DRAFT

Habitat Conservation Plan

Tajiguas Landfill & Resource Center

County of Santa Barbara

California red-legged frog

southwestern pond turtle

SUBMITTED TO:

U.S. Fish & Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003

PREPARED BY:

County of Santa Barbara
Public Works Department Resource Recovery & Waste Management Division
130 E. Victoria Street, Suite 100, Santa Barbara, CA 93101

ENVICOM CORPORATION
4165 E. Thousand Oaks Blvd., Suite 290, Westlake Village, CA 91362

April 2022

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TAJIGUAS LANDFILL AND RESOURCE CENTER HABITAT CONSERVATION PLAN

Submitted to:

U.S. FISH AND WILDLIFE SERVICE
2493 Portola Road, Suite B
Ventura, California 93003

Prepared by:

COUNTY OF SANTA BARBARA PUBLIC WORKS DEPARTMENT
RESOURCE RECOVERY AND WASTE MANAGEMENT DIVISION
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TABLES

FIGURES

EXECUTIVE SUMMARY

The Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division (County or Applicant) is applying for a permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884) as amended, from the U.S. Fish and Wildlife Service (USFWS) for incidental take of the federally threatened California red-legged frog (*Rana draytonii*) associated with the Tajiguas Landfill. In anticipation of the potential listing under the Endangered Species Act, this application also includes southwestern pond turtle (*Actinemys pallida*). The County is requesting the Section 10(a)(1)(B) incidental take permit be issued for a period of 50 years.

The Tajiguas Landfill is an existing Class III municipal solid waste disposal facility, continuously in operation since 1967 and includes the Tajiguas ReSource Center consisting of a Materials Recovery Facility, Anaerobic Digestion Facility and Composting Management Unit. The Landfill is situated in a small north-south oriented coastal canyon, on the south slope of the Santa Ynez Mountains approximately 26 miles west of the City of Santa Barbara and 0.5 mile north of the Pacific Ocean and U.S. Highway 101. The incidental take would occur as a result of the continued operation of the Landfill including regular operations, maintenance and repair activities; operation and maintenance of the ReSource Center; construction of ancillary components of the ReSource Center; construction of a potential increase to the landfill capacity to regain landfill life, and eventually closure and post closure maintenance of the Landfill. The ReSource Center may continue to operate after closure of the Landfill during the post-closure maintenance period. All of these activities combined constitute the "Project."

This Habitat Conservation Plan (HCP) describes the Project and identifies the responsibilities of the USFWS, the County, and their successors and assigns. It describes measures that will be implemented by the County to minimize and mitigate the impacts of the proposed Project on California red-legged frog and southwestern pond turtle and their habitats including the proposed conservation lands.

1.0 INTRODUCTION AND BACKGROUND

The Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division, hereafter referred to as the County or Applicant, is the owner and permitted operator of the Tajiguas Landfill (Landfill) serving the South Coast of Santa Barbara County and the Santa Ynez and New Cuyama Valleys. The Landfill is a Class III municipal solid waste disposal facility, continuously in operation since 1967 and includes the Tajiguas ReSource Center[1] (ReSource Center, formerly the Tajiguas Resource Recovery Project, [TRRP]). The ReSource Center consists of a Materials Recovery Facility (MRF); Anaerobic Digestion Facility (ADF) and Compost Management Unit (CMU); and associated infrastructure designed to further recover recyclable materials, produce green energy, and reduce greenhouse gas emissions from the municipal solid waste.[2] The Landfill is situated in a small north-south oriented coastal canyon, on the south slope of the Santa Ynez Mountains approximately 26 miles west of the City of Santa Barbara and 0.5 mile north of the Pacific Ocean and U.S. Highway 101 (**Figure 1**). The total County-owned Landfill property is 497 acres (Assessor's Parcel Number [APN] 081-150-026, 081-150-019, and 081-150-042), with a permitted Landfill operational area of 357 acres and a total permitted waste footprint of 118 acres within the 357-acre operational area[3]. The permitted disposal capacity is 23.3 million cubic yards. Based on studied waste disposal rates conducted as a part of the ReSource Center environmental analysis, the Landfill with operation of the ReSource Center facilities was expected to reach its currently permitted disposal capacity (landfill life) in approximately 2036. However, due to delays in the implementation of the ReSource Center and the increase in the volume of waste material generated by the community and the composition of that waste, the Landfill is anticipated to reach its capacity between 2027 and 2028. To regain the originally planned and permitted landfill life associated with the ReSource Center project, the County is proposing to develop an additional 3.7 million cubic yards of waste disposal by increasing the landfill height in existing disposal areas and by increasing the permitted waste footprint by approximately 10 acres without changing the Landfill's existing permitted operational area. The proposed increase to landfill capacity is expected to restore the landfill life back to approximately 2038.

The Applicant also owns and manages the adjacent Baron Ranch immediately to the east of the Landfill. The Baron Ranch is comprised of 1,083 acres which includes dense, relatively undisturbed areas of oak woodland, chaparral, and coastal sage scrub vegetation, approximately 50 acres of restored native communities,[4] approximately 100 acres of avocado and cherimoya orchards (not currently under cultivation), a public trail, and a well-established riparian corridor supported by the perennial Arroyo Quemado. Arroyo Quemado and its tributaries traverse the Baron Ranch and support a breeding population of California red- legged frogs (*Rana draytonii*)[5]. Approximately 4.5 acres of the 357-acre permitted Landfill operational area extends onto the ranch. Recreational use of the Baron Ranch currently consists of a limited use public trail on the east side of Arroyo Quemado. Construction is in progress to relocate the

[1] The ReSource Center is a public-private partnership, pursuant to Government Code Section 5956.4 et seq. and other provisions of law, constructed and operated by MSB Investors, LLC under contract to the County.

[2] The ReSource Center has been constructed in response to, and in compliance with, state and federal regulations and initiatives (State Assembly Bill 32, State-wide Anaerobic Digestion Initiative, State Assembly Bill 341, California Public Resources Code Division 30, Part 2, Chapter 4, Section 4170, State Assembly Bills 1826, 876, 1045 and Federal national food waste reduction goals) regarding greenhouse gas emissions, recycling, organics recycling and solid waste management.

[3] The Tajiguas Landfill infrastructure and the ReSource Center biofilter were impacted by the Alisal fire which started on Monday October 11th, 2021, The Landfill infrastructure has been repaired and both the Landfill and ReSource Center are operational.

[4] 50 acres of inactive and active orchards have been restored to native communities as compensatory mitigation for impacts associated with the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project (County 2009) and the Tajiguas Landfill Expansion Project (County 2002a).

[5] The Baron Ranch was impacted by the Alisal fire which started on Monday October 11th, 2021, in Refugio Canyon (near the Alisal Reservoir). Most of the Ranch was burned in the fire; however, the riparian restoration areas and the Arroyo Quemado riparian corridor over story and associated aquatic habitat survived the fire. Covered species were observed in and adjacent to the riparian corridor following the fire and the corridor is expected to retain functionality for the covered species.

Aerial Source: ESRI Background Imagery, 2020.

Overview / Vicinity

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FIGURE 1

trail to the west side of Arroyo Quemado in the lower section of the Ranch. The relocated trail, which largely follows existing ranch roads, would be open for hikers, bicyclists, and equestrians from dawn to dusk, seven days per week. A Master Plan is also being prepared for the Baron Ranch that may expand recreational and agricultural uses. The recreational and agricultural activities at the Baron Ranch are not included within the scope of this Habitat Conservation Plan (HCP).

The California red-legged frog was first observed on the Landfill in 1998 (Hunt and Associates 2001) and occurred in two man-made, in-channel sedimentation basins located within the channel of upper Cañada de la Pila Creek (Pila Creek). In some years, the in-channel sedimentation basins held water year-round until physically pumped and were the only breeding habitat present at the Landfill. The in-channel sedimentation basins were removed in 2009 under a U.S. Army Corps of Engineers (ACOE) Clean Water Act (CWA) section 404 Permit (Permit No. SPL-2008-01191-JWM) and associated U.S. Fish and Wildlife Service (USFWS) Biological and Conference Opinion (Biological Opinion) (File No. 200801191-JWM) (8-8-09-F/C-7) (USFWS 2009a) for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project (Reconfiguration Project, County 2009). Although these permanent water features were removed and no other suitable breeding habitat is present on the Landfill, the Landfill is situated between two established breeding populations of California red-legged frogs, namely Arroyo Quemado on the Baron Ranch to the east and the Santa Barbara Land Trust Arroyo Hondo Preserve to the west. Due to the proximity of these populations, dispersing California red-legged frogs continue to be observed on the Landfill primarily in the winter months following rain events in the two out-of-channel sedimentation basins (North Sedimentation Basin and South Sedimentation Basin) and Pila Creek drainage facilities. The two exceptions to this trend occurred in 2019 where two frogs were also observed in upland areas; one in January was located under a wooden pallet in a staging area of the temporary operations deck and another in October was observed in a vault of the scale next to the scale house. Additionally, southwestern pond turtles (*Actinemys pallida*) have been observed on the Landfill and are established on the Baron Ranch. In 2019, there were several incidental observations of the least Bell's vireo (*Vireo bellii pusillus*) on the Baron Ranch. The observations were reported by the restoration contractor at the Baron Ranch during work activities but were not confirmed. Protocol surveys by a permitted biologist for this species have not been conducted and the nesting status of least Bell's vireo on the Baron Ranch is not known. Although the Baron Ranch supports suitable habitat for this species based on surveys conducted for the Reconfiguration Project (Greaves 2008), no suitable habitat for the least Bell's vireo is present within the Landfill. The least Bell's vireo is therefore not included as a covered species in this HCP.

The Applicant proposes to continue to operate the Landfill, conducting regular operations, maintenance, and repair activities; operate and maintain the ReSource Center;[6] increase the Landfill capacity to regain Landfill life, and eventually close and conduct post closure maintenance of the Landfill. The ReSource Center may continue to operate after closure of the Landfill during the post-closure maintenance period. All of these activities combined constitute the "Project." Although there is no suitable breeding habitat within the Landfill property, Pila Creek and two out-of-channel man-made sedimentation basins required to meet storm water quality regulations, provide ephemeral aquatic habitat after rain events. Although significantly disturbed by historic and ongoing Landfill operations, California red-legged frogs have been observed within the Landfill property following rain events. Given the Landfill's proximity to established populations, the ephemeral aquatic features present at the Landfill, and the absence of a federal nexus for Landfill operational areas outside of Pila Creek and its buffer area, the USFWS recommended the Applicant acquire formal take protection pursuant to section 10 of the Federal Endangered Species Act, as amended (ESA; 16 United States Code [USC] §1531 et seq.). The purpose of this HCP is to provide the necessary information regarding the proposed Project and its surrounding environs to allow the USFWS to determine

[6] The ReSource Center is being operated under contract to the County for an initial 10-year term and may be transferred to County operation in the future.

to what extent, if any, the Project may adversely affect the California red-legged frog and southwestern pond turtle and/or their habitats and to facilitate granting of incidental take coverage for all proposed Project activities.

1.1 Applicant and Permit Term

The Applicant, Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division, is requesting an Incidental Take Permit (ITP) to authorize incidental take of the California red-legged frog and the southwestern pond turtle for a period of 50 years commencing on the date of approval by the Service. The applicant's business address is:

County of Santa Barbara, Public Works Department,
Resource Recovery & Waste Management Division
130 East Victoria Street, Suite 100
Santa Barbara, CA 93101

The Tajiguas Landfill address is:
County of Santa Barbara, Public Works Department
Resource Recovery & Waste Management Division
14470 Calle Real
Goleta, CA 93117

The Baron Ranch address is:
County of Santa Barbara, Public Works Department
Resource Recovery & Waste Management Division
14550 Calle Real
Goleta, CA 93117

A 50-year permit term is requested to address the long-term operations and maintenance activities, as well as the proposed increase to the landfill capacity. This term includes the operation and maintenance activities through Landfill closure, which occurs when the disposal capacity is reached, the post closure maintenance period of 30 years as required under Title 27 (27 California Code of Regulations [CCR] §21180), the operation and maintenance of the ReSource Center facilities, and to incorporate flexibility into the schedule for these activities in the event unforeseen circumstances arise (e.g., economic factors that change the expected Landfill life). The operation, maintenance, and proposed increase to the landfill capacity would be accommodated while providing for protection and contributing to the recovery of the California red-legged frog and the southwestern pond turtle. The Applicant is requesting this permit pursuant to section 10(a)(1)(B) of the Act. The Applicant becomes the permittee of the ITP, if issued, and any reference herein to the "Applicant" will also mean the permittee, as applicable.

1.2 Plan Area and Permit Area

For the purposes of this HCP the Plan Area and Permit Area will be the same areas. The Plan Area is defined herein as: 1) the Tajiguas Landfill property which encompasses approximately 497 acres on Assessor Parcel Numbers (APN) 081-150-019, -026, and -042 and includes the 357-acre permitted operational area boundary (based on the Solid Waste Facility Permit) and 2) approximately 109.75 acres of conservation lands on the Baron Ranch (Figure 1). The majority of the 357-acre operational area is within the 497-acre Landfill property, but the 357 acres also includes approximately 4.5 acres on APN 081-150-032 (Baron Ranch). This area includes 1) all of the Landfill operations and maintenance facilities infrastructure and environmental control systems; the North and South Sedimentation Basins; Pila Creek; existing access roads, wells, tanks, drains, fuel breaks, and paved and unpaved access roads within the

property; all of the facilities associated with operation of the ReSource Center; as well as the area associated with the proposed increase to Landfill capacity; and 2) the Arroyo Quemado corridor areas of Baron Ranch (APN 081-150-032 and 081-100-005) that are permanently protected under conservation easements or other protective agreements and proposed to be used as receiver sites for California red-legged frogs translocated from the Tajiguas Landfill property portion of the Plan Area.

1.3 Species to be Covered by the Permit

The species proposed to be covered in this HCP are:

1. California red-legged frog (*Rana draytonii*) which is federally threatened and a state species of special concern, and
2. Southwestern pond turtle (*Actinemys pallida*) which the USFWS is currently evaluating for listing following the filing of a petition to list this species (80 Federal Register [FR] 19259, April 10, 2015) and is a state species of special concern.

1.4 Regulatory Framework

1.4.1 Federal Endangered Species Act

Section 9 of the ESA (16 USC §1531 et seq.) and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and certain threatened species, without special exemption. The ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct" (16 USC §1532.19). Harm is further defined by the USFWS as "an act which actually kills or injures wildlife", which may include "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering." Harass is defined by the USFWS as "an intentional or negligent act or omissions which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." Pursuant to the Principal Deputy Director's Memorandum: Guidance on When to Seek an Incidental Take Permit (USFWS 2018), harassment is not regarded by the Service as a form of take permitted under section 10(a)(1)(B) since it is not incidental take but an intentional or negligent act.

Incidental take is defined as take that "is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity" (50 CFR §17.3). The ESA provides for civil and criminal penalties for the unlawful taking of listed species. Pursuant to section 11(a) and (b) of the ESA, any person who knowingly violates section 9 of the ESA or any permit, certificate, or regulation related to section 9, may be subject to civil penalties or criminal penalties and/or imprisonment of up to one year. Exemptions to the prohibitions against take may be obtained through coordination with the USFWS in two ways: through interagency consultation for projects with Federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the ESA.

Four previous consultations with the USFWS under section 7 related to 404 permits for projects included in EIRs described in section 2.1 of this document are listed below. The fourth Biological Opinion listed below (8-8-09-F/C-7) for the Reconfiguration Project is still active as part of the ACOE CWA section 404 Permit (Permit No. SPL-2008-01191 and SPL-2019-00373-AJS), which is valid through March 18, 2022.

1. Biological Opinion for the California Red-legged Frog Management Plan and Sedimentation Basin Work Plan, Tajiguas Landfill, Santa Barbara County, California (File No. 200200768-JEM) (1-8-03-F-4) (USFWS 2003);

2. Biological and Conference Opinions for the California Red-legged Frog Management Plan and Sedimentation Basin Work Plan, Tajiguas Landfill, Santa Barbara County, California (File No. 200200768-JWM) (1-8-08-F/C-37);
3. Biological and Conference Opinions for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Projects, Santa Barbara County, California (File No. 200801191-JWM) (8-8-09-F/C-7) (USFWS 2009b); and
4. Reinitiated Biological Opinion for the Tajiguas Landfill Reconfiguration Project, Santa Barbara County, California (File No. 200801191-JWM) (8-8-09-F-50R) (USFWS 2009a).

1.4.2 Section 10(a)(1)(B) Incidental Take Permit Process

An exemption for incidental take of listed species that would result from non-Federal activities can be issued under section 10(a)(1)(B) of the ESA. Incidental take is that which is incidental to, and not the purpose of, carrying out an otherwise lawful activity. To obtain a permit for such take under this provision, an applicant must develop a conservation plan or HCP that meets specific requirements identified in section 10(a)(2)(A) of the ESA and its implementing regulations at 50 CFR 17.22 (endangered species) and 17.32 (threatened species), and 50 CFR 222.25, 222.27, and 222.31. Among other requirements, the plan must specify the impacts that are likely to result from the taking, the measures the permit applicant will undertake to minimize and mitigate such impacts, and the funding that will be available to implement such measures.

The HCP process can be divided into four phases: (1) Pre- application; (2) Developing the HCP and Environmental Compliance Documents; (3) Processing the Application, Making a Permit Decision, and Issuing the Incidental Take Permit; and (4) Implementing the HCP and Compliance Monitoring. The USFWS and the Applicant discuss the process and develop the framework, timelines, schedules, and begin developing the conservation and mitigation strategy for the HCP in Phase 1. Phase 2 consists of preparing the environmental documents including the HCP, the appropriate National Environmental Policy Act (NEPA) document, National Historic Preservation Act (NHPA), and intra-service section 7 consultation. In Phase 3, the USFWS begins the HCP public review and permit decision process which includes developing a "findings" document that present the basis for the incidental take permit decision.

The HCP must be statutorily complete and must meet the incidental take permit issuance criteria (50 CFR 17.22). The issuance criteria for determination that an ITP may be issued require that:

a) The taking will be incidental;
b) The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings;
c) The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided;
d) The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild;
e) The measures, if any, required under paragraph (b)(1)(iii)(D) of this section will be met; and
f) The USFWS has received such other assurances as may be required that the HCP will be implemented.

1.4.3 The National Environmental Policy Act (NEPA)

Issuance of an ITP is a federal action subject to NEPA compliance. NEPA ensures that agencies examine the environmental impacts of proposed actions and provides for public involvement in the process. NEPA analysis must be completed by the USFWS for each HCP as part of the ITP application process. Depending on the scope and impacts of the HCP, NEPA requirements can be satisfied by one of the three following

documents or actions: (1) a categorical exclusion; (2) an Environmental Assessment (EA); or (3) an Environmental Impact Statement (EIS).

1.4.4 The National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on cultural resources that are, or may be, eligible for inclusion on the National Register of Historic Places. Implementation of an HCP and issuance of an incidental take permit are an undertaking and subject to compliance with section 106 of the NHPA. The implementing regulations for section 106 of the NHPA, at 36 CFR 800, describe that the USFWS can meet section 106 requirements through a consultation process the goal of which is to identify historic properties potentially affected by the Federal undertaking, assess its effects and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties.

2.0 PROJECT DESCRIPTION AND COVERED ACTIVITIES

2.1 Background

The Landfill began operations in 1967 prior to the adoption of the California Environmental Quality Act (CEQA) and the California Coastal Act. Expansions to the Landfill were approved in 1987 and 2002, and a reconfiguration of the permitted landfill waste footprint was approved in 2009. In 2017, a modification to landfill operations was approved to include the construction and operation of the ReSource Center at the Landfill to further recover recyclable material from the waste stream and provide an alternative to burying organic waste as required by State and Federal waste management legislation, reduce greenhouse gas emissions, and generate green energy. The following environmental documents include the analysis of the impacts of constructing and operating the Tajiguas Landfill and associated projects as required by CEQA:

- Environmental Impact Report (EIR) for the Tajiguas Landfill Expansion, 87-EIR-08 and addendum to 87-EIR-08 adopted by the County on July 21, 1988, for the Tajiguas Landfill Expansion;
- EIR 01-EIR-05, for the Tajiguas Landfill Expansion certified by the County Board of Supervisors on August 13, 2002, addendum to 01-EIR-05 dated November 8, 2006, considered by the County Board of Supervisors on December 5, 2006, and 15162 determination letter dated April 19, 2007;
- Subsequent EIR 08EIR-00000-00007 for the Tajiguas Landfill Reconfiguration and Baron Ranch Restoration Project (Reconfiguration Project) certified by the Board of Supervisors on May 5, 2009;
- EIR 01-EIR-05 and Subsequent EIR 08EIR-00000-00007 15162 determination letter dated December 19, 2013;
- Subsequent EIR 08EIR-00000-00007 and 15162/15164 determination letter dated September 25, 2014, accepted by the Board of Supervisors on June 23, 2015; and
- Subsequent EIR 12EIR-00000-00002 and EIR Revision Letter and Errata dated May 27, 2016, for the TRRP approved by the Board of Supervisors on July 12, 2016, and addendum to Subsequent EIR 12EIR-00000-00002 dated August 11, 2017 (revised October 26, 2017), considered by the Board of Supervisors on November 14, 2017.[7]

All of the environmental documents (except the 1987 EIR and addendum, which are available at the RRWMD office) can be accessed at http://countyofsb.org/pwd/environment.sbc.

Assessments of biological resources and impacts associated with the currently permitted Tajiguas Landfill and ReSource Center are included in the environmental documents listed above; their supporting biological analysis documents relative to this assessment are listed below:

- Tajiguas Landfill Expansion Project Biological Assessment and Addendum (Hunt & Associates 2001);
- California Red-legged Frog Management Plan and Sediment Basin Work Plan, Tajiguas Landfill (County 2002b, updated 2005; 2008);
- Revised Biological Survey Report for the Phase 1b Expansion areas at the Tajiguas Landfill (County 2006);
- Biological Assessment/Biological Technical Report for the Proposed Tajiguas Landfill Reconfiguration Project and Baron Ranch Restoration (EcoSystems Restoration Associates [ERA] 2008a);

[7] Several CEQA 15162 determinations have also been prepared subsequent to the Board approval to address minor changes in the ReSource project description as the final engineering design was completed.

- Botanical Survey Report for the West Borrow Area at the Tajiguas Landfill (Padre 2009);
- Annual Biological and Environmental Permit Compliance Monitoring Reports –for the Tajiguas Landfill Reconfiguration Project, Santa Barbara County, California, prepared by Padre Associates and AECOM annually from 2010 through 2019;
- Tajiguas Landfill Resource Recovery Project – Results of Rare Plant Surveys (Padre 2013);
- The Tajiguas Resource Recovery Project, Biological Technical Report (AECOM 2013); and
- The Tajiguas Landfill Biological Assessment for Pila Creek Maintenance and Sedimentation Basin Activities (Envicom Corporation 2019).

Pursuant to CCR 27, the County prepared a Joint Technical Document (JTD) (County 2018) to describe the design and operation of the Landfill and the ReSource Center. This JTD is amended over time as needed to address changes in Landfill design or operations. Closure and post-closure maintenance activities are described in the Phases 2 and 3 Partial Final Closure and Post-closure Maintenance Plan, and Phase 4 Preliminary Closure and Post-closure Maintenance Plan (County, amended 2017) included as Appendix O of the JTD.

