REVIEW	WC	TVR	TVR	TVR
1	05/25/10	ISSUED FOR BIDDING	RPB	TVR	TVR	TVR

DATE OF ISSUE: 05/25/2010
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NORCAL WASTE SYSTEMS PACHECO PASS LANDFILL
FINAL CLOSURE PLAN
SANTA CLARA COUNTY, CALIFORNIA
Landfill Top of Cover Closure Grades

Figure 5
PROJECT NO. 001206.24

ISSUED FOR BIDDING

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LOCATION: N:\Pacheco Pass\001206.24 - 2008 Final Closure Plan\CAD\Final Drawings\Rev 1 Issued for Bidding\DWG\DESIGN.dwg DATE: 5/25/2010 4:38 PM PLOT SCALE = 1:8 PLOTTED BY: RYAN BERQUIST

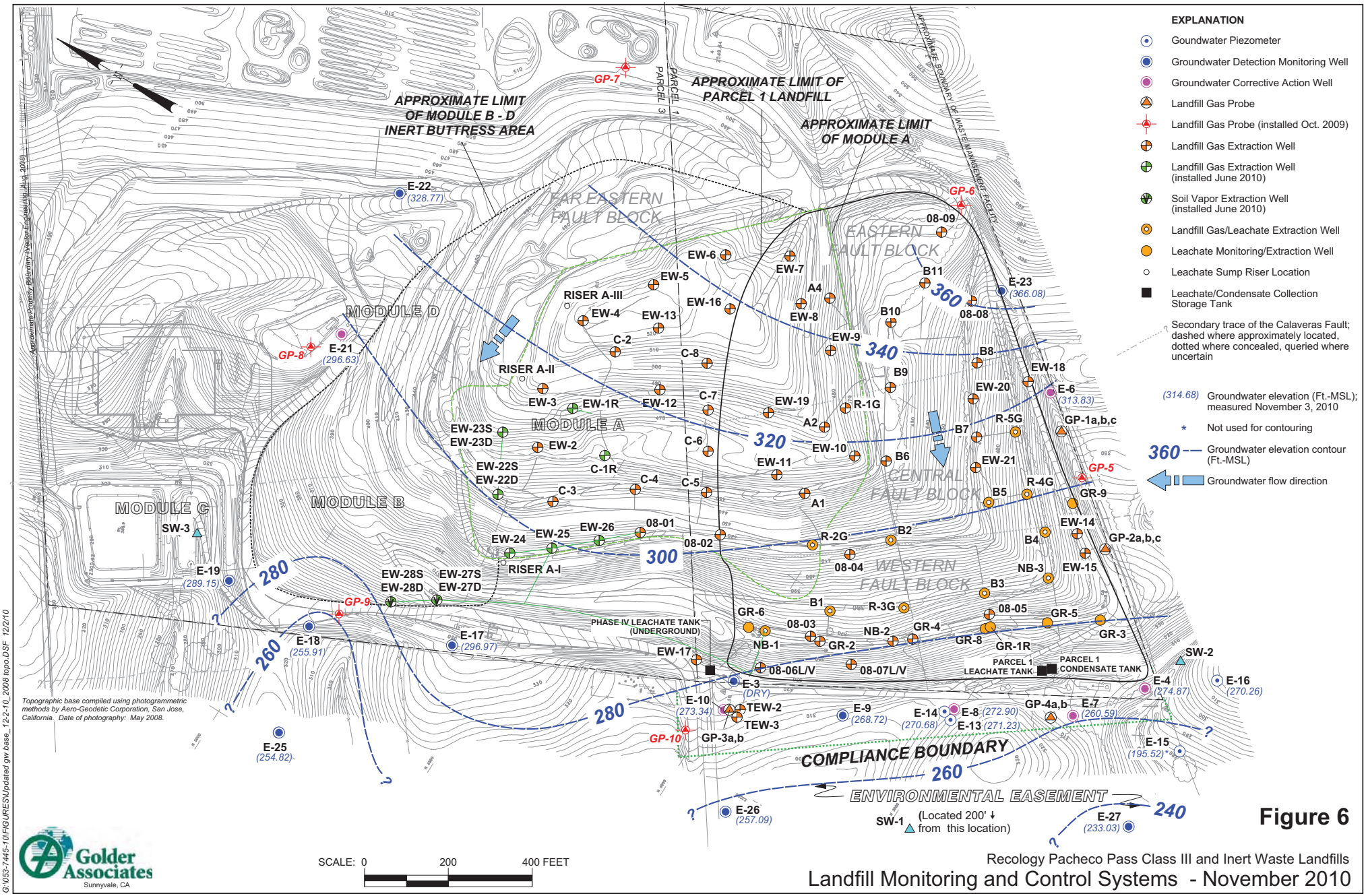
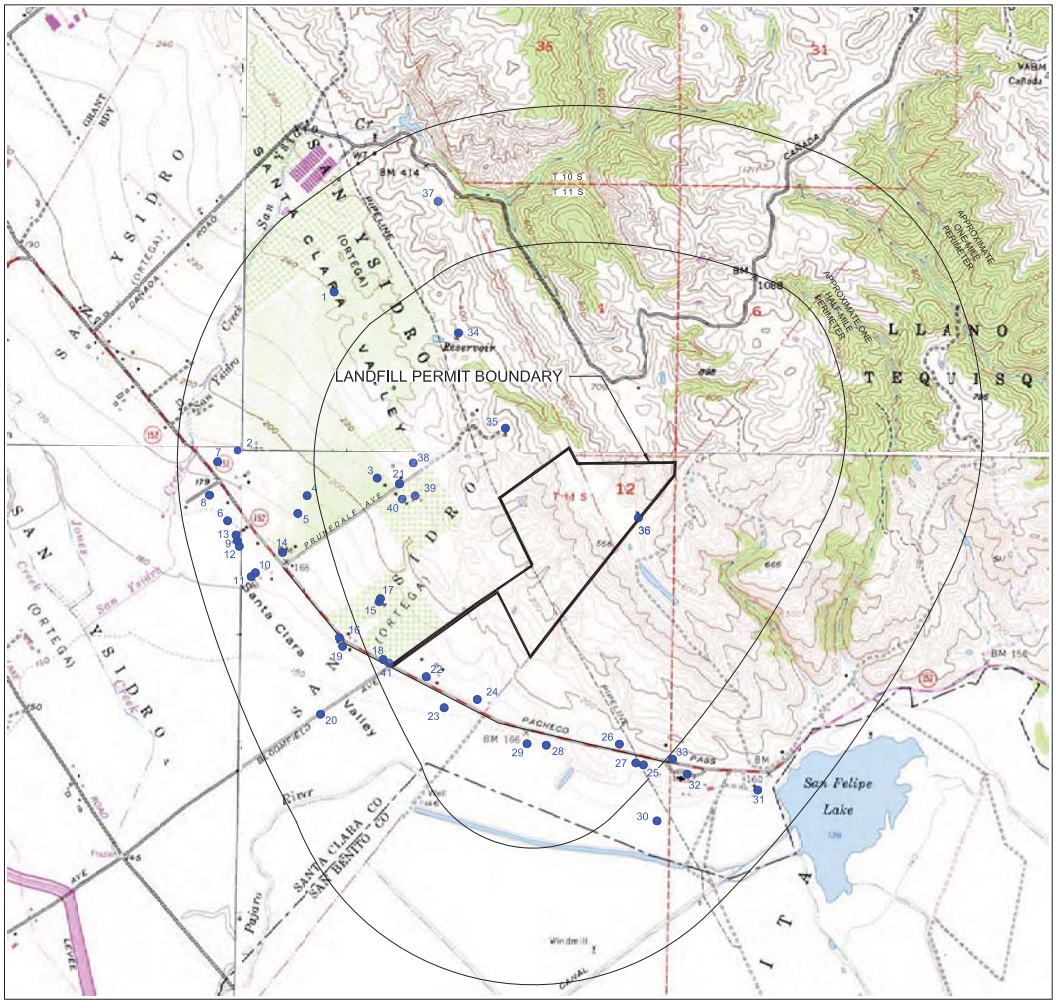


Figure 6

Recology Pacheco Pass Class III and Inert Waste Landfills

Landfill Monitoring and Control Systems - November 2010



GRAPHIC SCALE

1,200' 0 600' 1,200' 2,400' 4,800'

(IN FEET)
1" = 1,200'

LEGEND

- PERIMETER MARKER
- LANDFILL PERMIT BOUNDARY
- WELLS WITHIN ONE MILE

NOTES:

TOPO MAP: 1995 USGS TOPO MAPS PROVIDED BY CALIFORNIA SPATIAL INFORMATION LIBRARY. DRG NUMBERS 036121H4, 036121H5, 037121A4, AND 037121A5.

WELL LOCATION SOURCE: EBA WASTECHNOLOGIES PRELIMINARY CLOSURE AND POSTCLOSURE MAINTENANCE PLAN, PACHECO PASS SANITARY LANDFILL, SANTA CLARA, CA, MAY 1997 AND SCVWD (2011).

Figure 7

Recology Pacheco Pass Class III and Inert Waste Landfills

Landfill Well Survey Map - May 1997 and February 2011