

SDG&E 6/22/11 Response
A. 10-06-007 South Bay Substation Relocation Project PTC
Energy Division Data Request 06 Dated June 8, 2011
SDGE-ED-006: Q 1-3

Question 1:

Initial Outreach Efforts: The CPUC has been contacted by Inland Industries Group, which owns three parcels along Bay Boulevard, located between 1011 and 1161 Bay Boulevard (see *Attachment 1*). Please identify whether SDG&E contacted the Inland Industries Group as part of initial outreach efforts. In the event there have been previous discussions with Inland Industries Group, please provide an overview of discussions to date.

SDG&E Response:

SDG&E did not contact Inland Industries Group as part of initial outreach efforts. They were, however, on the service list for properties located within 300 feet of the Proposed Project and received notice from SDG&E of the filing made at the CPUC.

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Question 2:

Biological Studies: Please provide all biological studies that have been completed for the proposed project, since submittal of the PEA in June 2010. Provide a memorandum prepared by a biologist that includes the methods and results of the biological studies.

SDG&E Response:

Please see the memorandum in Attachment A: Biological Resources Summary Memorandum prepared by Insignia Environmental, which includes all biological studies that have been completed for the Proposed Project since the submittal of the PEA in June 2010.

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Question 3:

Visual Simulations: SDG&E has provided three visual simulations to represent the change in views for passing motorists along Bay Boulevard. Please provide two additional visual simulations for both the proposed project and the Gas Insulated Substation Alternative at the following locations:

- Location 1
 - Latitude - 32°36'28.84"N
 - Longitude - 117° 5'31.99"W
- Location 2
 - Latitude - 32°36'21.02"N
 - Longitude - 117° 5'32.27"W

Please ensure the 69 kV steel riser poles and 138 kV steel riser pole are included in the visual simulations.

SDG&E Response:

SDG&E is providing photographs taken near the locations provided in the data request. The locations provided would not include all of the 69 kV and 138 kV poles in the same visual simulation so SDG&E has slightly adjusted the locations to accommodate the request. The photographs taken are provided for your information at this time. SDG&E will need approximately four more weeks to complete the simulations as requested.

ATTACHMENT A: BIOLOGICAL RESOURCES SUMMARY MEMORANDUM



Biological Resource Surveys Summary
South Bay Substation Relocation Project
Chula Vista, California

MEMO

To: Linda Wrazen, San Diego Gas & Electric Company (SDG&E)
From: Anne Marie McGraw, Insignia Environmental (Insignia)
Date: June 22, 2011
Re: Biological Resource Surveys Summary for the South Bay Substation Relocation Project
(Proposed Project)

This memo addresses the California Public Utilities Commission (CPUC) Energy Division staff's request for a memorandum that includes the methods and results of biological studies that have been completed for the South Bay Substation Relocation Project since the submittal of the Proponent's Environmental Assessment (PEA) in June of 2010. Two biological studies—United States (U.S.) Fish and Wildlife Service (USFWS) wet-season protocol-level branchiopod surveys and a rare plant survey—have been conducted for the Proposed Project since submittal of the PEA.

In addition, Insignia's biologists prepared a Biological Resources Technical Report, which has been included in Attachment A-1: Biological Resources Technical Report, in May of 2011 to support the Coastal Development Permit application for the Proposed Project. This document includes the methods and results of each biological study that has been conducted for the Proposed Project to date, and was submitted to the California Coastal Commission and California Public Utilities Commission on June 2, 2011.

Wet-season branchiopod sampling of the seasonal wetlands within the Proposed Project site was conducted according to USFWS protocol and was completed in April of 2011. As provided in Attachment A-2: 90-Day Report for the Listed Branchiopod Wet-Season Surveys, no branchiopods were detected in any of the 16 seasonal ponds. Per the USFWS protocol, dry-season soil sampling is also required because no listed branchiopods were found during the wet-season sampling. Dry-season soil sampling is anticipated to begin in July of 2011. The results of the dry-season sampling will be provided in a separate report upon completion.

A rare plant survey for the Proposed Project area was conducted on May 5 and 6, 2011. As provided in Attachment A-3: Rare Plant Survey Report, one rare plant—decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)—was found on the Proposed Project site during the May 2011 survey. The one individual was located in non-native annual grassland habitat southwest of the bermed area within the former LNG site.