Maintenance activities in the unlined, vegetated Pila Creek Channel at the southern end of the Landfill property near the scale house are included in the Santa Barbara County Department of Public Works Flood Control and Water Conservation District's (FCWCD) Annual Maintenance Plan. The FCWDC Maintenance Plan work is permitted through the California Department of Fish and Wildlife (CDFW), ACOE (and associated USFWS biological opinion; 8-8-11-F-66), and Regional Water Quality Control Board (RWQCB) Permits issued for the FCWCD Maintenance Plan and are not part of this HCP.

Following the Landfill Expansion Project in 2002, RRWMD obtained authorization for maintenance activities conducted within two existing man-made in-channel sedimentation basins located within the channel of upper Pila Creek through permits from the ACOE (Permit No. 200200768-JCM) and an associated Biological Opinion (File No. 200200768-JEM) (1-8-03-F-4) from the U.S. Fish and Wildlife Service (USFWS; USFWS 2003)[8] and Biological and Conference Opinions (File No. 200200768-JWM) (1-8-08-F/C-37). Additional work within jurisdictional areas of Pila Creek were approved under an ACOE CWA section 404 Permit (Permit No. SPL-2008-01191-JWM) and associated USFWS Biological and Conference Opinion (Biological Opinion) (File No. 200801191-JWM) (8-8-09-F/C-7) (USFWS 2009a) for the Reconfiguration Project. This permit allowed for phased construction activities including the removal of the in-channel sedimentation basins, placement of fill within the creek channel and adjacent jurisdictional areas, realignment of the creek and concrete-lining of a portion of the creek. The permit was extended in 2013 until October 2019. In 2017, the ACOE extended their jurisdiction to include the Tajiguas Landfill South Sedimentation Basin and the USFWS amended their biological opinion to include this feature (emails from ACOE and USFWS dated February 15, 2017). A minor project modification to this permit was approved in the spring of 2018 to allow a portion of the creek previously proposed to be concrete lined to be conveyed in a subsurface pipeline and to construct a vegetated swale. A new 404 Permit (SPL-2019-00373-AJS) and 401 Permit (Certification No. 34219WQ14) were issued in 2019 for maintenance activities in Pila Creek and the sedimentation basins. The 404 Permit was reverified on March 3, 2022. The CDFW streambed alteration agreement (1600-2018-0337-R5) was submitted in December 2018 and issued on March 7, 2022.

Due to delays in the implementation of the ReSource Center and changes in the waste composition and current rate of waste disposal, the Landfill is anticipated to reach its capacity earlier than planned and

[8] Permits for this work were also obtained from CDFW and the RWQCB.

permitted (previously approximately 2036 and now between 2027 and 2028). To regain the originally planned and permitted landfill life associated with the ReSource Center project, the County is proposing to develop an additional 3.7 million cubic yards of waste disposal capacity. The increased capacity would be provided by increasing the landfill height in existing disposal areas and by increasing the permitted waste footprint by approximately 10 acres without changing the Landfill's existing 357 acre permitted operational area. The proposed increase to landfill capacity is expected to restore the landfill life back to approximately 2038. The CEQA review for the proposed increase to Landfill capacity has not been completed and the capacity increase has not received the required permits (i.e., revised Solid Waste Facility Permit, revised Waste Discharge Requirements, and revised Construction and Industrial Stormwater Permits) at this time; however, the proposed increase to Landfill capacity has been included as a Covered Activity within this HCP, should the required permits be obtained.

2.2 Project Description

The proposed Project is within Range 31 West, Township 5 North, and Sections 28 and 33 of the U.S. Geological Survey (USGS) Gaviota, CA (USGS 2018) and the Tajiguas, CA (USGS 1953) Quadrangles. The proposed Project would consist of four primary components: 1) the continued operation, maintenance, and repair of the Landfill including Landfill infrastructure and environmental control systems, 2) the operation, maintenance, repair and possible decommissioning of the ReSource Center facilities, 3) the proposed increase to landfill capacity, and 4) Landfill closure and the post-closure maintenance activities which begin once the Landfill reaches its permitted capacity and a final cover system is installed. All of these activities occur within the Landfill property (497 acres) and specifically within the Solid Waste Facility Permit Operational Area Boundary (357 acres total covering a portion of the 497-acre Landfill property and an adjacent 4.5 acres on APN 081-150-032).

The Landfill will accept waste until the final permitted capacity is reached. Based on incoming tonnage and diversion rates studied in the ReSource Center Subsequent EIR, final capacity was anticipated to be reached in approximately 2036. However, based on current studies, the Landfill is reaching the currently permitted capacity faster than expected and could reach capacity between 2027 and 2028. The County has proposed to increase the landfill capacity, which would regain landfill life back to approximately 2038. The date final capacity is reached will depend on whether the proposed landfill capacity increase is approved, actual tonnage received, and diversion rates achieved. Once permitted capacity is reached the Landfill would be closed and a final cover installed. Following Landfill closure activities, State of California regulations require the Landfill to be monitored and maintained for a 30-year post-closure period (California Code of Regulations Title 27 (CCR 27). The MRF and ADF would, at a minimum, operate through existing material delivery contract term limits which extend to 2038 and may continue to operate beyond the Landfill closure.

2.3 Covered Activities

Each of the activities mentioned in this section will hereinafter be referred to individually as "Covered Activity" and collectively as "Covered Activities."

2.3.1 Operation, Maintenance, and Repair of the Landfill, Landfill Infrastructure and Environmental Control Systems

The Tajiguas Landfill is a fully permitted and operational Class III municipal solid waste disposal facility that receives daily deliveries of solid waste, green waste, (and with implementation of the ReSource Center) recyclables and organic waste from the unincorporated areas of southern Santa Barbara County; the Cities of Santa Barbara, Goleta, Buellton, and Solvang; and the Santa Ynez and Cuyama Valleys. The Landfill removes contaminants from collected green waste and processes it into mulch which is subsequently

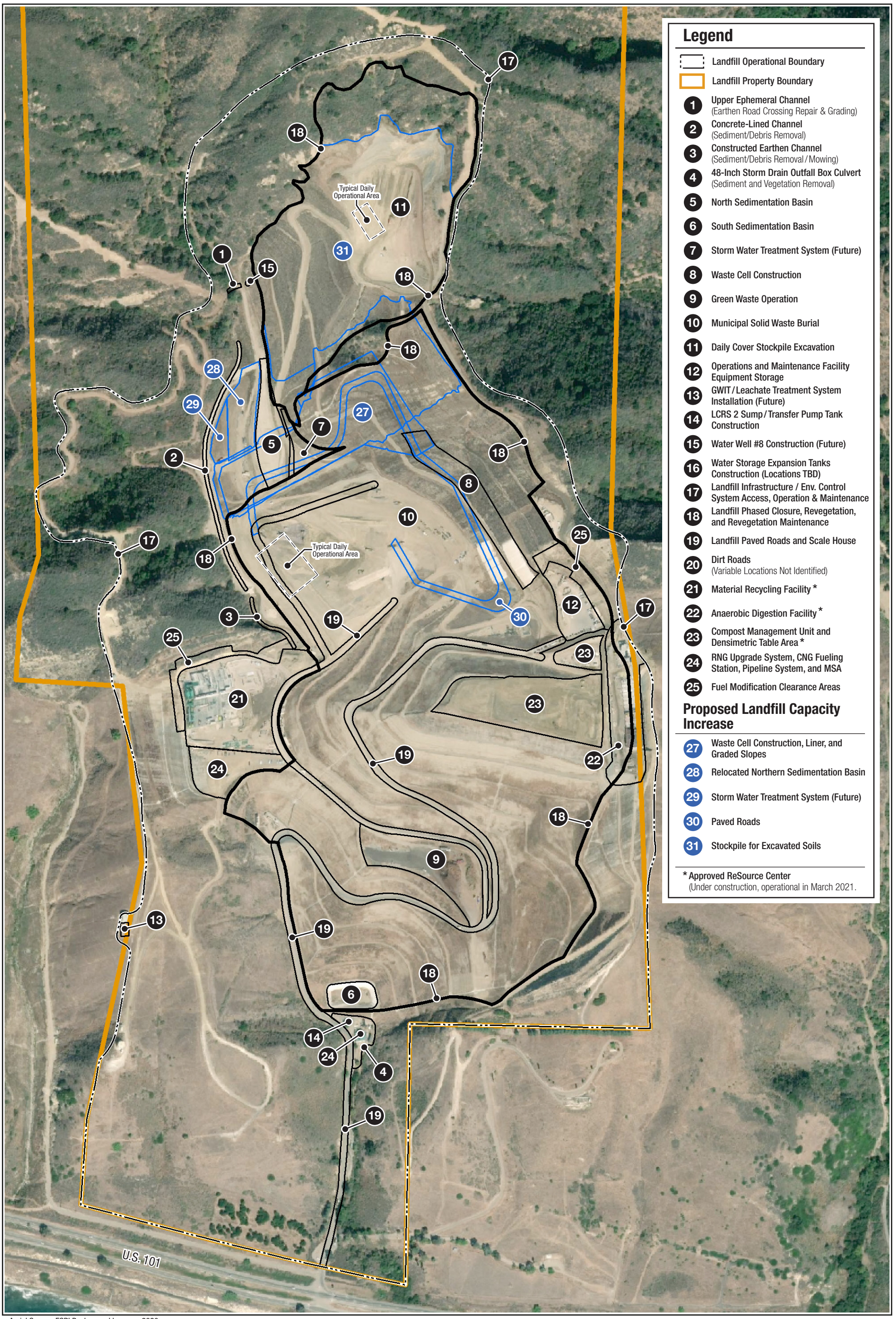
transported off site for sale. A portion of the processed mulch may be used on site to supplement ADF material and/or CMU material. Landfill gas from the buried waste is collected and sent to an engine where it is converted into electricity and sent to the grid. The ReSource Center (County 2017) is a newly approved project at the Landfill that includes operation of a MRF and ADF and associated energy facility (engines), and CMU. **Figure 2** depicts the location of the Landfill operational area boundary, the permitted waste footprint, the Landfill facilities, and ReSource Center facilities over the entire property. As Landfill operation continues, infrastructure will be added or relocated (i.e., Landfill Gas (LFG) collection systems, access roads, etc.) in response to waste placement. Landfill administration, operational, and technical personnel are housed within an office area included in the MRF. Ancillary facilities such as restrooms, locker rooms, and break rooms are also located in the MRF. In addition to facilities in the MRF, portable trailers may be used for employee break rooms and portable toilets are located throughout the Landfill property.

2.3.1.1 Landfill Solid Waste Disposal and Green Waste Processing

Groundwater protection systems (liners) are constructed in phases in the permitted landfill disposal areas and then are filled with municipal solid waste. Waste is brought to the site by franchise waste haulers, County semi-trailers, and a limited number of private haulers and weighed near the entrance at the scale house facility. Public access for waste disposal is not allowed. Waste is tipped in the active disposal area, moved with bulldozers into a cell of prescribed thickness and area, and consolidated by repeated passes of a compactor. At the end of each operating day, the newly placed waste layer is covered with an alternative daily cover (ADC) which at the Landfill is primarily large tarps that are rolled out at the end of the day and rolled up in the morning or minimum of six inches of clean soil. Clean soil and/or ADC are spread over the waste that is sloped to shed precipitation off the refuse area. The soil or ADC remains in place and is covered with waste the next operating day. The scrapers and loaders move cover soil from the Landfill borrow areas and transport it to the active waste cells. During rain events, due to access issues, disposal is concentrated in a smaller wet weather disposal area. This wet weather area changes in terms of location and size from year to year. Dust abatement using water trucks occurs continually during the waste disposal operations but is dependent on the soil moisture and wind conditions each day. Water is used conservatively to control dust and care is taken to avoid creating pooled or ponded areas.

The operations cycle at the Landfill consists of the excavation of soil, waste acceptance and unloading, spreading and compaction, and the application of daily cover. Ancillary facilities include but are not limited to: north stockpile, scale and scale house, maintenance shop, hazardous waste storage area, employee break trailers, storage sheds and containers, water supply wells, monitoring wells, water storage tanks, fuel tanks (diesel and gasoline) and the LFG collection and control system. Trucks entering the site are weighed and assessed at the existing scale house at the entrance to the facility. After being weighed, the waste is either sent to the MRF along the existing main access road for further processing, or if unsuitable for processing, sent to the Landfill for disposal. Residue from the MRF processing activities is weighed and loaded onto Landfill transfer trucks and brought to the landfill working face for disposal.

Green waste is brought directly to the Tajiguas Landfill by the franchise waste haulers and is also transferred in County transfer trucks from the South Coast and Santa Ynez Recycling and Transfer Stations. Green waste is transported to the Green Waste Pad and loaders are used to move the materials into a grinder where it is chipped into a mulch product. The chipped material is stored in large piles and transported to the ADF/CMU for use in the composting operations, to customers, or hauled to the transfer stations using County semi-trailers.



Legend

- Landfill Operational Boundary
- Landfill Property Boundary
- 1 Upper Ephemeral Channel (Earthen Road Crossing Repair & Grading)
- 2 Concrete-Lined Channel (Sediment/Debris Removal)
- 3 Constructed Earthen Channel (Sediment/Debris Removal / Mowing)
- 4 48-Inch Storm Drain Outfall Box Culvert (Sediment and Vegetation Removal)
- 5 North Sedimentation Basin
- 6 South Sedimentation Basin
- 7 Storm Water Treatment System (Future)
- 8 Waste Cell Construction
- 9 Green Waste Operation
- 10 Municipal Solid Waste Burial
- 11 Daily Cover Stockpile Excavation
- 12 Operations and Maintenance Facility Equipment Storage
- 13 GWIT / Leachate Treatment System Installation (Future)
- 14 LCRS 2 Sump / Transfer Pump Tank Construction
- 15 Water Well #8 Construction (Future)
- 16 Water Storage Expansion Tanks Construction (Locations TBD)
- 17 Landfill Infrastructure / Env. Control System Access, Operation & Maintenance
- 18 Landfill Phased Closure, Revegetation, and Revegetation Maintenance
- 19 Landfill Paved Roads and Scale House
- 20 Dirt Roads (Variable Locations Not Identified)
- 21 Material Recycling Facility *
- 22 Anaerobic Digestion Facility *
- 23 Compost Management Unit and Densimetric Table Area *
- 24 RNG Upgrade System, CNG Fueling Station, Pipeline System, and MSA
- 25 Fuel Modification Clearance Areas

Proposed Landfill Capacity Increase

- 27 Waste Cell Construction, Liner, and Graded Slopes
- 28 Relocated Northern Sedimentation Basin
- 29 Storm Water Treatment System (Future)
- 30 Paved Roads
- 31 Stockpile for Excavated Soils

* Approved ReSource Center (Under construction, operational in March 2021.

Aerial Source: ESRI Background Imagery, 2020.

Operations and Maintenance Areas

FEET 0 250 500

FIGURE 2

During local emergency or disaster conditions, (such as the January 9, 2018, Debris Flow event in Montecito) the Landfill may become a debris staging and processing area. During these times the Landfill may operate under extended hours which may include evenings and weekends and may occur during the rainy season. Under disaster conditions, truck trips may temporarily increase at the landfill. However, staging and processing occurs in existing permitted and disturbed areas of the Landfill using established paved and unpaved roads for access.

Traffic associated with Landfill operations consists of transfer vehicles from the MRF, vehicles hauling special waste which bypasses the MRF, vehicles hauling green waste, operations vehicles, delivery and contractor vehicles, and employee vehicles. As noted previously, the Landfill is not open to the general public. The speed limit on the Landfill is 15 mph.

Lighting at the working face is not normally required. During the months of December and January, Landfill operations may occur after dark, and lighting may be required. If necessary, portable lights powered by electrical generators will be used for landfill operations, and for non-routine or emergency situations. Portable lighting is directed downward to prevent glare or direct illumination of offsite areas. The maintenance building, scale house and trailers have exterior lighting for security.

Hydroseeding or manual seeding is applied to the outside faces of the Landfill and other areas that do not receive waste or are not disturbed by Landfill operations for extended periods of time. A soil stabilizer may also be applied in association with hydro-mulch and hydro-seed to areas of the Landfill that will not be disturbed by Landfill operations for extended periods of time. Mulch is used on and around the Landfill to prevent the erosion of areas that have been disturbed by Landfill operations and do not have an established vegetative cover. On the Landfill, this includes slopes and benches.

The Landfill does not accept hazardous waste, nor is it regulated to do so. Should hazardous waste inadvertently be a part of the waste stream, Landfill staff are trained to recognize hazardous waste and respond to its detection. Waste is collected and moved to a specific area at the MRF for temporary storage and in accordance with hazardous waste regulations, the waste is removed within 90 days for disposal at a licensed facility.

2.3.1.2 Operation, Maintenance and Repair of the Landfill Gas Collection and Control System (LFG control system)

Organic waste residue placed in the Landfill generates LFG through anaerobic biological decomposition. State and Federal regulations require the control of LFG to prevent it from migrating away from the landfill boundaries and from accumulating in off-site structures. In addition, the Santa Barbara County Air Pollution Control District, and State and Federal air quality regulations require the control of emissions. LFG emissions from the Landfill are controlled in the Landfill's LFG control system. The system can be divided into four main subsystems: the LFG extraction well field; the LFG conveyance lines, the H_2S treatment system; and the LFG Energy Plant/Flare facility (e.g., additional LFG treatment system, LFG flare, combined heat and power engines, and supporting equipment). The LFG control system is expanded in phases in the waste disposal area as part of the development of the Landfill. During active operations, LFG extraction wells are installed incrementally to provide ongoing environmental control. Condensate from the LFG collection system and LFG treatment system is routed to a storage tank. The condensate is then either hauled offsite, evaporated in the MRF flare or sent to the wastewater treatment system. The LFG Energy Plant/Flare Facility is being relocated from its current location south of the South Sedimentation Basin and northwest of lower Pila Creek to an existing disturbed area immediately south of the MRF. The existing energy plant (engine, flare and associated equipment) will either be decommissioned

in place or will be salvaged and removed from the Landfill. Some facilities may remain to serve the relocated energy plant.

2.3.1.3 Landfill Repair and Maintenance

Repair and maintenance activities that occur on the Landfill consist of dirt road and firebreak maintenance, environmental control systems, utility and infrastructure improvements/maintenance, Landfill cover repair and maintenance, weed maintenance, vegetation (fuel) modification clearance around structures, windblown litter control, and paved road repairs. With the exception of windblown litter control, which occurs throughout the year as needed, these activities are typically scheduled to occur annually in the dry season, but may be accomplished throughout the year if necessary repairs are required. Dirt roads are present throughout the active portion of the Landfill and fluctuate with the changing fill areas. Dirt roads around the perimeter and within the benches of the closed landfill areas are semi-permanent and are repaired using a dozer or a road grader. Because of the nature of the soils and steepness of many of the roads on the Landfill, dirt roads are not typically traveled during rainy conditions; only as needed travel occurs on dirt roads when conditions are wet for immediate repairs and only if accessible. Paved road repairs are only conducted as needed within the existing roadbed.

Invasive plants are controlled primarily by mechanical methods and occasionally with herbicide. Invasive plant maintenance is conducted with hand-held weed whackers along access roads and around facilities on an as-needed basis throughout the year. Herbicide application is primarily used by the Landfill operations staff around the wellheads and the main office facilities and consists of two applications per year; one in the late fall and one in the spring. Additionally, landscape contractors use herbicide to spot treat perennial plants on an as-needed basis within hydroseeded areas to control plants that spread by rhizomes, are prone to stump sprouting, and/or have very invasive characteristics (for example plants such as Bermuda grass (*Cynodon dactylon*), fountain grass (*Pennisetum setaceum*), and castor bean (*Ricinus communis*)). Roundup PROMAX® herbicide is used for both the Landfill operations and landscape contractor applications. This herbicide is spot applied with a hand-held applicator when conditions are dry, and rain is not in the forecast for at least 3 days. This herbicide is not used near any wetland, surface water, or aquatic feature and is applied at 2 ounces per gallon for a coverage of 2,000 square feet.

Fuel modification clearance occurs on an annual basis within 100 feet of the trailers on the Landfill operation's deck including the Landfill maintenance building as well as around the MRF and MRF maintenance building and associated improvements. The fuel modification clearance includes hand/mechanical trimming and/or removal of vegetation on the cut slope that extends east of the Operations deck up to the dirt perimeter access road. The fuel modification clearance around the MRF building and associated improvements extends beyond the developed pad onto cut and natural slopes to the west, as well as the slope to the north.

Construction activities which include extensions, improvements, maintenance, and repairs are completed on an as needed basis during daylight hours to the environmental control and utility/infrastructure systems within the Landfill. Utility and infrastructure systems include pipelines, drains, a leachate collection system, wells, tanks, waterlines, communication facilities, and power lines/solar panels that occur throughout the Landfill.

An existing at-grade dirt road creek crossing at the northern end of Pila Creek would be maintained as needed to allow access to the western portion of the Landfill property which includes access to wells, water tanks, borrow areas, and electrical transmission lines. Maintenance would consist of grading within the roadbed using a dozer or grading equipment and would primarily be completed during the Landfill's dry season (May 1 to September 30). If maintenance is necessary outside the typical dry season, it would be

completed when the creek is not flowing, and no measurable rain events are predicted within 48 hours. No maintenance activities are proposed within the natural creek channel of upper Pila Creek. All of the work activities occur entirely within the existing roadbed; no vegetation communities would be disturbed.

Maintenance activities within the existing concrete lined channel and earthen channel areas would consist primarily of sediment and debris removal on a yearly basis and occasional repairs of the channel sides or bottom. Sediment excavated from these two areas would be transported to various stockpiles within the Landfill and used for various Landfill operations.

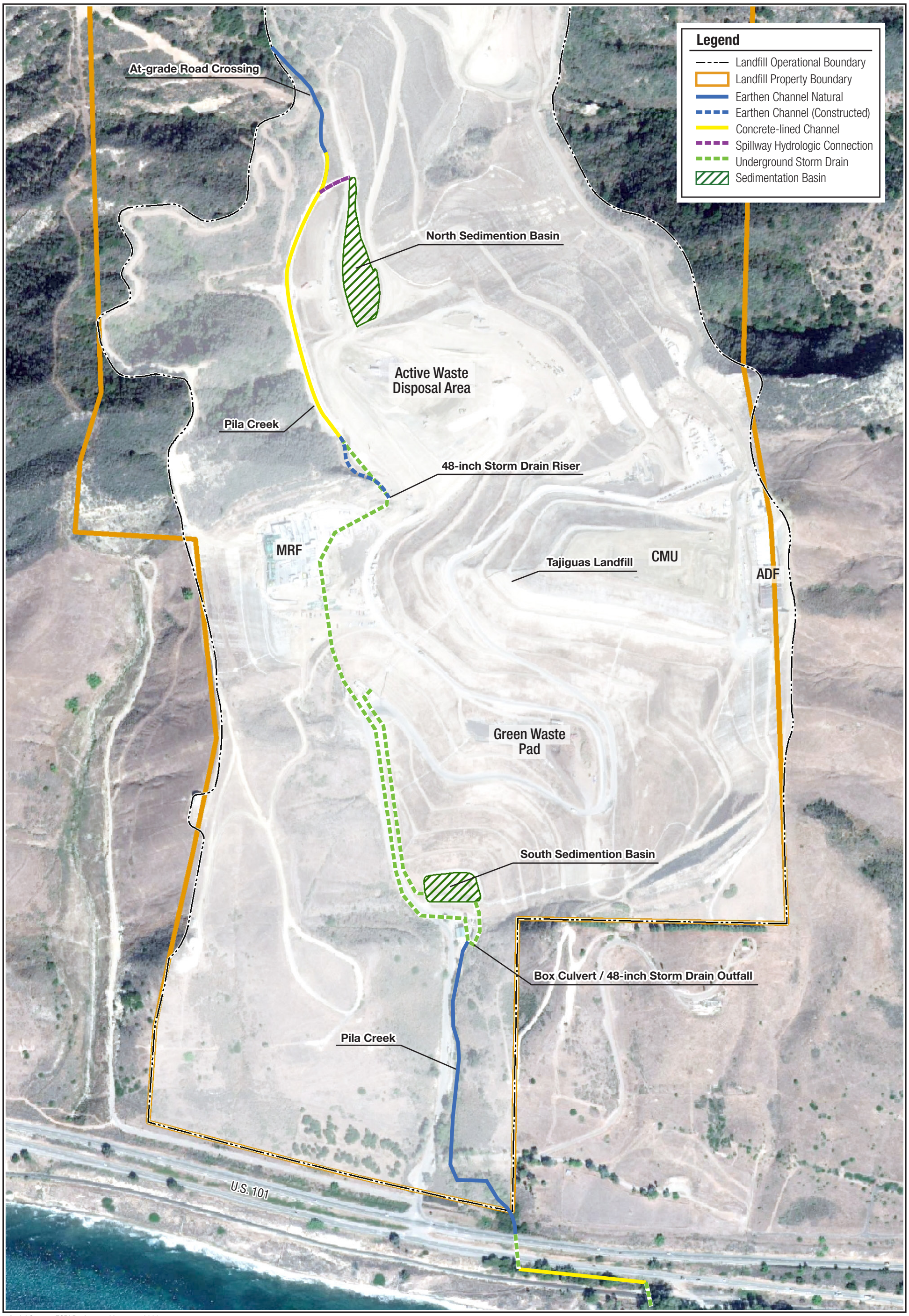
Sediment and debris removal is performed within the concrete channel using a loader, excavator, and a hauling truck and scheduled during the dry season when the creek is not flowing. Sediment is removed without modifying the existing drainage structures or banks. Equipment utilizes the access road adjacent to the channel and also operates from within the concrete lined channel. If required to avoid a flooding hazard, limited debris removal may occur between November 1 and April 30 when the channel is not actively flowing. Any repair work to the concrete channel would be completed during the dry season,

The earthen channel was constructed in the summer of 2018 and hydroseeded in late fall/winter prior to the start of the rainy season. Maintenance activities in the earthen channel may include occasional repairs of the channel sides or bottom, repairs at the inlet pipe and concrete apron, vegetation mowing within the earthen channel area using string-trimmers or other hand-held tools, and removal of accumulated sediment using an excavator and haul truck operating from the adjacent access road. Sediment would be removed without modifying the existing drainage structures or banks. Vegetation mowing may occur within the channel or along the bank up to the top of the bank. These activities would likely occur on a bi-annual or annual basis during the dry season. Vegetation mowing, sediment removal, and repairs would generally be conducted between August 1 and November 30, outside of the bird nesting period, but may occur during the nesting period if biological surveys confirm negative results for nesting activity.

Stream flows from the Pila Creek concrete-lined channel, the subsurface pipeline, and the earthen channel are directed into a 48-inch underground storm drain that carries flows around the western edge of the active Landfill. Surface flow from the 48-inch underground storm drain and from the South Sedimentation Basin emerges to the natural channel of Pila Creek through a box culvert at the southern end of the Landfill, south of the existing South Sedimentation Basin (**Figure 3**). The culvert consists of two approximately 10-foot by 10-foot concrete boxes with a concrete apron that extends downstream approximately 10 to 12 feet. Sediment collects in the culvert and on the concrete apron and causes water to pool in the box culvert. Routine maintenance and repair of the box culvert and concrete apron consists of removing the accumulated sediment with an excavator operating from the bank of Pila Creek during the dry season as needed. Historically, removal frequency has been every two or three years.

2.3.1.4 Operation, Maintenance and Repair of the Stormwater Management System

The drainage control system for the Landfill consists of perimeter drainage channels, drainage berms, down drains, subsurface storm drains, energy dissipaters, and sedimentation basins. On-site drainage features are designed and constructed to control stormwater that falls on the landfill and run-on from the surrounding watershed to prevent infiltration into the Landfill. The drainage facilities are extended/expanded and relocated as needed as waste placement proceeds within the waste disposal footprint and the permitted operational area. Storm water originating from the disturbed areas of the Landfill is directed to two sedimentation basins (North and South). The sedimentation basins reduce the amount of silt ultimately discharged from the landfill site in compliance with the Landfill's waste discharge requirements and industrial stormwater permit. Stormwater from some of the surrounding areas (run-on) are directed into perimeter channels and into the sedimentation basins.



Aerial Source: ESRI Background Imagery, 2020.

Drainage / Water Quality Features

FEET 0 225 450

FIGURE 3

The North Sedimentation Basin and South Sedimentation Basin collect storm water runoff and function to manage water quality requirements of the Tajiguas Landfill. To comply with industrial storm water quality requirements, storm water runoff is collected in the basins to capture sediment and reduce total suspended solids (TSS). The North Sedimentation Basin is constructed with concrete sides and bottom and the South Sedimentation Basin is earthen and lined with a high-density polyethylene (HDPE) geomembrane. The South Sedimentation Basin was constructed as a temporary basin and may be removed in the future once contributing areas are stabilized with vegetation, although the exact timing of its removal is not known at this time.

Operationally, storm water must be retained in the basins after a rain event to allow sediment/suspended solids to settle out. Once water quality objectives are met, the water levels in the basins are lowered to prepare for subsequent rain events and for dry season basin maintenance. A skimmer system consisting of a passive skimmer mounted on a post is lowered to float on the water surface. The skimmer is specifically designed as a passive flow device; the skimmer inlet controls the rate of out flow and reduces as the basin drains. It releases the cleanest water in the basin from near the surface. Low velocity inlet flows, approximately 5 to 7 feet per second, enter the skimmer inlet pipe through a plastic screen. The outside of the entire skimmer apparatus is also entirely covered with one-quarter-inch mesh hardware cloth as an additional barrier to wildlife.

Typically, water is retained in the basins for up to approximately 48 hours after a rain event before the skimmer system is lowered, and water is discharged into Pila Creek. The specific timing of the discharge is dependent on meeting water quality standards, implementation of pre-release biological monitoring, and landfill operational logistics. Additionally, a flocculant may be added to the water in the basins to better allow the TSS to drop out of suspension. After lowering the skimmers, if the basin is completely full of water, the Northern Sedimentation Basin takes approximately 80 hours (3.3 days) to drain if no additional runoff is collected. Similarly, after lowering the skimmers, if the basin is completely full of water, the Southern Sedimentation Basin takes approximately 40 hours (1.65 days) to drain if no additional runoff is collected. Due to the uneven deposition of sediment, occasionally small residual pools of water are left and may need to be manually pumped. The North Sedimentation Basin skimmer system discharges collected runoff into upper Pila Creek and the South Sedimentation Basin skimmer system discharges collected runoff into the box culvert south of the landfill and lower Pila Creek. Runoff collected in the basins in excess of the capacity overflows through risers and/or spillways into Pila Creek. Sediment is removed from the basins annually, typically during the dry season; however, sediment removal may also occur during the rainy season to maintain the capacity of the basins to collect additional storm water and sediment.

2.3.1.5 Stormwater Storage for Landfill Construction and Operations

The majority of water used at the Landfill is for non-potable industrial purposes, such as dust control and soil moisture conditioning for construction of liners and closure activities. The County anticipates needing additional water for dust control or to complete construction projects for up to 5 different events. (5 potential seasons of stormwater retention, sequential or non-sequential) at the Landfill and may use stored storm water to conserve available ground water at the Landfill. The North Sedimentation Basin is proposed to be used to retain water for these activities by ending water releases in April at the anticipated end of the rainy season to store water from potential late season storms. Water will be pumped from the basin into water trucks or portable tanks and used for dust control or construction projects on the Landfill through August during each of the 5 events. All of the water in the basin would be either released or pumped by the end of August to allow the basin to dry before sediment is removed in preparation for the rainy season. Although the primary function for both of the sedimentation basins is to retain water temporarily to meet storm water quality standards, the anticipated dust control and construction projects necessitate the increased water retention in the North Sedimentation Basin as a water conservation measure.

2.3.1.6 Other Landfill Operational Needs

Over the term of the HCP, some of the existing facilities such as water tanks and temporary storage areas may be relocated to other locations within the overall permitted operational area as waste filling continues and/or other facilities (such as new water or monitoring wells) may be developed to support Landfill operations or to address new regulatory requirements such as water quality standards. These facilities would be located within existing disturbed areas of the Landfill property, within the permitted operational area. Construction of one additional supply well and associated water tank (Water Well #8) is anticipated and included in this document as a covered activity.

To address changes in water quality standards, additional new facilities to filter storm water runoff and leachate may be constructed. Although plans and final locations for these facilities have not been finalized, four new facilities designed to meet more stringent water quality standards have been included in this document and include construction of a Storm Water Treatment System, a GWIT/Leachate Treatment System, a LCRS 2 Sump/Transfer Pump Tank, and a Water Storage Expansion Tank.

2.3.2 Operation, Maintenance, Repair and Decommissioning of the ReSource Center Facilities

Operation and Maintenance of the ReSource Center is described in Appendix M and N of the JTD. The ReSource Center project consists of operation of three primary facilities: an MRF; an ADF and associated energy facility; and a CMU. The ReSource Center waste processing activity is anticipated to result in the recovery and beneficial reuse of 60 percent or more (by weight) of the waste stream by diverting such amount from disposal at the Landfill. Additionally, there are supporting ancillary facilities (Figure 2). The MRF, ADF, and CMU comprise a total area of approximately 13.6 acres of which 3.6 acres consists of buildings and percolate storage tanks where activities would be indoors and 10 acres where activities occur outdoors. A metal three-sided maintenance building is located northeast of the MRF Operations Area. These primary facilities include the use of small quantities of hazardous materials including diesel fuel, propane, and sulfuric acid, and are supported by ancillary facilities including infrastructure such as wells, parking areas, biofilters, water tanks, storage tanks (containing hazardous and non-hazardous materials such as sulfuric acid and iron chloride), power lines and other utilities including communication lines, water lines, wastewater lines, treated water irrigation on the west slope, and gas lines.

The ADF is designed to convert organics recovered from the MSW, source separated organic waste (SSOW), and processed green waste (mulch) into:

- Bio-gas (primarily composed of methane and carbon dioxide) – used to power two (2) 1,573 horsepower combined heat and power (CHP) engines onsite, driving electric power generators that would generate approximately 1+ net megawatts (MW) of renewable power continuously.
- Digestate – cured into compost and/or soil amendments at the CMU. The CMU curing occurs outdoors on a paved, closed area of the Landfill top deck (approximately 6 acres) and includes equipment (e.g., windrow turner, densimetric table, etc.) to further process the compost to meet market requirements. The compost and/or soil amendments are marketed for agricultural or landscape use or used for reclamation projects.

These facilities operate on a separate schedule from the Landfill operations and maintenance activities. The operation of the MRF, which includes indoor handling and processing of waste, occurs 24 hours/day up to 311 days per year, 6 days per week. The MRF is staffed in three 8-hour shifts: with primary processing occurring during the early morning and late afternoon shifts and only maintenance and cleaning occurring during the third evening shift. Although operating 24 hours a day, the waste processing is conducted indoors using a series of specialized equipment. Transport of materials to the MRF may begin during the early morning hours and continues during Landfill operating hours. Recyclables are transported off of the site

with departures occurring during both daytime and nighttime hours. The ADF operates continuously and is staffed during daytime hours but is un-manned at night. Digestate from the ADF is transferred to the CMU by conveyor belt to be cured. At the end of the curing process to meet the regulatory standards for commercial and agricultural use, the compost and/or soil amendments is screened for inert contaminant removal with rotating trommel screens and a densimetric table (D-Table) to eliminate any higher density contaminants (i.e., glass, metal, plastic and stones). Composting operations occur during daytime shifts and trucks exporting material from the CMU site depart during daylight hours. With the exception of the CMU, ReSource Center operations are primarily conducted indoors and are conducted year-round. During the rainy season, when significant storm events are anticipated, the CMU windrows are covered with tarps and windrow turning does not occur. Finished compost screening at the trommel screens and D-Table pad also does not occur during rain events.

Mobile equipment required for the operation of the MRF and ADF facilities consists of delivery trucks and employee vehicles traveling on established roads and loaders and sweepers within and around the buildings. Loaders, a windrow turner, tub grinder, and sorting and screening equipment operate at the Composting Area.

At some time in the future as waste disposal technology and needs change, the ReSource Center facilities may be decommissioned. The exact timing of decommissioning is not known, but would potentially involve the dismantling, re-purposing, salvaging/recycling, or disposal of the above-ground buildings and facilities (e.g., percolate tanks, bio-filters, etc.). The concrete building pads would remain, and the asphalt paving would not be removed as the decks would continue to be used for landfill post-closure activities and possibly landfill equipment storage. Water tanks and wells would likely be retained for closure and post-closure landfill use. All work would be completed in compliance with storm water quality, air quality and other regulatory agency permit requirements in effect at the time of decommissioning.

2.3.3 Other ReSource Center Operational Needs

Over the term of the HCP, some of the ancillary ReSource Center facilities such as water storage tanks and portable trailers may be relocated to other locations within the overall permitted operational area and/or other facilities may be developed to support ReSource Center operations. These facilities would be located within existing disturbed areas of the Landfill property, within the permitted operational area.

There is a recent proposal to construct a renewable natural gas (RNG) project as a separate, but supportive project to the ReSource Center. Permits for this project are currently being pursued. If approved through the County, the proposed RNG project will upgrade surplus Landfill Gas (LFG) available after MRF power production, which would otherwise be flared or burned, into RNG to fuel ReSource Center trucks or distributed back into the Southern California Gas Company pipeline grid. Although conceptual, the proposed project would require four primary components:

1. RNG Upgrade System to recycle LFG collected by the existing LFG system to produce RNG that meets California Public Utilities Commission biomethane standards to allow injection into the regional natural gas pipeline and use as fuel for trucks.
2. Compressed Natural Gas (CNG) Fueling Station for ReSource Center heavy-duty trucks.
3. Grid Gas Monitoring and Meter Station Assembly (MSA) to monitor RNG quality and transfer to the SoCalGas regional natural gas pipeline.
4. Pipeline system to connect the ReSource Center facilities, the RNG facilities, and the SoCal regional natural gas pipeline.

The RNG Upgrade System and CNG Fueling Station would be located within a vacant but existing disturbed area on an approximately 2.2-acre previously graded pad. The Grid Gas Monitoring and Meter

Station Assembly (MSA) equipment would be located within the former LFG Energy Plant/Flare Facility site, an approximately 0.5-acre area (Figure 2). A two-inch or smaller diameter pipeline will connect the Upgrade System to the MSA. The pipeline alignment will progress southward from the Upgrade System, down an engineered fill slope from historic landfill deposits to the 209 Elevation pad near the location of the existing H_2S cleanup plant. The pipeline would then continue along the western shoulder of the main landfill road. At the northern limits of the current Fortistar facility access road, the pipeline would cross the main landfill road and proceed eastward through paved access ways to connect with the MSA equipment. Construction completion is anticipated to be via mechanical trench equipment to a depth of approximately three feet. The trench is anticipated to be less than six inches wide. The interconnect pipeline between the SoCal regional natural gas pipeline and the MSA is along the western shoulder of the landfill entrance. The trench would not exceed 18 inches wide and would be to a depth of approximately three feet. Once the proposed project goes through its approval process, it is anticipated it would take approximately 4 months to construct the components.

2.3.4 Proposed Increase to Landfill Capacity

The County is proposing to increase the landfill capacity by 3.7 million cubic yards. This would be accomplished by increasing the height of the disposal area over existing permitted area and by increasing the waste permitted footprint by approximately 10 acres, entirely within the existing 357 acre permitted operational area boundary. If approved and permitted, implementation of this activity would involve a site preparation phase, and an operational phase. Site preparation for the increase in capacity would involve excavation of approximately 566,000 cubic yards of soil from within the proposed 10-acre increased waste footprint as well as approximately 6.36 acres of slopes to the north and east for a total disturbance footprint of 16.36 acres. The disturbance footprint would include 14.52 acres of previously disturbed area (previously graded slopes that have been hydroseeded with a native CSS seed mix, a portion of the northern sedimentation basin, and a future stormwater treatment system area), and 1.84 acres of chaparral that is isolated within the landfill operational boundary, which were impacted by the Alisal fire. Site preparation would include the removal and reconstruction of the northern sedimentation basin and relocation of the proposed stormwater treatment system to the west of the existing northern sedimentation basin adjacent to the concrete-lined section of Pila Creek.

Excavated soils would be stockpiled within the currently permitted limits of the northern stockpile/borrow area. The soils would be placed in the stockpile during the first dry season of construction. Once the excavations are completed, a groundwater protection system liner and leachate collection system would be installed at the bottom and slopes to prepare the waste cell for waste filling. Additional dirt and paved roads would be constructed to provide access to this area during the site preparation activities and subsequent waste filling operations.

Work related to the site preparation would be limited to the dry season (May 1 to November 14) and would occur over the course of two consecutive dry seasons. The only proposed site preparation activity during the wet season would be pumping accumulated water after rain events from within the excavated waste disposal area until enough waste has been placed to allow the area to drain naturally. Pumping of accumulated water would be accomplished within 1-2 days of rain events using portable pumps. Relevant avoidance and minimization measures (such as pre-pumping surveys and screens on the pump intakes) employed in association with draining residual water from the northern and southern sedimentation basins would be implemented.

Operations and maintenance associated with waste filling, closure, revegetation, and post-closure monitoring within the increased waste footprint area would occur consistent with those activities described for the permitted waste disposal area. The proposed increase to Landfill capacity has not received the

required permits at this time; however, the proposed increase to Landfill capacity has been included as a Covered Activity within this HCP, should the required permits be obtained.

2.3.5 Landfill Closure, Post-closure Maintenance and Monitoring Activities

Landfill Closure, and post-closure maintenance and monitoring activities are described in detail in Appendix O of the JTD. In summary, when waste cells have reached their design capacity they are capped and closed. Closure involves the placement of an engineered final cover system (prescriptive or monolithic) over the waste; modifications to the Landfill's gas collection and control system; modifications to the drainage and erosion control systems; and the installation of the final cover re-vegetation (on sloped areas). The equipment used for closure includes scrapers, dozers, loaders, compactors, trucks, soil screening equipment, a motor grader, and water trucks. The Landfill closure phases are presented on **Figure 4**. Phases 1 and 2, have been completed; Phase 3 closure was completed in 2020. Phase 4 would be completed when the Landfill has reached full permitted capacity. If the proposed landfill capacity increase is approved, Phase 4 of the Closure Plan would include the "North Expansion" area indicated on Figure 4.

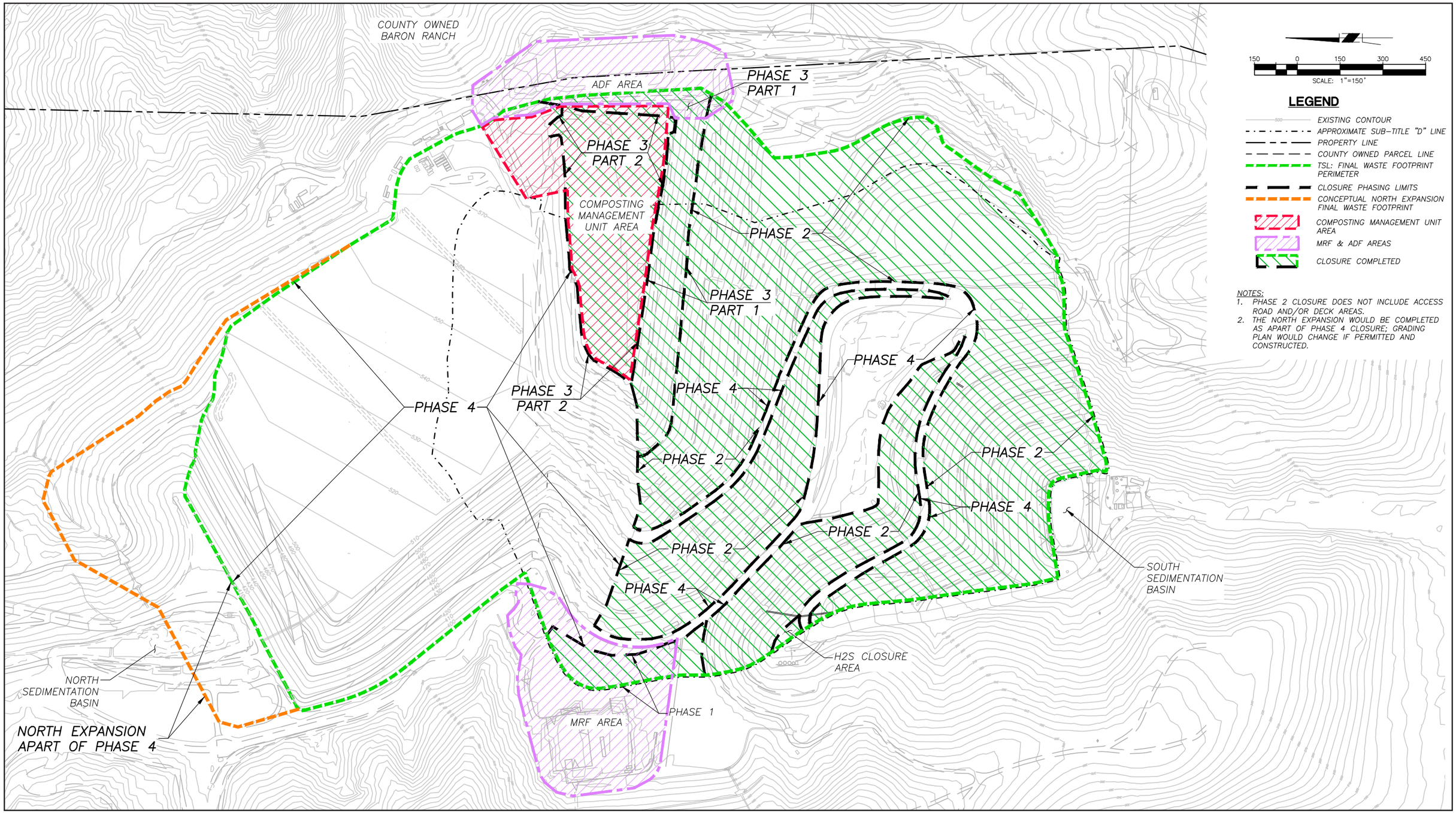
Closure construction is primarily completed during the dry season, but delays in schedule can result in closure activities extending into the wet season. Closed areas of the Landfill are generally maintained as needed during the dry season and could require the use of heavy equipment if the cover is damaged or eroded. Some repairs to damaged areas of the cover system may occur in the wet season to prevent water from entering the waste mass of closed areas if the performance of the cover system is compromised. If repair work is required after storm events, repairs are conducted after the rain has stopped; typically, after 24 hours. Landfill closure and post closure maintenance and monitoring includes continued LFG migration monitoring and LFG collection and control; ground water monitoring; groundwater and leachate collection monitoring and management; and ultimately, removal of Landfill structures and decommissioning of environmental control systems. Post-closure maintenance activities consist of:

- Landfill Gas Control/Migration Monitoring System Monitoring and Maintenance;
- Groundwater/Leachate Collection and Recovery Systems Monitoring and Maintenance;
- Groundwater Monitoring and Maintenance;
- Storm Water Monitoring;
- Final Cover Inspection and Maintenance;
- Settlement Monitoring and Maintenance;
- Vegetative Cover Inspection and Maintenance;
- Access Road Maintenance;
- Drainage Control System Inspection and Maintenance; and
- Site Security Inspection and Maintenance.