ATTACHMENT A-1: BIOLOGICAL RESOURCES TECHNICAL REPORT

Biological Resources Technical Report
for the
South Bay Substation Relocation Project

Prepared for:



Prepared by:



May 2011

EXECUTIVE SUMMARY

San Diego Gas & Electric Company (SDG&E) is proposing to relocate the existing South Bay Substation to a site located approximately 0.5 mile south to accommodate increasing regional energy needs and facilitate the City of Chula Vista's Bayfront redevelopment goals through the SDG&E-City of Chula Vista Memorandum of Understanding. Relocation of the existing South Bay Substation to the proposed Bay Boulevard Substation site would require the construction of a 230 kilovolt (kV) loop-in, the relocation of 69 kV transmission lines, the extension of 138 kV transmission lines, and the demolition of the existing South Bay Substation once the Bay Boulevard Substation is operational. This report describes the biological resources that occur in the vicinity of the South Bay Substation Relocation Project (Proposed Project) area—inclusive of both the existing and proposed substation sites as well as the transmission line corridor—and identifies potential impacts to habitats and species that could result from construction, operation, and maintenance of the Proposed Project.

The Proposed Project is located in the City of Chula Vista, California in the southwestern portion of San Diego County. The Proposed Project site lies within an industrial area on disturbed land that was previously used as a liquefied natural gas plant site, and contains habitat dominated by non-native vegetation. One individual of one sensitive plant species—decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)—was observed within the Proposed Project site during the May 2011 rare plant survey; and one sensitive wildlife species—California horned lark (*Eremophila alpestris*)—was observed in the Proposed Project area during the March 2010 reconnaissance field surveys. Other sensitive wildlife species previously documented within the Proposed Project area include the northern harrier and western burrowing owl. Additionally, two sensitive plant species and 10 sensitive wildlife species have been identified to have a moderate potential to occur within the Proposed Project area. A total of 17 seasonal wetlands, one emergent wetland, and eight non-wetland features also exist within the Proposed Project area.

SDG&E intends to minimize impacts to these resources through avoidance where feasible, and through the implementation of various resource-specific applicant-proposed measures, compensation, and best management practices, as described further herein. With the proper implementation of these measures, impacts to sensitive resources in the Proposed Project area would be minimal.

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- Attachment A: USFWS Species List
- Attachment B: SDG&E NCCP and Operational Protocols

1 – INTRODUCTION

This Biological Resources Technical Report describes the existing biological resources located within the vicinity of the San Diego Gas & Electric Company (SDG&E) South Bay Substation Relocation Project (Proposed Project), details the methodologies used to assess potential impacts to sensitive habitats and species, provides the results of the assessments, and presents applicant-proposed measures (APMs) to reduce potential impacts. The Proposed Project involves several components, including relocating the existing South Bay Substation to a new site approximately 0.5 mile south, constructing a 230 kilovolt (kV) loop-in, and relocating/extending portions of the existing transmission system to the proposed Bay Boulevard Substation. The main objective of the Proposed Project is to replace the aging and obsolete substation equipment to accommodate increasing regional energy needs and to provide for future transmission and distribution load growth while facilitating the City of Chula Vista's Bayfront redevelopment goals that further the SDG&E-City of Chula Vista Memorandum of Understanding. Proposed Project construction is currently scheduled to begin by March of 2012 and is anticipated to be completed in 2013.

2 – PROJECT DESCRIPTION

2.0 PROJECT COMPONENTS

For the purposes of this document, and to better describe required construction activities, the Proposed Project is divided into the following five components:

1. Construction of the Bay Boulevard Substation approximately 0.5 mile south of the existing South Bay Substation
2. Construction of a 230 kV loop-in
3. Relocation of 69 kV transmission lines
4. Extension of 138 kV transmission lines
5. Demolition of the existing South Bay Substation

Proposed Project activities, with the exception of demolition, would generally occur within the newly acquired 12.42-acre Bay Boulevard Substation site, and subject to further coordination with the San Diego Unified Port District (Port District), within SDG&E's existing rights-of-way (ROW). Demolition activities would occur within the existing substation boundaries, and subject to further coordination with the Port District, would occur in an area extending approximately 50 feet from the existing substation boundaries. Figure 1: Project Vicinity Map depicts the location of the Proposed Project and Figure 2: Project Overview Map provides an overview of the Proposed Project.

2.0.0 Bay Boulevard Substation

The proposed substation site is a 12.42-acre parcel, located approximately 0.5 mile south of the existing South Bay Power Plant (SBPP) site, on the southern half of a former liquefied natural

gas (LNG) plant site. The site is situated in a primarily industrialized area between the San Diego Bay to the west and Bay Boulevard to the east. An unused San Diego & Arizona Eastern Railroad track borders the site immediately adjacent and parallel to the west side of Bay Boulevard that is adjacent to the proposed substation site. The northern edge of the substation site is bordered by the existing SBPP, fuel oil tanks, and the existing South Bay Substation. Light industrial businesses border the site to the east and the south, while the west is bordered by the Western Salt Works salt crystallizer ponds, used for the production of salt for commercial purposes. The enclosed portion of the Bay Boulevard Substation would occupy approximately 9.7 acres.