In general, maintenance activities are conducted prior to the rainy season (November 15 to April 30), however localized repairs may be required during the rainy season to correct damage to the Landfill cover, infrastructure or environmental control systems.

2.4 Schedule

The Covered Activities related to the Project are ongoing; all of the Covered Activities will continue for the duration of this HCP.



Map Source: SWT Civil & Environmental Engineering, December 2021.

Phased Closure Plan

3.0 ENVIRONMENTAL SETTING AND COVERED SPECIES

3.1 Environmental Setting

3.1.1 Climate

The Landfill occurs within the southern Santa Barbara County coastal area that has a Mediterranean-type climate with warm, dry summers and mild winters. Daily and seasonal temperature variations are relatively small, with average temperatures ranging from 45 to 65 degrees Fahrenheit (°F) during the winter months and from 55 to 75 °F during the summer months (City-Data 2019). Rain occurs primarily during the winter and early spring months, averaging 16 to 29 inches per year, depending on elevation. Average precipitation during the winter ranges from 3 to 5 inches per month. Average precipitation during the summer ranges from 0.1 to 0.5 inch per month (City-Data 2019). Based on rainfall data since 1973 from the Tajiguas precipitation station (TAJ262) maintained by the FCWCD, mean annual rainfall at the site is 17.75 inches (County 2002a). The south facing slopes and foothills within the Tajiguas Landfill are exposed to sunlight most of the day; however, moderate temperatures are sustained by marine fog and the prevailing onshore sea breezes. The prevailing wind speed is generally 5 miles per hour (mph), although wind speed and direction are primarily functions of the location and strength of frontal storm systems that periodically move through the area (County 2002a).

3.1.2 Topography/Geology

The Tajiguas Landfill is situated in a small coastal canyon on the south slope of the Santa Ynez Mountains which are oriented in an east-west direction, parallel to the coastline. Pila Creek is an ephemeral creek represented as a blue-line stream on the USGS Tajiguas quadrangle (USGS 1953) on the south slope of the Santa Ynez Mountains (ERA 2008a), runs north to south through the Landfill, and flows directly into the Pacific Ocean. Pila Creek drains a watershed of approximately 468 acres, approximately half of which lies upstream from the Landfill within the canyon.[9] Pila Creek supports surface-water flows and (in the past) saturated soils during certain times of the year, with rainfall providing the primary source of water, and groundwater seeps providing a supplemental source of water (during wet years).

Regionally, in the southern slopes of the Santa Ynez Mountains, runoff in response to precipitation events accounts for approximately 80 percent of total stream flow, while the remaining 20 percent comes from groundwater discharge (ERA 2008a). The unnamed drainages tributary to Pila Creek are ephemeral, have steep slopes, and convey surface-water flows only during, and for a short duration after, precipitation events.

3.1.3 Hydrology- Streams, Rivers, Drainages

Since construction and operation of the Landfill commenced in 1967, Pila Creek has been modified by Landfill operations and, to the south, by construction of the Union Pacific Railroad and U.S. 101. As discussed above, modifications to upper Pila Creek were authorized for the Tajiguas Landfill Reconfiguration Project under a Clean Water Act (CWA) section 404 Permit issued in 2009 (ACOE 2009) which included an associated Biological Opinion (USFWS 2009a and 2009b); and a Fish and Game Code (FGC) section 401 Water Quality Certification (RWQCB 2010) and a section 1602 Streambed Alteration Agreement. Updated permits under CWA 404, 401 and FGC section 1602[10] to address the maintenance activities within the ACOE and CDFW jurisdictional areas were issued in 2019 and 2020. Figure 3 presents the ACOE and CDFW jurisdictional areas that currently exist on the Landfill.

[9] The watershed is within the South Coast Hydrologic Unit 315 (Region 3 Basin Plan); Pila Creek is not listed in the Basin Plan, as it is located between Arroyo Hondo (Northwest) and Arroyo Quemado (Southeast) which are listed (RWQCB 2017).

A portion of Pila Creek is routed into a 48-inch diameter subsurface pipeline that passes west of the Landfill waste footprint; however, the hydrologic connection between upper and lower Pila Creek, and ultimately the Pacific Ocean, still exists. Lower Pila Creek continues to receive flows from upper Pila Creek, as well as most of the "watershed" of the Landfill. In addition, to meet Federal and State storm water quality regulations, the runoff from the Landfill is designed to flow into one of two sedimentation basins; the northern half of the Landfill flows into the North Sedimentation Basin, and the southern half flows into the South Sedimentation Basin (Figure 3). Through skimmer systems, water collected in both basins drains into Pila Creek. Although most of the sediment generated from the northern portion of the Landfill is collected in the North Sedimentation Basin, a concrete-lined section of Pila Creek is designed with a low gradient and also collects sediment (from the upper watershed and the sedimentation basin releases). Except for emergency conditions, maintenance of the concrete-lined portion of Pila Creek and the basins generally occurs once per year (over several days) during the dry season.

The Current ACOE NWP Verification (SPL-2019-00373-AJS) was issued while the 2015 Clean Water Rule was in effect. Although hydrologically connected to jurisdictional areas, under the issued final regulations of the 2015 Clean Water Rule (FR 2015),[11] the sedimentation basins were excluded from consideration as "waters of the U.S." by definition as storm water control features under section 328.3 (b)(6), and only Pila Creek remained within ACOE jurisdiction as a "waters of the U.S." However, the basins were subsequently included in the permit as part of the ACOE NWP Verification action area. The NWP was reverified on March 3, 2022.

The northern area of Pila creek (north of the Reconfiguration Project area) has not been modified and consists of natural creek channel. Riparian vegetation is present adjacent to the natural creek channel in this area and CDFW jurisdictional riparian area extends east and west of the creek. However, there is no riparian vegetation adjacent to the concrete lined channel.

3.1.4 Habitat Types and Wildlife at the Tajiguas Landfill[12]

The vegetation communities within the Landfill operational area boundary were evaluated and mapped as a component of the 2019 CWA 404 permitting process. The Landfill operational area boundary is primarily comprised of previously disturbed areas with little to no native vegetation, active waste filling, closed landfill disposal area, and a network of roads, drains, and existing facilities. Pila Creek has been channelized in the northern area of the Landfill operational area and occurs along the western margin of the Landfill waste footprint with native vegetation occurring along the western side of Pila Creek. Pila Creek is directed into a pipe in the northern area and then resurfaces just south of the South Sedimentation Basin and continues to the Pacific Ocean. Much of the original topography within the canyon has been altered to provide space and cover material for Landfill operations and fuel breaks have been cut along slopes and ridgelines.

The plant classifications for this section follow the most current version of the CDFW's *California Natural Communities List* (CDFW, November 2019). The *List* is based on *A Manual of California Vegetation, 2nd Edition,* which is the California expression of the National Vegetation Classification. For consistency with

[11] The U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers issued final regulations (FR 2015). Clean Water Rule: Definition of Waters of the United States. Final Rule. 80 FR Pages 37053 - 37127 (75 pages) [FR DOC #: 2015-13435] Effective August 28, 2015.

[12] The Tajiguas Landfill was impacted by the Alisal fire which started on Monday October 11th, 2021, in Refugio Canyon (near the Alisal Reservoir). Most of the watershed of Pila Creek, the main drainage through the Landfill canyon, was burned as well as vegetation on the slopes on and adjacent to the Landfill. In addition, the fire damaged some of the landfill gas infrastructure, drainage infrastructure, Landfill equipment, the ReSource Center Material Recovery Facility (MRF) biofilter, a sulfuric acid tank associated with the biofilter, and portions of the green waste deck.

the previous documents and Environmental Impact Report for the Tajiguas Landfill Expansion Project (County 2002) plant classifications from Holland 1986 are also included in the descriptions. In all, ten vegetation communities and land cover types occur within the Landfill operational area boundary: bare ground/roads/existing facilities, California bay seep woodland, *Ceanothus megacarpus* chaparral, Central Coast cottonwood-sycamore riparian forest, coast live oak woodland, perennial grassland, rock outcrop, annual grasslands/ruderal, southern coast live oak riparian forest, and California sagebrush scrub, (**Table 1; Figure 5**). The distribution of vegetation communities is influenced by parent soil type, slope, aspect, exposure, and land use history. The Landfill operational area boundary is comprised primarily of bare ground, roads, and existing facilities and annual grassland with the surrounding hillsides comprised of *Ceanothus megacarpus* chaparral and areas of restored coastal sage scrub.

Table 1
Vegetation Communities and Land Cover Types within the Landfill Operational Area Boundary

General Habitat Class	Plant Community or Other Land Cover[1]	Conservation Status Rank	Total
Woodland	**California bay forest (California bay seep woodland)**	G3S3	0.45
	Coast live oak-arroyo willow woodland (Southern coast live oak riparian forest)	G3S3	1.63
	California sycamore / Fremont cottonwood woodland association (Central Coast cottonwood-sycamore riparian forest)	G3S3	1.91
	Coast live oak woodland	G5S4	5.07
	Coast live oak woodland- restored	G5S4	4.15
Scrub/Chaparral	*Ceanothus megacarpus* chaparral	G4S4	49.58
	California sagebrush scrub (Venturan coastal sage scrub)	G4S4	73.01
Herbaceous	Annual grassland/native, non-native herbaceous	Not ranked	103.43
	Perennial grassland	G3S3	0.52
Other Land Cover Type	Bare ground/roads/existing facilities	n/a	109.35
	Plastic liner	n/a	1.20
	Concrete channel[1]	n/a	1.74
	Rock outcrop	n/a	2.15
		Total	**354.18[2]**

[1] Plant Communities in Bold Type are CDFW Natural Community of Special Concern (Sensitive Plant Community) or locally important communities. Numbers in brackets are unique codes for each plant community, as provided in *California Natural Communities List* (CDFW, November 9, 2019).

[2] The remaining acreage of the 357-acre operational area is attributed to roads/bare ground/existing facilities mapping.

Global Ranking

The global rank (G-rank) is a reflection of the overall status of a natural community throughout its global range. Both Global and State ranks represent a letter + number score that reflects a combination of Rarity, Threat and Trend factors, with weighting being heavier on Rarity than the other two. "?"- Denotes an inexact numeric rank due to insufficient samples over the full, expected range of the vegetation type, but existing information points to the rank given.

G1 - Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer occurrences), very steep declines, or other factors.

G2 - Imperiled—At high risk of extinction due to very restricted range, very few occurrences (often 20 or fewer), steep declines, or other factors.

G3 - Vulnerable—At moderate risk of extinction due to a restricted range, relatively few occurrences (often 80 or fewer), recent and widespread declines, or other factors.

G4 - Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5 - Secure—Common; widespread and abundant.

State Ranking

The state rank (S-rank) is assigned much the same way as the global rank, but state ranks refer to the imperilment status only within California's state boundaries.

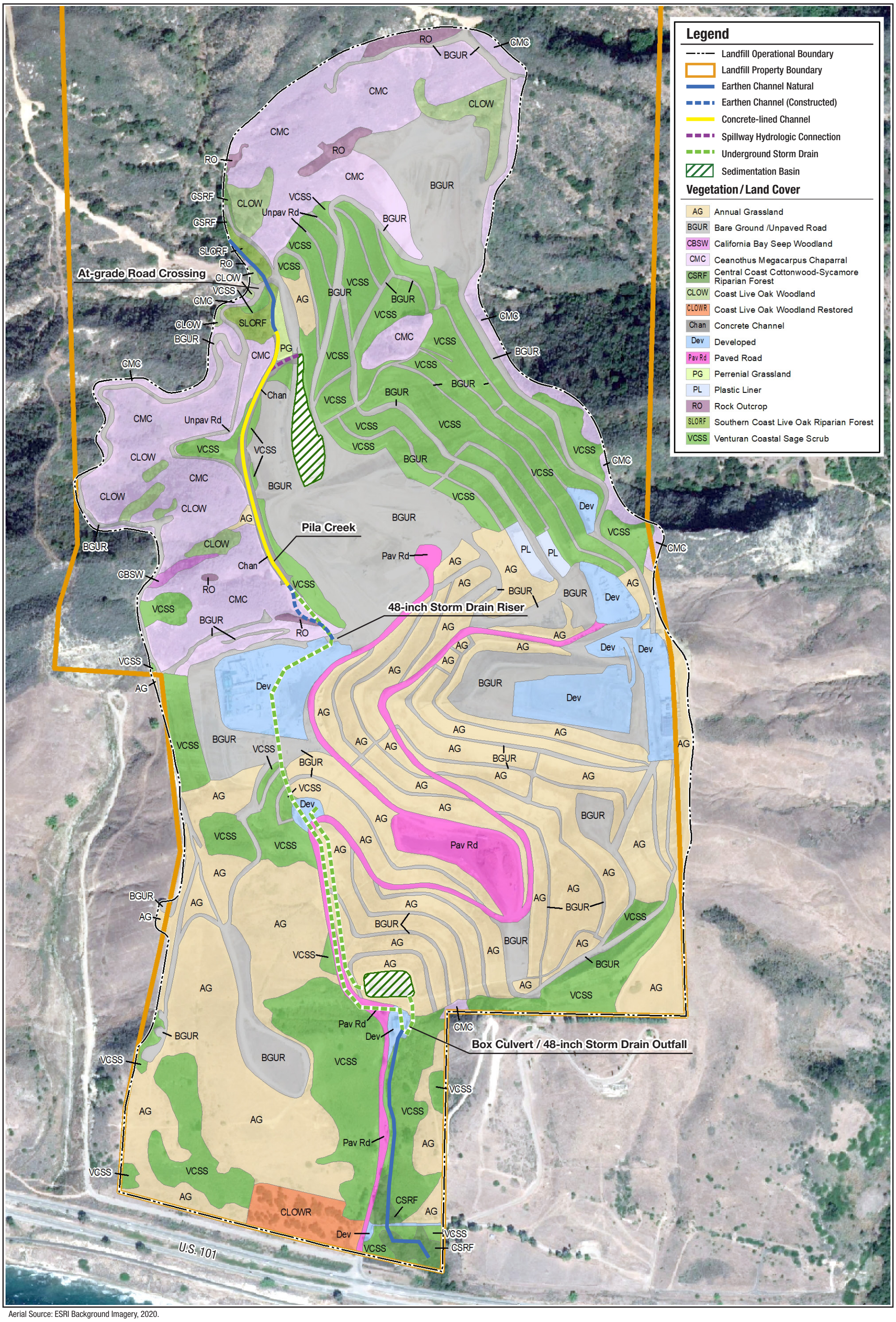
S1 - Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 - Imperiled—Imperiled in the state because of rarity due to very restricted range, very few occurrences (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

S3 - Vulnerable—Vulnerable in the state due to a restricted range, relatively few occurrences (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

S4 - Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.

S5 - Secure—Common, widespread, and abundant in the state.



Aerial Source: ESRI Background Imagery, 2020.

Operational Area Vegetation and Land Cover

FEET 0 250 500

FIGURE 5

California Bay Forest (California Bay Seep Woodland)

California bay forest is considered a sensitive vegetation community by various local, State, and Federal resource agencies (Holland 1986; County 1992, updated 2006). California bay forest is a vegetation community dominated by California bay (*Umbellularia californica*), a broadleaved tree that grows up to 90 feet tall, that often forms dense, wind-pruned stands of less than 30 feet tall on coastal slopes. Stands of this vegetation community are typically dense (probably from cloning after fires) and support little or no understory. Associates within this community vary according to canopy closure but may include overstory species such as coast live oaks (*Quercus agrifolia*) and cottonwood and understory species such as California blackberry (*Rubus ursinus*), and western poison oak (*Toxicodendron diversilobum*). California bay forest grows on canyon walls, shaded slopes, and in alluvial fans where there are moist soils, running water, and/or available groundwater from the Oregon border to central California (Holland 1986). Woodland communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites. California red-legged frogs and southwestern pond turtles may use this community for sheltering particularly if conditions in the understory remain wet during the dry months of the year.

Approximately 0.5 acre of California bay forest occurs within and adjacent to Pila Creek and the unnamed tributaries within the Landfill operational area boundary (Figure 5).

***Ceanothus Megacarpus* Chaparral**

Ceanothus megacarpus chaparral is considered locally sensitive is the most dominant vegetation community on the hillsides of Pila Canyon surrounding the Tajiguas Landfill. This dense chaparral community is composed of evergreen, sclerophyllous shrubs dominated by big-pod ceanothus (*Ceanothus megacarpus*). Other associated species include green-bark ceanothus (*Ceanothus spinosus*), toyon (*Heteromeles arbutifolia*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), sugar bush (*Rhus ovata*), mountain mahogany (*Cercocarpus betuloides*), chamise (*Adenostoma fasciculatum*), western poison oak, bush monkeyflower (*Diplacus aurantiacus*), holly-leaved cherry (*Prunus ilicifolia*), California buckwheat (*Eriogonum fasciculatum*), clematis (*Clematis ligusticifolia*), and wild cucumber (*Marah macrocarpus*). Rock rose (*Helianthemum scoparium*), deerweed (*Acmispon scoparius*), and green everlasting (*Gnaphalium californicum*) are characteristic in openings, particularly on less steep terrain, and small patches of giant wild rye (*Elymus condensatus*) are scattered throughout this community. Bands or clusters of coast live oaks are scattered on the south-facing slopes in the area, possibly along fractures where roots access perched water. At higher elevations, chamise and Eastwood manzanita (*Arctostaphylos glandulosa*) become more frequent. This dense chaparral community supports a variety of wildlife species including common species such as western fence lizard (*Sceloporus occidentalis*), desert cottontail (*Sylvilagus bachmani*), Virginia opossum (*Didelphis virginiana*), coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), various species of mice (*Peromyscus* spp.), and a variety of birds such as house finch (*Carpodacus mexicanus*), Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*); some of which are residents. The dense overstory provides cover and shade. The California red-legged frog and southwestern pond turtle would only be expected in this community as transient visitors in association with wet weather when making overland migrations as this community occurs on steep hillsides where conditions are typically dry.

Approximately 49.5 acres of *Ceanothus megacarpus* chaparral occur within the Landfill operational area boundary (Figure 5), primarily on the upper areas of Pila Creek Canyon.

California Sycamore/Fremont Cottonwood (Central Coast Cottonwood-Sycamore Riparian Forest)

Central coast cottonwood-sycamore riparian forest is considered a sensitive vegetation community by various local, State, and Federal resource agencies (Holland 1986; County 1992, updated 2006). Central

coast cottonwood-sycamore riparian forest is a moderately closed broad-leafed riparian forest dominated by western sycamore (*Platanus racemosa*) and Fremont cottonwood (*Populus fremonttii*), with lesser amounts of coast live oak. The understory of this community is typically dominated by a dense thicket of shrubby willows, mule fat (*Baccharis salicifolia*), and California blackberry. This community typically occurs in floodplains of sub-perennial streams, usually with fairly coarse bedload and seasonally variable depths to the water table. Central coast cottonwood-sycamore riparian forest occurs in canyons and creeks throughout the South Coast Ranges (Holland 1986). Riparian and forest communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites. California red-legged frogs and southwestern pond turtles could use the understory in this community for sheltering as there are typically shaded areas with adequate ground cover and fallen leaves. However, on the Landfill there is no permanent water associated with this community.

Approximately 2 acres of central coast cottonwood-sycamore riparian forest occurs along Pila Creek within the northern portion of the Landfill operational area boundary and at the southern end of Pila Creek (Figure 5). Within the Landfill operational boundary this vegetation community is dominated by western sycamore with a minor component of Fremont cottonwood, white alder (*Alnus rhombifolia*), coast live oak, willows, and California bay. Representative understory plant species include California blackberry, western poison oak, tocalote (*Centaurea melitensis*), veldt grass (*Ehrharta calycina*), and white sweet-clover (*Melilotus alba*). This community typically occurs in portions of the creek channel that appear to be regularly scoured during heavy precipitation events, as is evident from the cut bank, as well as rocks and cobbles within the creek channel. This vegetation community extends beyond the creek channel into adjacent upland areas associated with the creek.

Coast Live Oak Woodland

Coast live oak woodland is considered a sensitive vegetation community and individual oaks are protected by the County (County 2018a). Coast live oak woodland is an evergreen woodland vegetation community dominated by coast live oak. The understory shrub layer in this community is poorly developed, but may include toyon, currant (*Ribes* spp.), laurel sumac, and blue elderberry (*Sambucus nigra* ssp. *caerulea*). The herb component in this community is continuous and typically dominated by rip-gut brome (*Bromus diandrus*) and several other introduced annual grasses. Coast live oak woodland typically occurs on north-facing slopes and shaded ravines in the southern portion of the South Coast Ranges and more exposed sites in the northern portion of the outer South Coast Ranges, and coastal slopes of the Transverse and Peninsular ranges, usually below 4,000 feet (Holland 1986). Oak woodland communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites. California red-legged frogs and southwestern pond turtles could use the understory in this community for sheltering as there are typically shaded areas with adequate ground cover and fallen leaves. However, on the Landfill there is no permanent water associated with this community. An additional area in the southern portion of the Landfill property was classified as coast live oak woodland -restored. This area covers approximately 4 acres; mature coast live oaks are present with an annual grassland understory in an upland setting.

Approximately 5 acres of coast live oak woodland occur within the Landfill operational area boundary along the western side of Pila Creek and in the northern portion of the boundary (Figure 5).

Perennial Grassland

Perennial grassland is considered a sensitive vegetation community by the County (County 2018a). Perennial grassland is a vegetation community characterized by a dense to sparse cover of native annual or perennial grasses comprising 10 percent or more of the total relative cover (County 2018a) and reaching

approximately 3 feet in height. In addition, this community often contains a variety of non-native grasses. Perennial plants generally bloom later in the spring than annuals and continue to bloom throughout the fall. Typically, this plant community is found in valleys and foothills in association with meadows and streams throughout most of California. A variety of wildlife species may occur within this community including common species such as western fence lizard, desert cottontail, Virginia opossum, coyote, mule deer, various species of mice, and a variety of birds such as house finch, Bewick's wren, and sparrows. This community does not provide a significant understory suitable for California red-legged frogs or southwestern pond turtles to use as shelter and there is no permanent water nearby. California red-legged frogs and southwestern pond turtles would only be expected as transient visitors in this community.

Approximately 0.5 acre of perennial grassland occurs in one solid stand adjacent to Pila Creek within the Landfill operational area boundary (Figure 5). This perennial grassland consists almost entirely of giant wild rye with a few associated species of annual grasses, such as wild oats and rat-tail fescue. This area may have been hydroseeded as a revegetation project, as it occurs next to a graded road and is composed of giant wild rye in a solid stand. Smaller patches of giant wild rye are also scattered throughout the *Ceanothus megacarpus* chaparral community and the coast live oak woodland; however, the 0.5-acre patch of perennial grassland is isolated and not a part of a significant native grassland or an integral component of a larger ecosystem.

Coast Live Oak-Arroyo Willow (Southern Coast Live Oak Riparian Forest)

Coast live oak-arroyo willow woodland is synonymous with Southern coast live oak riparian forest under the newer classification system. is considered a sensitive vegetation community by various local, State, and Federal resource agencies (Holland 1986; County 2018a; CDFG 2010). Southern coast live oak riparian forest is a locally dense evergreen vegetation community dominated by coast live oak. This community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. Southern coast live oak riparian forest occurs in bottomlands and outer floodplains along larger streams with fine-grained, rich alluvium within canyons and valleys of coastal southern California, mostly south of Point Conception (Holland 1986). Riparian and forest communities generally support a diverse wildlife population, and typically offer abundant resources to wildlife including food sources, shade in summer, shelter in winter, perching, roosting, nesting, and food storage sites. California red-legged frogs and southwestern pond turtles could use the understory in this community for sheltering as there are typically shaded areas with adequate ground cover and fallen leaves. However, on the Landfill there is no permanent water associated with this community.

This vegetation community occurs in moist areas within the Pila Creek riparian corridor in scattered patches. This community is dominated by an overstory of coast live oak, with scattered individuals of arroyo willows (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), blue elderberry, California bay, and western sycamore. Common understory plant species include California blackberry, western poison oak, coyote brush (*Baccharis pilularis*), creeping snowberry (*Symphoricarpos mollis*), giant wild rye, and hedge nettle (*Stachys bullata*). Other representative species within moist areas that received a more consistent supply of surface- or subsurface-water flows during the year include mugwort (*Artemisia douglasiana*), nutsedge (*Cyperus* sp.), and broad-leaved cattails (*Typha latifolia*). Drier and more disturbed areas that receive intermittent and brief surface-water flows during the year are vegetated by species such as tocalote, veldt grass, white sweet-clover, and other non-native species.

Approximately 1.6 acres of this community occur north and south of the at-grade road crossing in the northern portion of Pila Creek (Figure 5) within the Landfill operational area boundary.

California Sagebrush Scrub (Venturan Coastal Sage Scrub)

California sagebrush scrub is synonymous with Venturan coastal sage scrub and is considered locally sensitive. Venturan coastal sage scrub is a vegetation community composed of low, mostly soft-woody shrubs, typically with crowns usually touching and a bare understory. Growth within this community occurs in late winter and spring following the onset of winter rains and flowering typically occurs in spring; some species in this community continue flowering into summer. Plant species within this community remain dormant in summer and fall. Venturan coastal sage scrub occurs on dry, more or less rocky slopes, from the South Coast Ranges to cismontane southern California and northern Baja California, usually below 3,000 feet. This vegetation community is most abundant in the coastal region south of Point Conception, but it also extends inland to the vicinity of Cajon and San Gorgonio passes in San Bernardino and Riverside counties. A variety of wildlife species may occur within this community including common species such as western fence lizard, desert cottontail, Virginia opossum, coyote, mule deer, various species of mice, and a variety of birds such as house finch, Bewick's wren, and California thrasher. California red-legged frogs and southwestern pond turtles would only be expected in this community as transient visitors in association with wet weather when making overland migrations as this community occurs on steep hillsides where conditions are typically dry.

Approximately 73 acres of this community occur within the Landfill operational area boundary (Figure 5).

Bare Ground/Roads/Existing Facilities

Approximately 116 acres of bare ground, roads, and existing facilities occur throughout the Landfill operational area boundary; the concrete channel and access road are included in this acreage total (Figure 5). Due to operation of the Tajiguas Landfill, roads and heavily disturbed areas occur throughout the Landfill property. These areas are generally devoid of vegetation, except where scattered weedy, non-native plant species are present, such as tocalote, white sweet-clover, red stem filaree (*Erodium cicutarium*), and non-native grasses. These areas do not typically support wildlife, but some common wildlife species may be encountered within developed disturbed areas including western fence lizard, Virginia opossum, mice, and a variety of birds such as house finch, house sparrow (*Passer domesticus*), and American crow (*Corvus brachyrhynchos*). California red-legged frogs and southwestern pond turtles would only be found in these areas as transient visitors after wet weather as these areas are very exposed with very little opportunity for sheltering and little to no vegetative coverage.

Rock Outcrop

Rock outcrops comprise approximately 2.15 acres within the Landfill operational area boundary (Figure 5) This feature occurs adjacent to Pila Creek and the vegetated swale and also occurs in the northern portion of the boundary. Common species associated with these outcrops include spike-moss (*Selaginella bigelovii*), birds-foot fern (*Pellaea mucronata*), yarrow (*Achillea millefolium*), tocalote, and non-native grasses and forbs.

Annual Grassland/Native, Non-native Herbaceous

Annual Grassland/Native and Non-native Herbaceous areas are generally defined as consisting primarily of non-native annual grasses such as rip-gut brome and wild oats (*Avena* spp.) and a combination of native and non-native herbaceous species. This habitat is primarily previously disturbed land on which the native vegetation has been significantly altered by construction, or other land-clearing activities, resulting in species composition and site conditions that favor annuals and invasive or ruderal species. Typically, a low number of native forbs, and occasionally native grasses, contribute to this community. These herbaceous areas occur in areas such as roadsides, dirt access roads, vacant lots, construction staging areas, abandoned fields, and areas of recent disturbance. The first colonizers in these disturbed areas are typically invasive

species, such as Russian thistle (*Salsola tragus*), fennel (*Foeniculum vulgare*), horseweed (*Conyza* spp.), black mustard (*Brassica nigra*), lamb's quarters (*Chenopodium album*), fountain grass (*Pennisetum setaceum*), and/or castor bean (*Ricinus communis*). Landfill areas that are undergoing restoration and have recently been hydroseeded have been included in this vegetation type as these areas currently consist primarily of herbaceous and annual grasslands. A variety of wildlife species may occur within this community including common species such as western fence lizard, desert cottontail, Virginia opossum, coyote, mule deer, various species of mice, and a variety of birds such as house finch, Bewick's wren, and sparrows. This community does not provide a significant understory suitable for California red-legged frogs to use as shelter; however, if establishment of Venturan coastal sage scrub is successful cover would be improved. California red-legged frogs would only be expected as transient visitors after wet weather in this community because of the low amount of available cover.

Approximately 103.5 acres of annual grassland/native and non-native herbaceous vegetation occurs throughout the Landfill operational area boundary (Figure 5). These areas occur in places such as closed sections of the Landfill, which may have been subject to hydroseeding to prevent erosion and restore native vegetation; roadsides and dirt access roads, which may be maintained by periodic mowing; and slopes within the property that are the result of cut and fill activities. Typical species within this land-cover type include tocalote, milk thistle (*Silybum marianum*), cocklebur (*Xanthium strumarium*), black mustard, rye grass (*Festuca perennis*), veldt grass, red stem filaree, wild oat (*Avena fatua*), rat-tailed fescue (*Vulpia myuros*), and white sweet-clover.

3.1.5 Existing and Surrounding Land Uses

The Los Padres National Forest is adjacent to the northern border of the Landfill, and U.S. Highway 101 and the Pacific Ocean are located south of the Landfill. Properties east and west of the Landfill are used primarily for agriculture (i.e., avocado and citrus orchards) or grazing land. Most of the terraces along this section of the coast have been used as cattle grazing range for many decades (ERA 2008a). The 1,083-acre Baron Ranch is located immediately east of the Landfill and approximately 50 acres of the ranch, primarily adjacent to the southern section of Arroyo Quemado, have been restored with native vegetation to compensate for impacts associated with the Landfill Reconfiguration Project and partially for the Landfill Expansion Project. A small cluster of homes (the Arroyo Quemada Community) is located along the bluff south of the Southern Pacific railroad tracks, southeast of the Plan Area. Cañada de la Huerta, the site of the former Shell Hercules Project, which has undergone PCB remediation and restoration, occurs immediately west of the Landfill property.

3.2 Covered Species

The California red-legged frog is the only listed species expected to occur within the Plan Area. An additional species, the southwestern pond turtle is also present within the Plan Area and is currently under review for Federal listing after a petition to list this species was filed in 2012 (Center for Biological Diversity 2012). The southwestern pond turtle is also a state species of special concern. The California red-legged frog is a federally listed threatened species (USFWS 1996) and is a state species of special concern (CDFW 2019).

3.2.1 California Red-legged Frog

Status and Distribution

The California red-legged frog was federally listed as threatened May 23, 1996 (61 Federal Register [FR] 25813). A final Recovery Plan for the California red-legged frog was published in May 2002 and critical habitat was designated on April 13, 2006 (71 FR 19243) and revised March 17, 2010 (75 FR 12816). The critical habitat designation does not include the Tajiguas Landfill but does include the Baron Ranch. The

CDFW considers the California red-legged frog a species of special concern. The following species account incorporates information from these sources and additional papers to describe the quality of the habitat and potential use of the Plan Area by the California red-legged frog.

This frog ranges from Mendocino County into Baja California at elevations between sea level and 5,000 feet (Fellers 2005). This species can be found in both permanent and ephemeral streams, but populations are unlikely to remain in ephemeral streams (Jennings and Hayes 1994; USFWS 1996). California red-legged frogs are found in a range of habitat types primarily within aquatic and riparian habitats and prefer deep-water pools with overhanging vegetation, including willows, cattails, and bulrushes, at the margins of the pools. They require specific parameters for breeding sites and also rely on adequate uplands and riparian areas for foraging and dispersal. This species resides in dynamic systems that fluctuate radically, altering the suitability of habitats as water flows change throughout the year. The Recovery Plan for the California red-legged frog (USFWS 2002) cites Scott and Rathbun emphasizing that overall, populations are more likely to persist where multiple breeding areas are embedded within a matrix of habitats used for dispersal.

Critical Habitat Unit STB-6 *Arroyo Quemado to Refugio Creek* for the California red-legged frog is present to the east of the Landfill and includes the Baron Ranch property owned by the RRWMD. Unit STB-6 extends to the ridgeline of the Arroyo Quemado watershed which borders the eastern edge of the Landfill and covers the adjacent property at the Baron Ranch but does not overlap the Landfill property boundary (75 FR 12816; USFWS 2010). The Primary Constituent Elements for the California red-legged frog summarized below include, but are not limited to (USFWS 2010):

1. Aquatic breeding habitat – Standing bodies of fresh water (with salinities less than 7 parts per thousand) including natural and manmade ponds, slow-moving streams or pools within streams, and other ephemeral or permanent water bodies that typically become inundated during winter rains and hold water for a minimum of 20 weeks in all but the driest years.
2. Non-breeding aquatic and riparian habitat – Freshwater and wetted riparian habitats, as described above that may not hold water long enough for the species to hatch and complete its aquatic life cycle but that do provide shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult California red-legged frog.
3. Upland habitat – Upland areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to distance of 1-mile in most cases comprised of various vegetational series such as grasslands, woodlands, wetland, or riparian plant species that provide the frog shelter, forage, and predator avoidance. The upland habitat must also provide the hydrologic, topographic, ecological and edaphic features that support the wetland or riparian features.
4. Dispersal habitat – Accessible upland or riparian habitat within designated units and between occupied locations within a minimum of 1-mile of each other that allows movement between such sites. Dispersal habitats include natural and altered habitats, such as agricultural fields, which do not present barriers to dispersal.

Species Taxonomy and Description

The California red-legged frog is a relatively large frog with a body size from the snout to the vent ranging from 1.75 to 5.25 inches (4.4 to 13.3 centimeters) long (Stebbins 2003). There are a pair of distinct dorsolateral folds that extends from behind the eyes to the lower back. This frog is typically a grey, olive or reddish color on the back with dark blotches and small black flecks. The underside of the hind legs and lower abdomen exhibit the namesake red coloration, but this feature is not always present particularly in younger individuals which can sometimes exhibit yellow coloration in these areas.

Natural History

All life history stages of the California red-legged frog are most likely to be encountered in and around breeding sites, which are known to include coastal lagoons; marshes; springs; permanent and semi-permanent natural ponds; and ponded and backwater portions of streams and artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds (Stebbins 2003). In the summer, California red-legged frogs are often found close to a pond or a deep pool in a creek where emergent vegetation, undercut banks or semi-submerged root masses afford shelter from predators. California red-legged frogs may also take shelter in small mammal burrows and other refugia on the banks up to 100 meters from the water any time of the year and can be encountered in smaller, even ephemeral bodies of water in a variety of upland settings (Jennings and Hayes 1994; USFWS 2002). Bulger et al. (2003) and Tatarian (2004) both found that California red-legged frogs tend to be resident in their aquatic habitats while still utilizing adjacent upland habitats. The Bulger et al. (2003) study, conducted in a mesic environment in Santa Cruz County, found that 75 percent of adult California red-legged frogs were resident in their aquatic habitat and approximately 90 percent remained within 197 feet of their aquatic habitat. The Tatarian (2004) study was conducted in a more inland xeric environment and found that upland use by California red-legged frogs averaged only 91 feet from water. Additionally, Halstead and Kleeman 2017 again confirmed this affinity for water in their study and found an additional affinity for using logs as refugia.

California red-legged frogs typically migrate or disperse during periods of wet weather, starting with the first rains of fall (Fellers and Kleeman 2007; Bulger et al. 2003; USFWS 2002, Tatarian 2004). However, California red-legged frogs may also disperse in response to receding water, which often occurs during the driest, hottest times of the year (USFWS 2002). Fellers and Kleeman (2007), in their study in Marin County, found that "frogs departed from breeding ponds at varying times throughout the rainy season, with some frogs remaining at permanent ponds all year. Some frogs made large-scale movements during the dry season (May through October), as seasonal breeding sites dried."

California red-legged frogs typically breed between November and April, with earlier breeding records occurring in southern localities. Egg masses are usually found in ponds or in backwater pools in creeks attached to emergent vegetation such as cattails and bulrush. California red-legged frogs are prolific breeders and can often lay 300 to 5,000 or more eggs during or shortly after large rainfall events in late winter and early spring (USFWS 2002, Stebbins 2003). Embryos hatch 6 to 14 days after fertilization and larvae require anywhere between 11 to 20 weeks to attain metamorphosis (71 FR 19244); in some instances, larvae overwinter and metamorph the following spring (USFWS 2002).

Creeks and ponds where California red-legged frogs are found most often have dense growths of woody riparian vegetation, especially willows (Hayes and Jennings 1988). "California red-legged frogs also frequently breed in artificial impoundments such as stock ponds. It is assumed, however, that these ponds must have proper management of hydroperiod, pond structure, vegetative cover, and control of non-native predators although some stock ponds support California red-legged frogs despite a lack of these characteristics" (USFWS 2002). Current threats include habitat destruction and alteration and predation by introduced species including the non-native American bullfrog (*Lithobates catesbeianus*) and exotic fishes (Jennings and Hayes 1994).

Habitat and Occurrences Associated with the Plan Area

California red-legged frogs were historically observed on the Tajiguas Landfill property utilizing two man-made in-channel sedimentation basins that were formerly present in the Pila Creek channel, a groundwater seep area in the creek, and the out-of-channel sedimentation basin to the east of Pila Creek. The formerly present, in-channel basins provided the only breeding habitat and were managed according to the 2003 USFWS Biological Opinion for the California Red-legged Frog Management Plan and Sedimentation Basin

Work Plan (USFWS 2003). No other areas of Pila Creek were identified as providing suitable breeding habitat (ERA 2008a) due to the ephemeral nature of creek flows and the lack of suitable pools.

As a part of the sedimentation basin maintenance biological opinion (USFWS 2003) and since 2009, as part of the Reconfiguration Project (ERA 2008b)[13] monitoring has been conducted for California red-legged frogs within the Pila Creek drainage. The 2009 Biological Opinion (as modified) authorizes the collection and translocation of California red-legged frogs observed within the Reconfiguration Project area to Arroyo Quemado, on the Baron Ranch (USFWS 2009b) where restoration activities continue to be implemented to enhance and expand the California red-legged frog habitat. At the commencement of the project in 2009, 18 adult and approximately 1,114 larval, and 1,689 metamorph California red-legged frogs were captured and translocated to USFWS-approved pools in Arroyo Quemado[14]. Observations and translocation in the following years are discussed below.

Construction of the Reconfiguration Project resulted in the removal of the existing sources of standing water on the Landfill that could have functioned as potential aquatic breeding habitat for the California red-legged frog. The two in-channel sedimentation basins that provided suitable breeding habitat were removed from Pila Creek to allow for the reconfiguration of the waste footprint and retention/enhancement of the out-of-channel sedimentation basin (now the North Sedimentation Basin). The groundwater seep was removed, and the natural Pila Creek channel alignment was modified and reconstructed as a concrete-lined channel as part of the permitted Reconfiguration Project. In addition, the North Sedimentation Basin was reconstructed with a concrete bottom and sides to aid in maintenance activities and a skimmer system was installed that limits the amount of time water is retained in the basin and drains the basin without pumping. Prior to the Reconfiguration Project, the in-channel basins and the North Sedimentation Basin ponded water (often through a complete breeding period) until the basins were physically pumped.

Although the Reconfiguration Project removed the semi-permanent water in the in-channel sedimentation basins that provided suitable breeding habitat in 2009, California red-legged frog adults and juveniles have subsequently been observed during pre-construction/rainy season surveys at the Landfill; although not every year (County 2010, 2011, 2012, 2013, 2014, 2015, 2016, and Padre 2017, 2018, 2019). Night-time surveys are conducted following 0.1 inches of rainfall, and any California red-legged frogs detected are captured and relocated to reduce potential impacts to the California red-legged frog in compliance with the Reconfiguration Project Biological Opinion. Surveys concentrate on the Reconfiguration Project area and the South Sedimentation Basin area (as per the modified Biological Opinion). Incidental observations are also made along the Landfill roads and other upland areas of the Landfill in route to the Reconfiguration Project area, and as a part of biological surveys for other Landfill construction projects. To date, two observations of this species have been recorded in the upland areas of the Tajiguas Landfill, [15] although numerous surveys have been conducted regularly following wet weather. **Table 2** summarizes the California red-legged frog observations at the Landfill following the original translocation effort in 2009. A total of 527 surveys have been conducted over the last 9 years resulting in 64 California red-legged frogs being relocated from the Landfill. Not all of these surveys were conducted at night. The first three years (2009-10, 2010-11, and 2011-12) included daytime surveys of any areas with standing water on the Landfill.

[13] Mitigation for effects to the California red-legged frog developed in the California Red-legged Frog Management Plan (ERA 2008c) and Biological Opinion issued for the Tajiguas Landfill Reconfiguration Project (USFWS 2009a and b).

[14] Figure from 2010 Baron Ranch California Red-legged Frog Monitoring Report.

[15] In January 2019 an adult California red-legged frog was observed during the day (by a contractor who underwent the California red-legged frog training) on the temporary operations deck under a wooden pallet. On October 2, 2019, a single female adult California red-legged frog was observed (by Landfill staff who attended the California red-legged frog training) during the day in a vault/pit located beneath scale adjacent to the scale house. USFWS was contacted/consulted regarding both of these observations.

Although, surveys were carried out throughout the entire year, California red-legged frogs were only observed on the Landfill during the rainy season, Table 2. California red-legged frogs have been observed in the study area following rain events and specifically in the concrete-lined section of upper Pila Creek and in the sedimentation basins proposed for maintenance; however, these observations have been following rain events or when water was being stored for construction.

The numbers in the columns of Table 2 reflect captured and observed California red-legged frogs for the entire season. As an example of a typical year a more detailed description of the 2017-2018 year is as follows. During the 28 focused-California red-legged frog night surveys conducted from September 11th, 2017 to June 28th, 2018, three California red-legged frogs were captured within the Tajiguas Landfill Reconfiguration Project Area including an adult male in the North Sedimentation Basin on March 29, 2018, an adult female in the North Sedimentation Basin on April 5, 2018 and a juvenile in the South Sedimentation Basin area on June 7, 2018. On April 11, 2018, one additional juvenile was observed in a small, wetted area in the South Sedimentation Basin, but a capture attempt was not performed due to access issues and safety concerns. After the initial observation of this juvenile, it was not observed during 15 subsequent California red-legged frog night surveys conducted between April 13, 2018 and June 28, 2018. California red-legged frogs were observed and captured in both of the basins during the 2018/19 rainy season. Additionally, during the 2018/19 season an adult male was observed on the operations deck during work activities in January.

Table 2
California Red-Legged Frog Observations/during Rainy Season Surveys

	Number of Focused Surveys Conducted	Number of California Red-legged Frog Observations[1]		Total Observations Each Year	Location of Observations
Rainy Season Year		Juvenile	Adult		
2009-10	241[2]	1	14	15	Pila Creek Channel near 48-inch drain, North Sedimentation Basin (11 Captured)
2010-11	105[2]	0	4	4	North Sedimentation Basin (3 Captured)
2011-12	88[2]	16	0	16	Pila Creek northern seepage area (prior to concrete channelization)
2012-13	10	0	0	0	None
2013-14	5	0	0	0	None
2014-15	22	1	1	2	Pila Creek Concrete Channel
2015-16	13	0	0	0	None (unconfirmed tracks observed in Pila Creek Concrete Channel)
2016-17	25	4	19	23	South Sedimentation Basin and South Sedimentation Basin Box Culvert, Upper Pila Creek near start of concrete channel
2017-18	28	2	2	4	North Sedimentation Basin, South Sedimentation Basin, and South Sedimentation Basin Box Culvert

	Number of Focused Surveys Conducted	Number of California Red-legged Frog Observations[1]		Total Observations Each Year	Location of Observations
2018-19	23	0	23	23	North Sedimentation Basin, South Sedimentation Basin, and South Sedimentation Basin Box Culvert, operations deck
2019-20	23	2	5	7	Scale house vault, South Sedimentation Basin and South Sedimentation Basin Box Culvert.
Total	**550**	**26**	**68**	**94**	

[1] Observations include frogs that were previously translocated based on pit-tag data and comparison of hind leg markings.
[2] Construction monitoring conducted each morning when working in CRLF habitat or when surface water present in project areas; additional night surveys conducted when evidence of CRLF noted. Daily surveys ceased after the in-channel sedimentation basins were removed and the North Sedimentation was completed, and the skimmers were operational.

3.2.2 Southwestern Pond Turtle

Status and Distribution

The southwestern pond turtle is a state species of special concern. Although a petition to list this species was filed in 2012, this species currently, has no Federal status. This species ranges from British Columbia, south to Baja California near the coast (Stebbins 2003, Jennings and Hayes 1994, California Herps 2008), however the subspecies is found primarily in southern California from approximately Monterey south to Baja California. The southwestern pond turtle is found in a variety of aquatic habitats including, ponds, marshes, small lakes, irrigation ditches, and streams with sandy or muddy bottoms.

Species Taxonomy and Description

The southwestern pond turtle is a member of the water and box turtle family, Emydidae. Southwestern pond turtles are typically 3.5 inches to 8.5 inches long with a generally dark brown to olive carapace that usually has a network of dark spots, lines, or dashes of brown or black that radiate from the centers of the shields. The plastron has six pairs of shields, and the limbs have prominent scales. The northern subspecies (*A. marmorata*) differs from the southern subspecies in that the northern has a pair of triangular inguinal plates while these are very small or lacking in the southern subspecies.

Natural History

Southwestern pond turtles are aquatic and need to feed in water in order to swallow their food. Their diet consists of aquatic plants, insects, spiders, earthworms, mollusks, crayfish, fish, and amphibians. They require periods of basking to dry out their scales and skin and will bask in the sun on logs, mud banks, or rocks near water (California Herps 2019; Stebbins 2003). Hibernation occurs during the winter months when turtles may congregate and remain underwater on the bottom of ponds or pools, while breeding occurs in spring and early summer (Jennings and Hayes 1994). Turtles may estivate to survive droughts in the summer months if ponds dry by burying themselves in the soft bottom mud. Adults do not mate until they are 8 to 10 years old. Eggs are laid on land between April to August in a nest that the female digs underground. Hatchlings emerge and survive underground until the next spring when they surface and head towards water. Areas around water sources that are protected from disturbance are therefore important for the species to successfully reproduce. Threats to the southwestern pond turtle include exploitation of turtles as a source of food, loss of habitat, particularly upland nesting habitat, and introduced predators (bullfrogs, non-native fish) (Jennings and Hayes 1994).

Habitat and Occurrences Associated with the Plan Area

The southwestern pond turtle was not observed during any of the surveys conducted during several years of pre-maintenance surveys, introduced fish removal efforts, and California red-legged frog surveys of two earthen in-channel sedimentation basins prior to their removal in 2009. However, during construction activities in 2009 associated with the Reconfiguration Project (County 2009) one adult southwestern pond turtle was captured from one of the earthen in-channel basins and translocated to the Baron Ranch in accordance with the associated translocation plan for that project. Southwestern pond turtles were not observed on the Landfill again until March 2019, when one was observed in the South Sedimentation Basin during a California red-legged frog survey. An additional juvenile was captured in the South Sedimentation Basin culvert on March 16, 2020, during a survey of the basin. The North and South Sedimentation Basins within the Landfill provide marginal foraging and basking habitat for turtles. The basins are very low-quality habitat as accumulated sediment within the basins is removed annually, the basins are lined with concrete (the North Sedimentation Basin) and plastic liner (the South Sedimentation Basin), established aquatic emergent vegetation is absent (except that which grows between maintenance events), and the basins are drained shortly after filling. Although the habitat is not ideal, the proximity of known populations, some aquatic vegetation, and because the basins hold water for periods of time, the southwestern pond turtle may continue to be observed at the Landfill.

This species was observed by biologists conducting studies for the Reconfiguration Project in the adjacent Arroyo Quemado Creek during habitat assessment surveys in June 2007 (ERA 2008) and is well established at the Baron Ranch. Observations throughout a 10-year period of surveys at the Baron Ranch have been recorded of both adults and hatchlings; within Arroyo Quemado and the agricultural reservoir.

4.0 BIOLOGICAL IMPACTS AND TAKE ASSESSMENT

Direct and Indirect Impacts

The Tajiguas Landfill is an active landfill that has been in continuous operation for more than 50 years. The covered activities would result in temporary and permanent impact to CRLF and SWPT upland dispersal and aquatic or adjacent to aquatic habitat. With the exception of the facilities associated with the proposed increase to Landfill capacity, roads, structures, sedimentation basins, and other facilities are currently present and in operation on the property. The covered activities described in Section 2.3 consist primarily of ongoing activities that would result in temporary impacts. Installation of additional environmental control systems required by new environmental regulations and the RNG project, as well as site preparation associated with the proposed increase to Landfill capacity would result in permanent impacts. These impacts are summarized in **Table 3** which categorizes the impacts based on the type of California red-legged frog habitat that will be impacted and the seasonality of the impacts. Based on USFWS internal guidance the analysis of the California red-legged frog habitat is divided into aquatic or adjacent to aquatic habitat (upland habitat within 100 meters of aquatic habitat) and dispersal habitat. This analysis is also used for the southwestern turtle habitat. Most of the proposed covered activities are temporary and occur within dispersal habitat. However, temporary impacts with durations or repeat occurrences of three years or more have been calculated as a permanent impact in the impact table. Take resulting from the covered activities authorized under this HCP will be incidental to the otherwise lawful and permitted activities conducted by the applicant.

Incidental take of covered species could result from any of the covered activities. The proposed covered activities include the use of heavy equipment and vehicles including, on-road haul trucks delivering solid waste material to the Landfill and ReSource Center; heavy equipment and other vehicles used to prepare waste cells, distribute and cover daily waste deliveries, and complete landfill repairs/maintenance; outdoor green waste and composting activities, storage and use of hazardous materials at the MRF and ADF, seasonal vegetation maintenance and herbicide use, and other vehicles driving paved and unpaved roads. Vehicle traffic on roads has some potential to result in mortality to covered species, however vehicle use is primarily conducted during daylight hours with a smaller number of trips occurring at night only on the paved roads in association with operation of the MRF. Driving on roads in non-daylight hours also occurs as personnel arrive for work and leave at the end of the day during seasonally shorter days of winter months. Incidental take to covered species could consist of crushing, injury, or physical removal from upland refugia habitat during construction activities and operation and maintenance. Incidental take could also result if animals are exposed to predation or desiccation should they become entrapped or prevented from proceeding through dispersal habitat. The increased noise and human activity could prevent or disrupt dispersal and storage and use of hazardous material could result in accidental spills. Additionally, incidental take in the form of capture from relocation of California red-legged frogs out of operational areas may significantly disrupt normal behavioral patterns, including breeding, feeding, or sheltering.

Operation of the sedimentation basins for sediment control, use for end of season stormwater storage, or accumulated water within the excavated disposal area associated with the increased Landfill, may create attractive aquatic habitat by prolonging the presence of surface water on the landfill that could result in incidental take of covered species. Covered species could be entrained in skimmers or mechanical pumps used to passively drain or actively pump the water from the basins or low areas. The potential for incidental take from the water pumps to individual California red-legged frogs is anticipated to be very low as the pumps are engineered with screens to avoid intake of individuals and operate at low inflow rates. However, the presence of a surface water body can create an attraction for dispersing California red-legged frogs and southwestern pond turtle and if water is present for long periods due to the timing and amount of rainfall, breeding could occur. If California red-legged frog eggs or larvae are present incidental take could consist

of stranding and desiccation when water is drained from the basins to provide capacity for follow-on storms. Incidental take could also occur as a result of mechanical equipment used during the annual sediment removal activity within the sedimentation basins. This is expected to be low as sediment removal is conducted during the dry season.

Issuance of the ITP would allow authorized biologists to capture and relocate California red-legged frog and southwestern pond turtle individuals and would reduce the risk of entrainment and desiccation of California red-legged frog eggs and larvae. Implementation of minimization and avoidance measures, including seasonal timing of maintenance work, pre-project surveys, additional basin surveys when water is present, and worker awareness training would reduce the potential for take of Covered Species, as described in Section 5.1.1.

4.1 Anticipated Take of California Red-legged Frog and Southwestern Pond Turtle

Based on over ten years of historic California red-legged frog observation data at the Landfill and analysis of the covered activities, an estimate of take was developed. Since the original translocation associated with the removal of the in-channel sedimentation basins, there have been no documented observations of injured or killed California red-legged frogs as a result of Landfill operations and maintenance activities, and the maximum number of California red-legged frogs taken, in the form of translocation, has been 23 individuals in one season. With this in mind, in any single year, the annual limit for dead or injured California red-legged frogs is set at 10 individuals with a cumulative total over the 50-year authorization term of 250 California red-legged frog individuals injured or killed. The estimated number of adult and juvenile California red-legged frogs that would be subject to take in the form of capture/relocation annually is proposed to be up to 50 individuals but not to exceed 1,500 individuals cumulatively. Additionally, as part of the basin water storage past the wet season, successful breeding could occur, and unintentional take of egg masses or tadpoles could result. Because of the avoidance and minimization measures planned for this activity and the increased monitoring and night surveys while water is present, a low potential for take is anticipated. However, because there is still a possibility that breeding adults could be inadvertently missed during the surveys, the annual limit for incidental take of egg masses is proposed to be 1 in any given year and 15 cumulatively for injury or mortality and would be the same for capture/relocation. The incidental take of tadpoles would be 15 in any given year and 350 cumulatively. In addition, populations of California red-legged frogs are likely to vary substantially from year-to-year. Because of this uncertainty and difficulty of estimating the actual number of California red-legged frog that might be taken by proposed activities, the Applicant will rely primarily on habitat acreage as a proxy to measure impacts to the covered species and a summary of the acreages is presented in Table 3. If either annual or cumulative take limits are exceeded, the Applicant will immediately contact the Ventura Field Office to discuss the need for a permit amendment.

Southwestern pond turtles have been observed 3 times on the Landfill in the last 10 years of monitoring; twice in the south sedimentation basin and once in the former in-channel basin within Pila Creek. Although the incidental take permit for the southwestern pond turtle issued for this HCP would only be effective when and if Southwestern pond turtles become federally listed, anticipated take is addressed in this section to assist in determining if all issuance criteria have been met. Based on the low numbers of observations of this species on the Landfill and no observations of injuries or mortalities the annual limit for dead or injured southwestern pond turtles is set at 5 individuals with a cumulative total over the 50-year authorization term of 125 southwestern pond turtle individuals injured or killed. Additionally, 10 individual southwestern pond turtles per year and 250 cumulatively, in the form of capture and relocation is proposed. If either annual or cumulative take limits are exceeded, the Applicant will immediately contact the Ventura Field Office to discuss the need for a permit amendment.

4.2 Effects on Critical Habitat

The northeastern corner of the Landfill property (APN 081-150-032), which is within the Arroyo Quemado watershed, and 108.12 acres of the proposed conservation lands occur within CRLF critical habitat (critical habitat unit STB-6).

The primary constituent elements for California red-legged frogs are aquatic and upland areas where suitable breeding and nonbreeding habitat is interspersed throughout the landscape and is interconnected by unfragmented dispersal habitat. Specifically, to be considered to have the primary constituent elements an area must include two (or more) suitable breeding locations, a permanent water source, associated uplands surrounding these water bodies up to 91 meters (300 feet) from the water's edge, all within 2 kilometers (1.25 miles) of one another and connected by barrier-free dispersal habitat that is at least 91 meters (300 feet) in width. The Baron Ranch property has these elements and protection of this habitat contributes to the continued conservation of the species.

The proposed project will not adversely affect any aquatic or dispersal habitat within the critical habitat. The proposed project would conserve 108.12 acres of aquatic, adjacent upland, and dispersal habitat known to support breeding California red-legged frogs within critical habitat unit STB-6.

As the southwestern pond turtle is not federally listed, critical habitat has not been designated and primary constituent elements have yet to be determined.

4.3 Cumulative Impacts

Section 10 of the Act analyzes cumulative impacts as those incremental impacts of the action on the environment added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or entity undertakes the action. The geographic area for analysis should be defined by where direct or indirect impacts of the Covered Activities could occur. Cumulative impacts under Section 10 of the Act can result from individually minor, but collectively significant actions that take place over a period of time.

For the proposed project, cumulative impacts include analysis of the implementation of the covered activities described in Section 2 that alone have minor impacts. However, collectively considered with all known projects or activities in or near the Plan Area, which include projects along the Santa Barbara Coast that could occur pursuant to the General Conservation Plan for Oil and Gas Activities, or the Southern California Gas Company Coastal Regional Multi-Species Habitat Conservation Plan, there is potential adverse cumulative affects to California red-legged frog and southwestern pond turtle. The Tajiguas Landfill project includes mitigation that sufficiently offsets unavoidable impacts that occur as a result of the Covered Activities. The proposed mitigation includes permanent protection of 109.75 acres of California red-legged frog habitat, including 108.12 acres within Critical Habitat Unit STB-6 that will support the sustainability and recovery of the California red-legged frog. Additionally, Avoidance and Minimization Measures will be implemented to reduce/avoid take on California red-legged frog and southwestern pond turtle where possible. With implementation of the proposed conservation mitigation and Avoidance and Minimization Measures, the covered activities of the Tajiguas Landfill are not anticipated to significantly contribute to cumulative impacts.

4.4 Impacts of the Taking

Under section 10 of the ESA, the HCP must specify the impact of the taking on each covered species. The impact of the taking must be determined at the range wide scale to ensure that the taking does not appreciably reduce the likelihood of survival and recovery of the species. The Landfill has been

continuously operating since 1967. In the last 10 years of construction monitoring during the dry season and wet season there have been no observed injuries or mortalities to any California red-legged frogs or the southwestern pond turtle. With this in mind the number of individuals that might be injured or killed is expected to be relatively low; but an event could occur that results in take. There are breeding populations of California red-legged frogs and southwestern pond turtles on both the east and west sides of the Landfill at the Baron Ranch and Santa Barbara Land Trust Arroyo Hondo Preserve, respectively. Both of these populations are associated with perennial to intermittent streams and have established breeding populations. Additionally, both of the stream corridors on these properties are protected; the Arroyo Hondo corridor is within a preserve, and the Arroyo Quemado corridor on the Baron Ranch has just undergone significant restoration and a section of the creek is in the process of being permanently protected under a restricted covenant. The populations of California red-legged frogs and southwestern pond turtles at each of these areas that border the Landfill are stable and protected. The impacts from the taking anticipated at the Landfill would not result in a significant change in the population of either species relative to the size or abundance at these locations or result in jeopardizing the continued existence of either species.

Table 3
Tajiguas Landfill HCP Temporary and Permanent Impacts Calculation

			USFWS DRAFT STRATEGY					
Map Ref.	Location	Covered Activity	Temporary Impacts				Permanent Impacts	
			Dry Season		Wet Season		Aquatic or Adjacent Upland Habitat	Dispersal Habitat
			Aquatic or Adjacent Upland Habitat	Dispersal Habitat	Aquatic or Adjacent Upland Habitat	Dispersal Habitat		
	Aquatic and Upland Habitat (upland habitat is 100 meters from aquatic)							
1	Upper Ephemeral Channel	Earthen road crossing repair and grading	<0.01 acre	None	None	None	None	None
2	Concrete-lined Channel	Sediment/debris removal	0.37 acre	None	None	None	None	None
3	Constructed Earthen Channel	Sediment/debris removal; mowing	0.08 acres	None	None	None	None	None
4	48-Inch Storm Drain Outfall-Box Culvert	Sediment and vegetation removal	<0.01 acres	None	None	None	None	None
5	North Sedimentation Basin	Storm Water Quality-Sediment Management/ Water Storage-5 years	See Perm. Impacts	None	See Perm. Impacts	None	1.97 acres	None
6	South Sedimentation Basin	Storm Water Quality-Sediment Management	See Perm. Impacts	None	None	None	0.85 acres	None

			USFWS DRAFT STRATEGY					
Map Ref.	Location	Covered Activity	Temporary Impacts				Permanent Impacts	
			Dry Season		Wet Season		Aquatic or Adjacent Upland Habitat	Dispersal Habitat
			Aquatic or Adjacent Upland Habitat	Dispersal Habitat	Aquatic or Adjacent Upland Habitat	Dispersal Habitat		
7	Adjacent to North Sedimentation Basin	Construction of Storm Water Treatment System	See Perm. Impacts	None	See Perm. Impacts	None	0.5 acres	None
	Dispersal Habitat							
8	Waste Disposal Area	Waste Cell Construction Liner and Leachate Collection Systems	None	3 acres	None	None	None	None
9	Green Waste Pad	Green Waste Operations	None	None	None	None	None	4.6 acres
10	Waste Disposal Area	Municipal Solid Waste Burial	None	None	None	None	None	2 acres[1]
11	Borrow Sites	Daily Cover Stockpile Excavation	None	None	None	None	None	0.5 acres[1]
12	Adjacent to Waste Disposal Area	Operations & Maintenance Facilities/Equipment Storage	None	None	None	None	None	2.1 acres
13	Landfill Operational Area	Construction of GWIT/Leachate Treatment System	None	None	None	None	None	0.1 acres
14	Landfill Operational Area	LCRS 2 Sump/Transfer Pump Tank Construction	None	None	None	None	None	0.04 acres
15	Landfill Operational Area	Water Well #8 Construction	None	None	None	None	None	<0.01 acres
16	Landfill Operational Area	Water Storage Expansion Tank Construction	None	None	None	None	None	0.11 acres
17	Landfill Operational Area	Landfill Infrastructure/ Env. Control System Access, Operation, and Maintenance	None	2 acres[1]	None	None	None	None

			USFWS DRAFT STRATEGY					
Map Ref.	Location	Covered Activity	Temporary Impacts				Permanent Impacts	
			Dry Season		Wet Season		Aquatic or Adjacent Upland Habitat	Dispersal Habitat
			Aquatic or Adjacent Upland Habitat	Dispersal Habitat	Aquatic or Adjacent Upland Habitat	Dispersal Habitat		
18	Waste Disposal Areas	Landfill Phased Closure and Revegetation Maintenance	None	132 acres	None	None	None	None
19	Landfill Paved Roads and Scale House	Access to Landfill	None	None	None	None	None	9 acres
20	Landfill Operational Area	Construction and Use of Dirt Roads	None	None	None	None	0.85 acres	5.65 acres
21	MRF	ReSource Center Operation (Exterior Activity Area)	None	None	None	None	None	4.18 acres
22	ADF	ReSource Center Operation (Exterior Activity Area)	None	None	None	None	None	1.01 acres
23	CMU	ReSource Center Operation (Exterior Activity Area)	None	None	None	None	None	6.2 acres
24	Adjacent to MRF and the former LFG Energy Plant/Flare Facility	RNG Upgrade System, CNG Fueling Station, MSA, and Pipeline System (proposed, land use permitting in progress)	None	0.52 acres	None	None	None	2.2 acres
25	Adjacent to Operations Deck and MRF	Fuel Modification Clearance Area for Landfill Operations and Maintenance Buildings and MRF and Maintenance Building	None	None	None	None	0.54 acres	1.98 acres

			USFWS DRAFT STRATEGY					
Map Ref.	Location	Covered Activity	Temporary Impacts				Permanent Impacts	
			Dry Season		Wet Season		Aquatic or Adjacent Upland Habitat	Dispersal Habitat
			Aquatic or Adjacent Upland Habitat	Dispersal Habitat	Aquatic or Adjacent Upland Habitat	Dispersal Habitat		
26	Landfill Operational Area	Disaster Debris Management	None	Included in operational area	None	Included in operational area	None	None
	Proposed Landfill Capacity Increase							
27	Landfill Capacity Increase Area	Waste Cell Construction, Liner and Leachate Collection System installation	2.09 acres	14.27 acres	None	None	None	None
28	North Sedimentation Basin	Construction and Operation of Relocated Sediment Management Basin	See Perm. Impacts	None	See Perm. Impacts	None	1.63[2] acres	None
29	Adjacent to North Sedimentation Basin	Construction of the relocated Storm Water Treatment System	See Perm. Impacts	None	See Perm. Impacts	None	0.52[2] acres	None
30	Landfill Capacity Increase Area	Construction and Use of Paved Roads	None	None	None	None	0.31 acres	2.78 acres
31	Borrow Sites	Stockpile Area for Excavated soils from Increased Waste Footprint	None	24.06 acres	None	None	None	None
	Impact Acreage Total		2.54	175.85	0	0	7.17	42.45

[1] Typical area of active disturbance at any one time.
[2] These impacts would replace impacts from map items 5 and 7.

5.0 CONSERVATION PROGRAM

5.1 Biological Goals and Objectives

Biological Goal 1: To minimize impacts of the Covered Activities on the California red-legged frog and the **southwestern pond turtle.**

Biological Objective 1: Develop a conservation program that provides avoidance and minimization measures to reduce the potential for take.

Management Action: Develop Avoidance and Minimization measures to minimize the effects of the Covered Activities on the California red-legged frog and the southwestern pond turtle. Monitor implementation and compliance with the measures and adaptively manage where necessary.

Biological Goal 2: To permanently protect habitat for the California red-legged frog and the southwestern pond turtle.

Biological Objective 2: Record a conservation easement that permanently preserves habitat for the California red-legged frog and the southwestern pond turtle that meets or exceeds the requirement to compensate for the impacts resulting from the Covered Activities to existing habitat for these species on the Landfill.

Management Action: Record a conservation easement in perpetuity in favor of an approved conservation organization on portions of the Tajiguas Landfill and Baron Ranch properties, including a segment of the Arroyo Quemado riparian corridor with occupied aquatic habitat. The Conservation Easement holder will conduct an annual inspection of the easement to ensure there are no violations and the terms of the easement are being upheld. The Permittee will conduct annual winter visual encounter surveys for California red-legged frog and southwestern pond turtle as well as an assessment for presence/absence of invasive species and disturbance that negatively affect the functionality of the conservation easement area. If the surveys show there is a trend of population decline of the Covered Species or the assessment shows that the easement is not in compliance with the Management Plan and easement terms, maintenance and/or adaptive management will be implemented to ensure Biological Goal 2 is achieved.

5.1.1 Avoidance and Minimization Measures

Section 10(a)(2)(A) of the ESA requires that an HCP specify the measures that the Applicant will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the plan.

In order to minimize impacts to the California red-legged frog and the southwestern pond turtle within the Property, the Applicant will comply with the following Avoidance and Minimization Measures. For purposes of implementing the avoidance and minimization measures with respect to the expected dispersal of California red-legged frogs, the rainy season is defined as the period from November 15 through April 30 and the dry season is defined as the period from May 1 to November 14. However, if a measurable rain event (1 inch or greater) occurs prior to the defined start of the rainy season and ground disturbing construction activities or work in the sedimentation basins or Pila Creek is occurring, the work areas will be surveyed prior to restarting work activities.

1. The names and credentials of qualified biologists contracted to monitor and/or handle California red-legged frogs and southwestern pond turtle will be submitted to the USFWS for approval.
2. A USFWS-approved biologist will conduct an environmental sensitivity training session for all Landfill personnel annually and for any contractor conducting ground disturbing activities in Pila

Creek or the Sedimentation Basins or working during the rainy season prior to project implementation, and as new employees are brought to the site. For contractors working during the dry season and for ReSource Center staff, an environmental sensitivity training in video format prepared by a USFWS-approved biologist will be provided annually. At a minimum, the training will include:

a. a description of the California red-legged frog and southwestern pond turtle and their habitats;

b. the general provisions of the Federal Endangered Species Act (ESA); the necessity for adhering to the provisions of the ESA; and the penalties associated with violating the provisions of the ESA;

c. review of the Avoidance and Minimization Measures included in the HCP and actions to be taken by staff if a frog or turtle is observed, such as stopping work in the vicinity, notifying the Landfill or ReSource Center Operations Manager(s), the Landfill Environmental Planner, and the USFWS-approved biologist and halting work until the biologist determines that the frog/turtle is out of harm's way or the frog/turtle is translocated out of harm's way;

d. The training will also address State and Federal regulations regarding nesting birds, and other potentially occurring sensitive species, and the avoidance measures necessary to protect them;

e. Water quality best management practices for fueling and equipment maintenance; and

f. All training material will be submitted to USFWS for approval.

3. If a California red-legged frog or southwestern pond turtle is observed:

   a. An activity free perimeter will be established around the California red-legged frog or southwestern pond turtle until it either moves on its own out of harm's way or a USFWS-approved biologist is available to move the California red-legged frog or southwestern pond turtle out of harm's way.

   b. If a California red-legged frog or southwestern pond turtle is observed on the main access road during operations a pre-approved trained staff person will be assigned to capture the individual, place the individual into a 5-gallon bucket with a damp sponge, and move the bucket to a safe and cool location until the USFWS-approved biologist can get to the site to translocate the individual.

   c. California red-legged frogs and southwestern pond turtles observed would be translocated by the USFWS-approved biologist to suitable receptor pools in Arroyo Quemado on the Baron Ranch that are within areas covered by protective instruments (e.g., Restricted Covenant or Conservation Easement). If pools in the conservation easement areas are dry when an animal must be translocated, the USFWS-approved biologist will release the animal within the pool area and underneath suitable large substrate such as gaps under large boulders or under tree root formations along the bank.

   d. Only a USFWS-approved biologist will be allowed to translocate California red-legged frogs and southwestern pond turtles to approved pool locations in Arroyo Quemado on the Baron Ranch.

   e. The biologist will have the authority to halt work at any time to prevent harm to listed species.

4. During the rainy season (November 15 to April 30), no ground disturbing activities will be conducted prior to sunrise or after sunset when California red-legged frogs are most active. With the exception of emergencies or unforeseen circumstances requiring immediate action.

5. Unless needed to address a potential flooding hazard, maintenance activities within Pila Creek and the sedimentation basins will be completed during the dry season (May 1 to November 14). During

the dry season, no more than 3 days prior to the maintenance, the areas (including deep cracks in drying mud) will be surveyed by a USFWS-approved biologist. If a California red-legged frog is detected during clearance surveys, a USFWS approved biologist will translocate the individual to existing pool locations in Arroyo Quemado on the Baron Ranch that are within areas covered by protective instruments (e.g., Restricted Covenant or Conservation Easement) prior to the maintenance/sediment removal activities.

6. If maintenance occurs within Pila Creek or the sedimentation basins during the rainy season (November 15 to April 30), a USFWS-approved biologist will conduct a night survey within 3 days prior to the work, a pre-activity survey immediately before work, and monitor during all work activities.
7. Staging for routine maintenance of Pila Creek and the sedimentation basins will be within previously disturbed boundaries and all work will be conducted from existing access roads, within the concrete channel, and/or the constructed earthen channel; avoiding impacts to any new areas.
8. Maintenance within Pila Creek and the sedimentation basins will be scheduled during daylight hours.
10. To reduce its attractiveness to California red-legged frogs and southwestern pond turtle, to the maximum extent feasible, the duration of time storm water will be impounded in the Landfill sedimentation basins will be limited to that necessary to achieve storm water quality discharge requirements; typically, up to 48 hours.
11. Due to the tendency of California red-legged frogs to move across the landscape during, or after rain events, focused-night-time California red-legged frog surveys will be performed by a USFWS-approved biologist following each measurable rain event (0.1 inch or greater) focusing on the sedimentation basins and surrounding areas, Pila Creek areas and roads between the entrance, the MRF and the North Sedimentation Basin. These surveys will be conducted as soon as possible after the rain event ends due to safety concerns associated with access to the basin and the increased difficulty of detecting amphibians by eye-shine during rainfall.
12. If California red-legged frogs are observed during these nighttime rain-event surveys, the USFWS-approved biologist(s) will capture and translocate the frogs to designated translocation pools in Arroyo Quemado at Baron Ranch prior to authorizing the release of water from the basins using the low velocity, passive skimmer systems. As soon as possible, but no later than 24 hours after the basins have been surveyed and cleared by the USFWS-approved biologist, the skimmers will be lowered by Landfill operations staff.
13. If egg masses or tadpoles are observed during any surveys, the skimmers will not be lowered, and the USFWS-approved biologist will coordinate with the USFWS to discuss translocation of these two life stages; translocation would only occur after receiving written approval from the USFWS.
14. To protect the Landfill infrastructure and prevent the basins from overtopping during large or sequential rain events the following measures would be followed:
    a. If large rain events are anticipated where it is not safe or is raining continually preventing a rain-event survey and the basins are likely to exceed their storage capacity, the skimmers may be lowered to begin draining the basins only if the basin have been full of water for 24 hours or less.
    b. If it is necessary to lower the skimmers and the basins have been full for more than 24 hours, a day-time survey by a USFWS-approved biologist will be completed prior to lowering the skimmers.
    c. A night rain-event survey would be conducted as soon as it is safe to return to the basins.

d. If California red-legged frogs are detected; detected frogs would be captured and relocated to the appropriate receptor location. The skimmers would be lowered once the individual has been captured and remain lowered until the basins are drained.

15. If residual water remains in the basins that cannot be drained with the skimmers, screened pumps outfitted with strainer baskets with 1/4-inch mesh will be used following a daytime clearance survey by a USFWS-approved biologist.
16. Storm water proposed for construction will not be retained in the North Sedimentation Basin prior to April.
17. When storm water is retained in the North Sedimentation Basin for construction purposes in the dry season:
    a. A USFWS-approved biologist will conduct two daytime California red-legged frog and southwestern pond turtle surveys of the North Sedimentation Basin and a 100-foot buffer per week while construction water is stored in the North Sedimentation Basin.
    b. A USFWS-approved biologist will conduct one, nighttime California red-legged frog and southwestern pond turtle survey of the North Sedimentation Basin and 100-foot buffer per week while construction water is stored in the North Sedimentation Basin.
    c. A USFWS-approved biologist will conduct a daytime pre-construction California red-legged frog and southwestern pond turtle survey of the North Sedimentation Basin and 100-foot buffer following every rain event if water is present in the North Sedimentation basin.
    d. All observed California red-legged frogs and southwestern pond turtles will be captured and translocated to existing pools (if present) or other suitable habitat within Arroyo Quemado at the Baron Ranch by a USFWS-approved biologist.
    e. All pump intakes used to remove storm water stored for construction from the North Sedimentation Basin will be outfitted with strainer baskets with 1/4-inch mesh.
18. Prior to mechanical ground disturbing construction or operations activities in vegetated areas, the area scheduled for clearing shall be surveyed by a USFWS-approved biologist familiar with all of the sensitive species with the potential to occur at the Landfill. In the event that sensitive species are identified, a buffer around the individual shall be established and the individual shall be monitored until it leaves the work area or until it is translocated by a USFWS-approved biologist.
19. Equipment operators (Landfill, ReSource Center and contractors) working outdoors during the rainy season will search around and under their equipment and stored materials each morning before starting their equipment, and again after the equipment has been idle for 60 minutes, to look for California red-legged frogs and southwestern pond turtle that may have dispersed through the Landfill and may use the equipment/materials for cover. If a frog is observed, a buffer around the individual shall be established and the individual shall be monitored until it leaves the work area or, until it is translocated by a USFWS-approved biologist.
20. If feasible, amphibian exclusion fencing will be placed around material lay down areas prior to, and maintained throughout, the rainy season. If installation of exclusion fencing is not feasible/practical, construction and operational personnel who have received the environmental sensitivity training will inspect for the presence of wildlife prior to removing any material.
21. During the rainy season construction activities occurring in habitat that could support a least one life stage of the California red-legged frog (i.e., ponded water, deep cracks in drying mud, upland habitat) will not be conducted at night and the construction work area will be surveyed by a USFWS-approved biologist following each measurable rain event (0.1 inch or greater). If a frog is observed, a buffer around the individual shall be established and the individual shall be monitored until it leaves the work area or, if permitted by USFWS, until it is translocated by a USFWS-approved biologist.

22. Where possible, construction activities will be completed in manner to prevent creating depressions where water may pond following rain events. If water ponds within the construction area, it will be surveyed by a USFWS-approved biologist daily until the water is removed. If a frog or turtle is observed, a buffer around the individual shall be established and the individual shall be monitored until it leaves the work area or until it is translocated by a USFWS-approved biologist. If the water is removed by pumping, intakes will be completely screened with mesh not larger than 0.25 inch to prevent California red-legged frogs and southwestern pond turtles from entering the pump system.
23. During the rainy season, all steep-walled holes, open trenches, and other excavations 12 inches deep or greater will be covered each night or provided with escape ramps. Excavations will be inspected for animals each morning before they are backfilled.
24. Routine maintenance will be conducted during the dry season between May 1 and November 14. Work may occur during the rainy season during daytime hours and dry conditions.
25. Prior to initiating construction in previously undisturbed areas, a biological clearance survey will be conducted by a qualified biologist to verify that no nesting birds are present in the work areas if work is proposed during the migratory bird nesting period (February 1 to August 31).
26. Vehicles travelling on the Landfill and to the work areas shall observe posted speed limits (15 mph) at all times.
27. Nighttime motor vehicle travel within the landfill shall be limited to established paved roads and parking areas and will observe all posted speed limits.
28. Nighttime vehicle access and operational activities shall be limited to paved areas surrounding and south of the MRF unless emergency conditions require access to other ReSource Center facilities.
29. Access to back canyon areas of the landfill property shall be restricted to daylight hours unless access is required by landfill personnel in response to an emergency.
30. To minimize effects from herbicide application:
    a. No herbicides will be applied within wetland, surface waters, or aquatic habitats;
    b. Spray drift will be avoided by using appropriate spray nozzles or reducing pressure, which can increase droplet size (reducing spray drift);
    c. Herbicides will not be applied during adverse weather conditions including high wind or unusually low night temperatures (which keep residues longer); and
    d. Herbicide will not be applied within 24 hours following a significant rain event (greater than 0.5 inch).
    e. Herbicide will only be applied when there is no rain in the forecast for a minimum of three days.
    f. If herbicide is to be used during the rainy season (between November 1 and April 30), a USFWS-approved biologist will conduct a clearance survey of the treatment area prior to application.
    g. Herbicides will be applied following all product label instructions and precautions.
31. To minimize effects from refueling and spills:
    a. All refueling and maintenance of equipment and vehicles will occur at least 60 feet from Pila Creek or the sedimentation basins.
    b. Any vehicle or equipment operating within the Pila Creek concrete-lined channel or earthen channel shall be free of leaks.
    c. Prior to the onset of work, the County will ensure that a response plan is in place for accidental spills.

d. Workers will be informed of the importance of preventing spills and of appropriate response measures as a part of the annual environmental sensitivity training.

e. Portable equipment will be outfitted with proper secondary containment when operating near Pila Creek and the sedimentation basins.

5.1.2 Mitigation

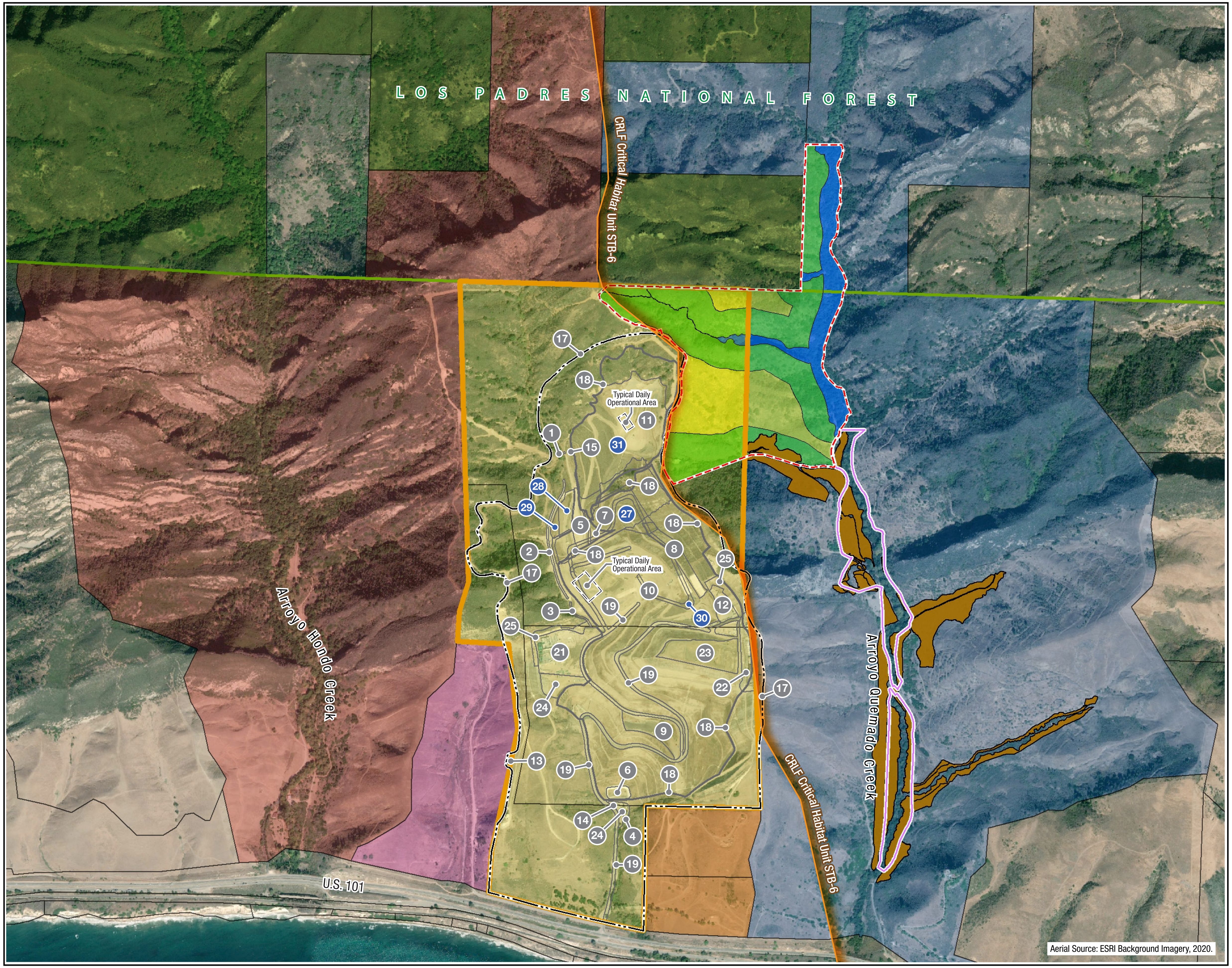
To offset unavoidable impacts to the California red-legged frog and the southwestern pond turtle, compensatory mitigation is required in the form of permanent protection of high-quality habitat that is valuable for the continued conservation of these species. Using the mitigation ratios identified by the USFWS in the Draft General Conservation Plan for Oil and Gas Activities, Santa Barbara County, California (2019) for temporary (Dry and Wet Season) and permanent impacts within Aquatic or Adjacent Upland Habitat and Dispersal Habitat, **Table 4** illustrates that conservation of 24.05 acres of Aquatic or Adjacent Upland Habitat and 25.47 acres of Dispersal Habitat are required to offset the proposed impacts of covered activities and illustrates that the proposed mitigation substantially exceeds the required compensatory mitigation.

Table 4
Compensatory Mitigation Requirements

	Temporary Impacts				Permanent Impacts	
	Dry Season		Wet Season			
	Aquatic or Adjacent Upland	Dispersal	Aquatic or Adjacent Upland	Dispersal	Aquatic or Adjacent Upland	Dispersal
Impact Acreage	2.54	175.85	0	0	7.17	42.45
Mitigation Ratio*	1:1	n/a	2:1	2:1	3:1	0.6:1
Required Mitigation	2.54	n/a	0	0	21.51	25.47
*USFWS Draft General Conservation Plan for Oil and Gas, Santa Barbara County, California, 2019.						

To compensate for the impacts to the California red-legged frog and the southwestern pond turtle habitat, the Applicant will record a Conservation Easement in favor of an approved conservation organization on approximately 109.75 acres of the Tajiguas Landfill and Baron Ranch properties (**Figure 6**). The proposed Conservation Easement Area is comprised of aquatic, adjacent upland, and dispersal habitat within California red-legged frog Critical Habitat Unit STB-6; including 3,500 linear feet of occupied breeding habitat within Arroyo Quemado. Recent surveys over a portion of the Arroyo Quemado within the Conservation Easement Area confirmed the presence of suitable breeding habitat and that the resident population of California red-legged frogs is continuing to thrive in this important central coast watershed. The adjacent upland and dispersal habitats within the Conservation Easement Area would preserve opportunities for dispersal of California red-legged frog between the Arroyo Quemado, conservation lands within the Los Padres National Forest and known populations within the Santa Barbara Land Trust Arroyo Hondo Preserve to the west. Recordation of the Conservation Easement is consistent with the California Red-legged Frog Recovery Plan objective to protect existing populations by reducing threats and protecting lands in perpetuity. The recordation of the Conservation Easement will prevent future expansion of the Landfill Operational Area into the northeastern portion of the Landfill property that is within the Arroyo Quemado watershed that could inhibit dispersal between Arroyo Quemado and Arroyo Hondo. The Conservation Easement will also prevent potentially incompatible uses of the Baron Ranch Master Plan from occurring within the Easement Area. **Table 5** illustrates that the proposed mitigation acreages will exceed the compensatory mitigation requirements.

Proposed Conservation Areas



Legend

- Landfill Operational Area
- Parcel Boundaries
- Landfill and Resource Center Operations/Maintenance Impact Areas
- Proposed Landfill Capacity Increase
- Tajiguas Landfill
- Baron Ranch
- Arroyo Hondo Preserve (SB Land Trust)
- Aera (Shell) Property
- RRWMD Properties
- Forrest Service Properties

Note: See Figure 2 for a description of the numbered Operations and Maintenance Areas

Proposed Conservation Areas		Total
Aquatic/Riparian		17.76 ac.
Adjacent Upland		62.50 ac.
Dispersal Habitat		29.49 ac.
Proposed Conservation Areas	Total	109.75 ac.
CRLF Critical Habitat Unit STB-6		108.13 ac.

Existing Baron Ranch Conservation/Restoration Areas	Total
Restoration Areas	50.71 ac.
Restrictive Covenant (In Progress)	32.16 ac.

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FIGURE 6

Table 5
Proposed Mitigation Acreage by Habitat Type

Habitat Type	Proposed Conservation	Required Mitigation	Excess Proposed	Requirement Satisfied?
Aquatic/Riparian	17.76 ac	24.05 ac	56.21 ac	Yes
Adjacent Upland	62.50 ac			
Dispersal	29.49 ac	25.47 ac	4.02 ac	Yes
Total	**109.75 ac**	**49.52 ac**	**60.23 ac**	**Yes**

5.1.3 Monitoring and Reporting

Monitoring reports will be prepared and submitted on an annual basis for both the Conservation Easement Area and the operation, maintenance, and repair activities at the Landfill and ReSource Center.

An annual inspection of the Conservation Easement will be completed by the Conservation Easement Holder to ensure there are no violations and the Easement is being maintained consistent with the requirements of the Conservation Easement and Management Plan. In addition to the Conservation Easement Holder's inspection, the Permittee will conduct annual winter visual encounter surveys for California red-legged frog and southwestern pond turtle, as well as surveys of the aquatic/riparian habitat within the Conservation Easement Area to document the presence/absence of invasive species such as castor bean (*Ricinus communis*), giant reed (*Arundo donax*), bullfrogs (*Lithobates catesbeianus),* and crayfish (*Cambarus sp.*). The annual visual encounter surveys and invasive species surveys will be conducted by a qualified of biologist, and the reporting and review process will include feedback loops through adaptive management to revise the survey, as necessary. The results of the annual assessment, visual encounter surveys, and invasive species surveys will be submitted to the USFWS annually.

Operation, maintenance, and repair activities covered in this HCP will also be reported in a separate annual operations and maintenance report provided by the Applicant by January 31st of each year. The report will cover the period from October 1 to September 30. These Covered Activities will be described in annual reports with the following information:

1. Types and extent (frequency, area involved) of Covered Activities that occurred during the year;
2. Results of biological surveys including records of incidental take occurrences including the number of individuals of the Covered Species killed or injured; or harassed in the form of relocating (if any); and a quantification of habitat disturbance as a surrogate for take (if any);
3. Pertinent information concerning the Applicant's compliance with the project's Avoidance and Minimization Measures;
4. Any adaptive management measures implemented during the current year, including circumstances that triggered the need and rationale for changes and rationale behind specific actions;
5. An explanation of failure to comply with such measures, if any;
6. Known effects of the Covered Activities on State- or federally listed species, if any;
7. Other pertinent information, including a review of the effectiveness of the Avoidance and Minimization Measures implemented during the Covered Activities;
8. Unforeseen/changed circumstances that occurred and how the issues were addressed; and
9. Recommended changes to HCP Avoidance and Minimization measures to incorporate adaptive management measures that were implemented in the past year.

5.1.4 Adaptive Management Strategy

Adaptive Management is an iterative learning process that produces improved understanding and management over time and involves the use of monitoring data and other new information to revise and refine the Management Plan. An adaptive approach involves exploring alternative ways to meet management objectives, predicting the outcomes of alternatives based on the current state of knowledge, implementing one or more of these alternatives, monitoring to learn about the impacts of management actions, and then using the results to update knowledge and adjust management actions. It is designed to reduce the amount of uncertainty involved in management planning and decisions.

Adaptive management is imperative to achieving the Biological Goals and Objectives. Biological Goals 1 and 2 will be monitored and revised as necessary. Progress toward Biological Goal 1 will be reviewed on an annual basis as part of the annual monitoring and reporting completed by the Permittee. Biological Goal 1 is to minimize impacts of the Covered Activities on the California red-legged frog and the southwestern pond turtle. Avoidance and Minimization Measures to reduce impacts to the California red-legged frog and the southwestern pond turtle are described in Section 5.1.1. Modification of these measures may be necessary to improve protection for the Covered Species. The Permittee will monitor implementation of the mitigation measures and quantify the actual extent of project impacts in annual reports. A review of the effectiveness of the measures will be done by the Permittee at least once per year during project the term of the HCP. Annual reports will be submitted to USFWS, which will allow review of the Permittee's quantification of actual take and assessment of Avoidance and Minimization Measures' effectiveness. Subject to USFWS approval, the Permittee may develop: (1) revisions to the Avoidance and Minimization Measures; or (2) employ new measures that afford further protection of Covered Species. The USFWS would make their decision of approval/non-approval based on review of the information contained in the annual reports.

Biological Goal/Objective 2 is to record a conservation easement that permanently preserves habitat for the California red-legged frog and the southwestern pond turtle that meets or exceeds the requirement to compensate for the impacts resulting from the Covered Activities. Biological Goal/Objective 2 will be achieved through recordation of the proposed conservation easement within Critical Habitat Unit STB-6 discussed under Section 5.1.2 above, as well as development and implementation of a Conservation Easement Management Plan. The Conservation Easement holder will be responsible for completing an annual inspection to ensure there are no violations and the terms of the easement are being upheld. The Permittee will conduct annual winter visual encounter surveys for California red-legged frog and southwestern pond turtle as well as an assessment for presence/absence of invasive species and disturbance that negatively affect the functionality of the conservation easement area. If the surveys show there is a trend of population decline of the Covered Species or the assessment shows that the easement is not in compliance with the Management Plan and easement terms, maintenance and/or adaptive management will be implemented to ensure Biological Goal 2 is achieved. The Conservation Easement Management Plan will include a provision for adaptive management (e.g., coordination with USFWS on reintroduction or habitat enhancement).

6.0 CHANGED AND UNFORESEEN CIRCUMSTANCES

Section 10 regulations [50 CFR 17.22 (b)(2)(iii)] require that an HCP specify the procedures to be utilized when dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. Additionally, the Habitat Conservation Plan Assurances (No Surprises Rule) [50 CFR 17.22 (b)(5) and (6): 63 FR 8859] defines changed and unforeseen circumstances and describes the obligations of the permittee and USFWS. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the FESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. Accordingly, as described below and except as otherwise required by law and/or provided under the terms of the HCP and except for unforeseen circumstances, no further mitigation or compensation will be required by USFWS to address impacts of Permitted Activities to covered species pursuant to FESA.

6.1 Changed Circumstances

Changed circumstances are defined in 50 CFR Section 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan or agreement that can reasonably be anticipated by plan or agreement developers and the USFWS and that can be planned for (e.g., the listing of new species, or a fire or other natural catastrophic event in areas prone to such events). As stated in 50 CFR Section 17.22(b)(5) and Section 17.32(b)(5), if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and were provided for in the plan's operating conservation program, the permittee will implement the measures specified in the plan. However, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Director will not require any conservation and mitigation measures in addition to those provided for in the plan without the consent of the permittee, provided the plan is being properly implemented.

6.1.1 Newly Listed Species

If a new species is listed under the ESA, the ITP will be reevaluated by the USFWS. If, after reevaluation, the Service determines that modification of Covered Activities would be prudent to lessen the possibility of jeopardy or take of this newly listed species, then the Applicant and the Service will work together to develop and implement mutually agreeable measures to the Covered Activities in the ITP ("Modification Measure(s)") each of which Modification Measures must be approved by the Service and the Applicant before implementation. The Applicant will be allowed to continue undertaking the Covered Activities while such Modification Measures are being developed. The Applicant, or their legal successor(s) ownership, will continue to implement such Modification Measures until such time as the permittee has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the Applicant in writing that the Modification Measures to the HCP Covered Activities are no longer required to avoid the likelihood of jeopardy of the newly listed species and/or the adverse modification of newly designated critical habitat.

6.1.2 Newly Discovered Listed Species Previously Unknown in the Covered Area

In the event that an already listed species is discovered in the Project Area, and, after evaluation of this already listed species, the Service determines that modification of the Covered Activities would be prudent to lessen the possibility of jeopardy or take of this already listed species, then the Applicant and the Service will work together to develop and implement mutually agreeable Modification Measures to the Covered Activities in the ITP, each of which Modification Measures must be approved by the Service and the

Applicant before implementation. The Applicant will be allowed to continue undertaking the Covered Activities while such Modification Measures are being developed. The Applicant, or their legal successor(s) in ownership, will continue to implement such Modification Measures until such time as the Applicant has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the listed species or until the Service notifies the Applicant in writing that the Modification Measures to the HCP Covered Activities are no longer required to avoid the likelihood of jeopardy of the listed species and/or the adverse modification of designated critical habitat.

6.1.3 Introduction of Invasive or Non-Native Plant and Wildlife Species

The covered species could potentially be affected by the introduction of non-native wildlife species such as non-native bullfrogs and crayfish and habitat quality could be affected by riparian invasive plants such as castor bean and giant reed. Although castor bean occurs at the Landfill and Arroyo Quemado, the remaining species are not currently known from the Plan Area but do occur in the region. There is potential for such species to spread through the Plan Area, which would adversely affect local populations of both Covered Species.

As a component of the Conservation Program, the County is proposing to conduct annual biological monitoring surveys to identify potentially occurring non-native invasive species within the aquatic/riparian area of the conservation lands of Arroyo Quemado. The surveys would target aquatic introduced wildlife such as bullfrogs and crayfish and invasive plants such as castor bean, giant reed, and Cape-ivy (*Delairea odorata*). Additional observed non-native plant species would be considered invasive if they are ranked moderate to high on the California Invasive Plant Council's Inventory. If one or more species of invasive wildlife or plant species is observed the potential need for control measures will be assessed. The County would subsequently begin with a comprehensive survey to document the extent of the invasive species to determine extent and a potential suitable control method. Potential control methods for plants would be implemented if 25% total percent cover within the conserved area was observed and remedial actions would be implemented.

Appropriate control methods would depend on the extent and location of the invasive species, as well as which species was identified. If bullfrogs or crayfish are observed, potential measures that could include drying out permanent water bodies that would be considered potential aquatic breeding areas to break the breeding cycle. Other potential methods include trapping and selective removal. Some methods may need to be implemented at night. It is likely that specialists in the control of these non-native species would be consulted, in addition to USFWS. Several different control methods may be warranted depending on the extent of the invasive species. Any methods of control attempted would be monitored and the results submitted to USFWS for review. Results could be compared and included in annual reports and incorporated into additional Adaptive Management measures.

If the invasion of non-native species of plants or wildlife results in impacts that cannot be addressed via the Changed Circumstances budget, the Applicant will prepare a report to USFWS for approval within one month to discuss how the shortfall will be addressed. The report will describe the extent of the problem and a cost analysis for controlling the invasion of the non-native species. This report shall be submitted to USFWS for approval. The Applicant will attempt to identify additional outside funding and partnerships to fund and implement the program to control the non-native species. The feasibility of such programs will depend on the success of additional fundraising.

6.1.4 Floods

Due to the proximity to Pila Creek, which runs north to south through the Landfill, and flows directly into the Pacific Ocean, and the Arroyo Quemado on the Baron Ranch, the Plan Area is potentially subject to periodic flooding during high rainfall years. Regionally, in the southern slopes of the Santa Ynez Mountains, runoff in response to precipitation events accounts for approximately 80 percent of total stream flow, while the remaining 20 percent comes from groundwater discharge (ERA 2008a). The unnamed drainages tributary to Pila Creek are ephemeral, have steep slopes, and convey surface-water flows only during, and for a short duration after, precipitation events. However, the Arroyo Quemado is fed by a much larger watershed and flows can be significant. The period of flooding may vary with the amount of rainfall and surface water could be present from several days to multiple weeks. Flooding could result in the loss of individuals and changes in pools and stream structure as large objects move through the system.

Overall, the effects of natural, periodic flooding on the habitat and Covered Species would likely not be significant. Actions would be taken to ensure public safety, and infrastructure would be repaired, as necessary, to allow the continuation of management activities. For example, access roads and fences would be inspected in the field and repaired, as needed. Active revegetation is not expected to be one of the actions taken following periodic natural flooding. The effects of flooding and any corrective actions needed would be addressed in annual reporting.

6.1.5 Drought

A Changed Circumstance due to reduced precipitation is an event that involves Federal or State drought emergency declarations or designations of a drought. While California's native species are adapted to periods of drought, some are more vulnerable than others to extended or frequent severe drought and may be at risk of extirpation due to factors such as small population size, short life expectancy relative to the drought duration, and inability to adequately cope with extreme events. Depending on the severity of a drought event, basic biological requirements for water-dependent species may be compromised. Severe, extended absence of precipitation reduces the amount of forage available to wildlife and may therefore lead to population declines through lack of recruitment of young. Whether an extended drought is causing a species to decline towards extinction depends on a number of factors, including how widely distributed the species is relative to extreme drought conditions, the degree to which microhabitats remain available to serve as refugia, and the ability for animals to relocate to less impacted areas. With adequate behavioral or genetic diversity and enough time, some animals can adapt to or evolve with changing conditions.

If, during routine inspections or other means, the County learns that significant, widespread damage or losses of individuals or habitat is occurring due to drought, the County will notify USFWS within 30 days. In collaboration with USFWS, the County will assess impacts to Covered Species and their habitats and determine the appropriate corrective action to restore habitat for the Covered Species and lessen the impact on Covered Species and their habitats.

6.1.6 Disease

There is potential for diseases to affect the Covered Species in the Plan Area. In studies conducted for the Reconfiguration Project (USFWS 2009a and b), California red-legged frogs at both the Landfill and within Arroyo Quemado tested positive for the chytrid fungi (*Batrachochytrium* spp.). Although none of the specimens exhibited *chytridimycosis* or visible effects of infection this fungus is known to be present in both aquatic systems. California red-legged frogs that continue to be captured as part of the Reconfiguration Project monitoring have also not exhibited visible effects of infection. There is currently no known control for this disease in wild populations. In the event that a new disease is detected, the Applicant's agency-approved biologist will consult with USFWS, and other research biologists in the region with California

red-legged frog or southwestern pond turtle expertise to determine the best methods for evaluating, monitoring, and controlling the disease. A survey to document the extent of the outbreak will be conducted within one month of the consultation with agency personnel. A report of the extent of the spread of the disease will be prepared within three weeks of the completion of the survey. If appropriate, a plan to control and eradicate the disease will be prepared and incorporated into the Adaptive Management Program. The recommended plan of action will be approved by USFWS.

Similar to invasions of non-native wildlife species, if the spread of disease results in impacts that cannot be addressed via the Changed Circumstances budget, the Applicant will prepare a report to USFWS describing the extent of the problem, with a cost analysis for controlling and eradicating the disease. The report will be submitted to USFWS for approval. The Applicant will seek additional outside funding and partnerships from sources and implement the program to control the disease. The feasibility of such programs will depend on the success of additional fundraising.

6.2 Unforeseen Circumstances

Unforeseen circumstances are defined by the 50 CFR Section 17.3 as changes in circumstances affecting a species or geographic area covered by a conservation plan or agreement that could not reasonably have been anticipated by plan or agreement developers and the Service at the time of the conservation plan's or agreement's negotiation and development, and that result in a substantial and adverse change in the status of the covered species. Unforeseen circumstances or “No Surprise” assurances define the Applicant’s obligations as set forth by the 50 CFR Section 17.22(b)(5) and Section 17.32(b)(5).

In case of an unforeseen event, the Applicant will immediately notify the USFWS with the proposed response action. Based on the 50 CFR Section 17.22(b)(5) and Section 17.32(b)(5), the USFWS will not require the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon. In addition, the USFWS will have the burden of demonstrating that unforeseen circumstances exist, using the best scientific and commercial data available. These findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species. The USFWS will consider, but not be limited to, factors such as size of the current range of the affected species, percentage of range adversely affected by the HCP, percentage of range conserved by the HCP, ecological significance of that portion of the range affected by the HCP, level of knowledge about the affected species under the HCP, and whether failure to adopt additional conservation measures would reduce the likelihood of species survival and recovery of the affected species in the wild.

Based on the 50 CFR Section 17.22(b)(5) and Section 17.32(b)(5), if additional conservation and mitigation measures are deemed necessary to respond to unforeseen circumstances, the USFWS may require additional measures of the permittee where the conservation plan is being properly implemented, but only if such measures are limited to modifications within conserved habitat areas, if any, or to the conservation plan's operating conservation program for the affected species, and maintain the original terms of the conservation plan to the maximum extent possible. Additional conservation and mitigation measures will not involve the commitment of additional land, water or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the conservation plan without the consent of the permittee.

7.0 FUNDING

7.1 Costs Associated with Implementation of the HCP

Implementation of the HCP will result in costs associated with implementing the Avoidance and Minimization Measures, annual monitoring and reporting, and the Conservation Easement. **Table 6** provides a breakdown of the annual cost associated with implementation of the HCP.

Table 6
HCP Implementation Costs

Activity	Cost Per Activity	Times per Year	Annual Cost
Annual Activities			
Sensitivity Training for Landfill Personnel and Contractors	$980.00	4	$3,920.00
Pre-construction survey for maintenance within Pila Creek and sedimentation basins.	$1,960.00	1	$1,960.00
Pre-construction survey for construction in previously undisturbed area	$830.00	3	$2,490.00
Post Rain Event Nighttime Surveys	$1,960.00	30	$58,800.00
Translocation Call Outs for Approved Biologist	$980.00	10	$9,800.00
Annual Surveys for Invasive Species	$5,000.00	1	$5,000.00
Conservation Easement signage, trespass deterrents, etc.	$5,000.00	1	$5,000.00
Annual Winter Visual Encounter Surveys (Conservation Easement)	$15,0000.00	1	$15,000.00
Annual Monitoring Report for Covered Activities and Surveys	$5,000.00	1	$5,000.00
		Total Annual Recurring Costs	**$106,970.00**
Activities Recurring for Five Years			
Construction Water Storage			
Daytime Surveys	$830.00	24	$19,920.00
Nighttime Surveys	$1,660.00	12	$19,920.00
		Total Annual Recurring Costs for Five Years	**$39,840.00**
Activities Related to Proposed Increase to Landfill Capacity*			
Pre-construction surveys (1x per year for 2 years)	$1,500.00	**1**	$3,000.00
		Total Cost for Two Years	**$3,000.00***
One Time Conservation Easement Costs			
Conservation Easement Setup (Due Diligence, Management Plan, Easement Drafting)			$51,250.00
Endowment (annual maintenance, monitoring, and reporting)			$66,000.00
		Total One Time Conservation Easement Costs	**$117,250.00**
Changed Circumstances			
Initial Assessment, Preliminary Response, and Remedial Actions			$12,500.00

***** Post rain event surveys and translocation call outs covered under Annual Activities.

7.2 Funding Source and Assurances

The Applicant will be responsible for the full cost of implementing the Avoidance and Minimization Measures, Monitoring and Reporting, and establishment of the Conservation Easement, and the Conservation Easement Endowment. The County will provide funding for implementation of the Avoidance and Minimization Measures, Monitoring, Reporting, and Conservation Easement requirements as specified in this HCP. The County also recognizes that there is a potential cost associated with Changed Circumstances, including initial assessment, preliminary response and remedial actions. The County will be prepared to fund this cost in the event of a Changed Circumstance; however, this is not anticipated to be an annual reoccurring cost unless a changed circumstance occurs. The anticipated amount represents approximately 10% of the annual recurring and five-year recurring.

The Applicant operates as an Enterprise Fund within the County of Santa Barbara organization. Revenues generated by the Applicant come from customers paying for solid waste management services as well as other supplemental funding sources such as grants or state waste programs. Each year, the Applicant prepares a budget including operational and capital costs. The cost to implement the necessary take-avoidance and mitigation measures will be included as a separate line item in the Applicant's annual operational budget. In addition, on an annual basis, rates are set for each type of solid waste service that the Applicant provides based on the costs to provide these services, including the activities contained in this HCP. The Board of Supervisors annually reviews and approves these rates. The Applicant has the ability to adjust rates based on the projected cost to provide services as well as maintaining both capital replacement and operating reserves for unanticipated additional costs.

The Enterprise Fund is financially sound, and the generation of waste material provides a consistent and stable revenue stream. Therefore, the Applicant has the financial capability to fund the estimated one-time cost of $117,250 (to establish the conservation easement, management plan and annual monitoring and reporting requirements), ongoing annuals costs for take-avoidance and mitigation measures (estimated to be $106,970 per year depending on the level of construction or the number of weather events), as well as a potential cost of $12,500 in the event of a changed circumstance. The Applicant understands that the permit would be at risk and federal enforcement measures could be possible if adequate funding is not provided and measures are not implemented as required under the HCP.

8.0 PERMIT/HCP ADMINISTRATION

8.1 Amendments

During the specified permit period, amendment of the Section(1)(a)(B) permit for the Project would be required by the USFWS for any of the following activities:

- addition of new species, either listed or unlisted,
- increased level or different form of take for covered species,
- changes to funding that affect the ability of the permittee to implement the HCP,
- changes to covered activities not previously addressed,
- changes to covered lands, and
- significant changes to the conservation strategy, including changes to the mitigation measures.

The Project would not require an amendment based on minor changes, including but not limited to slightly modifying avoidance and minimization measures, modifying annual reporting protocols, and making minor changes to funding sources. A permit amendment would also require publication in the *Federal Register* and would be made public. If the USFWS concurs with the information provided in the amendment request, it will amend the permit consistent with permit amendment procedures required by federal regulation found in 50 CFR 13.22.

8.2 Permit Renewal

Upon expiration, the Section 10(a)(1)(b) permit may be renewed without the issuance of a new permit, provided that the permit is renewable and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. USFWS regulations at 50 CFR 13.22 allow a permit to remain in effect while the Service considers a renewal request, but only if the renewal request is received at least 30 days before expiration. The Applicant or his/their legal successor(s) will submit the following, in writing, to the Service: (1) a request to renew the permit, inclusive of the original permit number; (2) certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct; (3) a detailed list of requested changes; (4) a description of any take that has occurred under the existing permit; and (5) a description of any portions of the Project still to be completed, if applicable, and which activities under the original permit the renewal is intended to cover.

Additionally, the USFWS will review the original HCP to determine if changes are necessary, and revisions depend on how much of the originally covered activity has been completed, whether the mitigation has kept pace with impacts, or possibly if the status of covered species has changed. The USFWS may recommend new species or habitat surveys to identify potential HCP amendments based on the effects of climate change or other factors. The USFWS will honor "No Surprises" assurances as much as practicable, but any renewed permit must satisfy applicable statutory and regulatory requirements in force as of the date of the approval of the renewal request. Permit renewals must be advertised in the *Federal Register* prior to renewal request approval, even if there are no revisions. If the USFWS concurs with the information provided in the request, it will renew the permit consistent with permit renewal procedures required by Federal regulation found in 50 CFR 13.22.

8.3 Permit Transfer

In the event of sale or transfer of ownership of the Project property during the term of the permit, then a new permit application, permit fee, and an Assumption Agreement will be submitted to USFWS by the new owner. The new owner will commit to all requirements regarding take authorization and mitigation obligations of this HCP unless otherwise specified in the Assumption Agreement and agreed to in advance with USFWS. The Assumption Agreement would be consistent with all procedures as required by the 50 CFR 13.25 and 50 CFR 222.305. In the event of a partial permit transfer, only a portion of the HCP responsibilities or permit area will change ownership and the remainder of the HCP would continue under the original permittee.

The transferee must meet the certification requirements of 50 CFR 13.25, and all of the qualifications required to receive an incidental take permit, which means demonstrating the capacity to implement the HCP or that portion they are assuming responsibility for, the legal ability to perform the authorized project, and providing funding assurances. To obtain authorization, the successor must notify the USFWS within 90 days of the date the successor begins to carry out the permitted activity and obtain the USFWS written endorsement based on criteria including if the successor meets the qualifications to hold the permit, is capable to implementing the permit, including all outstanding minimization and mitigation measures, has provided adequate assurances of funding and has provided any other relevant information requested. If the USFWS concurs with the information provided in the transfer request, it will transfer the permit in accordance with the procedures required by federal regulation found in 50 CFR 13.22.

9.0 ALTERNATIVES

Section 10(a)(2)(A)(iii) of the FESA requires that alternatives to the taking of listed species be considered and the reasons why such alternatives are not proposed be included in the HCP. Two alternatives to the proposed Project are considered in this HCP: No Action Alternative and Minimal Environmental Impact/Minimize Take Alternative. The effects of the proposed action (the preferred alternative) have been discussed previously; a discussion of these two alternatives follows below.

9.1 Alternative 1: No Action Alternative

Under the No Action Alternative, an ITP for the Project would not be issued. The County would continue operation and maintenance of the Landfill and the ReSource Center without take authorization and would continue to attempt to operate through take avoidance only. The Applicant may not be able to conduct important public municipal waste management activities and recycling functions, repair/maintain important safety systems (e.g., leachate, landfill gas, etc.), or operate important environmental protection systems such as the North and South Sedimentation Basins to control sediment in storm water from reaching Pila Creek or the Pacific Ocean pursuant to the Regional Water Quality Control Board waste discharge and industrial storm water quality requirements. If individual California red-legged frogs or southwestern pond turtles are observed on the roads or within the active portions of the operational area, the individual would not be relocated and all activities in the vicinity would need to be suspended until the individual dispersed un-harassed. Because the individual could not be translocated to more suitable habitat, it may continue to be subject to predation or desiccation due to presence of low-quality dispersal habitat across the remaining Landfill and ephemeral and poor-quality aquatic habitat within the sedimentation basins and Pila Creek. In addition to these interruptions to Landfill and ReSource Center operations, the Applicant would not conserve 111.49 acres of aquatic, adjacent upland, and dispersal habitat within California red-legged frog Critical Habitat Unit STB-6. The No Action Alternative would not meet the Applicant's need to continue efficiently and effectively operate an existing municipal solid waste landfill which serve's the south coast of Santa Barbara County and the Santa Ynez and Cuyama Valleys, comply with state recycling and organics diversion requirements, and State and Federal greenhouse gas emission reduction requirements, or comply with Regional Water Quality Control Board requirements for treatment of stormwater. For these reasons the No Action Alternative has been rejected.

9.2 Alternative 2: Minimal Environmental Impact/Minimize Take Alternative

The Minimal Environmental Impact/Minimize Take Alternative would eliminate certain components of the project that have a greater potential to result in take. Under this alternative Take Authorization would be issued and individual California red-legged frogs and southwestern pond turtles would be relocated by an approved biologist if found within the Landfill or ReSource Center operational areas. However, use of the sedimentation basins for storm water quality management would be reduced and the use of the North Sedimentation Basin for storage of collected storm water for construction projects would be eliminated. Rather than manually lowering and raising the passive skimmers systems to permit more sediment to settle out of suspension prior to discharge, the skimmer systems would remain lowered throughout the rainy season. Thus, as the basins fill, they would concurrently be draining thereby reducing the duration of ponded storm water and preventing ponded water from being stored past the end of the rainy season. The reduced removal of suspended sediment would have the potential to adversely affect the beneficial uses of downstream waters (e.g., Pila Creek and the Pacific Ocean). If California red-legged frogs or southwestern pond turtles attempt to utilize the basin they would not be collected and translocated and would be subject to the fluctuating water levels and diminished water quality. Further, sediment removal from the basins may be interrupted or delayed if California red-legged frogs or southwestern pond turtles are present after the rainy season, reducing the water and sediment holding capacity of the basins over the long term, again potentially effecting downstream receiving water bodies. Since the sedimentation basins are categorized

as aquatic habitat and have the highest mitigation ratio, reducing manual management of the basins would reduce the potential for take associated with translocation and the acreage of impacts and conservation within the compensatory mitigation plan would be reduced. The Minimal Environmental Impact/Minimize Take Alternative would not meet the Applicant's need to manage storm water quality from Landfill and ReSource Center operations to comply with Regional Water Quality Control Board waste discharge and industrial storm water quality requirements for treatment of stormwater or allow the Applicant to reduce ground water demand with stored storm water potentially interfering with municipal solid waste disposal and recycling activities. For these reasons the Minimal Environmental Impact/Minimize Take Alternative has been rejected.

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10.2 Personal Communications

Ken Gililiand, Biologist, Padre and Associates, Email dated August 13, 2020, regarding proposed Baron Ranch Conservation Area.

10.3 List of Preparers

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