2.0.1 230 kV Loop-in

The 230 kV loop-in is proposed to be constructed in the same general location as the Bay Boulevard Substation. The existing 230 kV line traverses the site in a generally north-to-south direction within an existing 300-foot-wide easement. As part of the Proposed Project, the northern interconnection to the Bay Boulevard Substation would begin at an existing approximately 165-foot-tall steel riser structure. This structure would be removed and the line would continue underground for approximately 675 feet in a generally southwesterly direction before entering the northwest corner of the Bay Boulevard Substation. The southern interconnection would exit the substation overhead along the substation's eastern border, traveling in a generally southeasterly direction for approximately 150 feet to a new, approximately 121-foot-tall steel pole, before continuing approximately 150 feet southeast to an existing, approximately 145-foot-tall steel dead-end structure. At this point, it would tie into an existing overhead section of the existing 230 kV line and would continue east, spanning Bay Boulevard.

2.0.2 69 kV Relocation

SDG&E currently operates six 69 kV overhead transmission lines that connect into the existing South Bay Substation—three enter the Proposed Project area from the south and three connect to the existing South Bay Substation from the north. The three lines entering the Bay Boulevard Substation site from the south would be intercepted and terminated at the new substation. The three lines currently entering the existing South Bay Substation from the north would be relocated approximately 2,500 feet south from their current termination point, entering the Bay Boulevard Substation through underground duct banks.

2.0.3 138 kV Extension

Three existing 138 kV lines are connected overhead into the South Bay Substation. As part of the Proposed Project, the 138 kV connections to the South Bay Substation would be removed and the line currently entering the South Bay Substation from the north would be extended until intercepting existing 138 kV lines with a new steel riser pole. Starting at the existing three-pole wood riser structure slated to be removed; approximately 3,800 feet of underground duct bank would be installed and extended in a generally north-to-south direction.



Figure 1: Project Vicinity Map

South Bay Substation Relocation Project

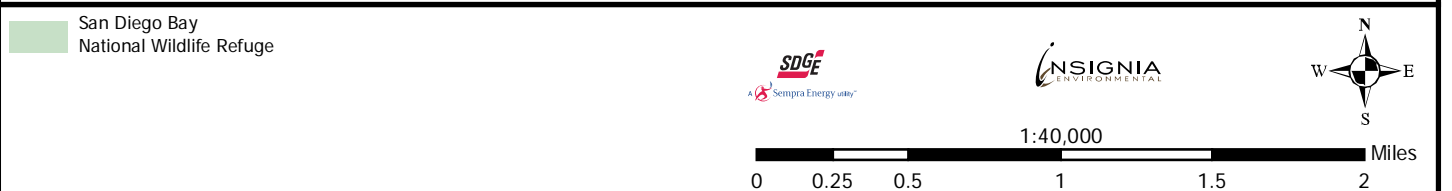




Figure 2: Project Overview Map

South Bay Substation Relocation Project



Along its alignment, the 138 kV underground duct bank would cross under Telegraph Creek—an approximately 50-foot-wide, concrete-lined channel—using the jack-and-bore construction method. At this point, the extended northern line would be connected to the two remaining 138 kV lines, approaching from the south. An additional approximately 500 feet of underground duct bank would be installed from the 138 kV extension to the Bay Boulevard Substation to accommodate the ultimate configuration.

2.0.4 South Bay Substation Demolition

As part of the Proposed Project and subject to the satisfaction of several conditions, the existing 7.22-acre South Bay Substation would be decommissioned and demolished. The existing South Bay Substation is located approximately 0.5 mile north of the proposed Bay Boulevard Substation site and adjacent to the northeastern border of the SBPP, in a generally industrialized and disturbed area. In addition to the demolition of the existing South Bay Substation, certain transmission structures used exclusively in connection with the operation of the existing South Bay Substation would be removed from the existing 10.47-acre adjacent transmission and distribution easement site as a part of the Proposed Project.

2.1 RIGHT-OF-WAY REQUIREMENTS

Temporary

Temporary ROW requirements include short-term impacts during construction of new pole structures and removal of existing towers, construction of new access roads and improvement to existing access roads, and work at staging/laydown areas. Temporary ROW requirements include up to approximately 15.82 acres of developed land, 0.03 acre of emergent wetland, 4.57 acres of non-native grassland, 0.26 acre of Eucalyptus woodland, 5.26 acres of ornamental vegetation, 22.87 acres of disturbed habitat, and 1.45 acres of disturbed coastal coyote brush scrub. These temporary ROW requirement acreages are based on a worst-case scenario in which the majority of the SDG&E easement would be graded, excavated, or used for overland travel.

Permanent

Permanent ROW requirements involve long-term impacts associated with permanent Proposed Project features (e.g., new transmission towers and new substation). Permanent ROW requirements include approximately 0.20 acre of developed land, 2.41 acres of seasonal wetland, 0.03 acre of emergent wetland, 8.74 acres of non-native grassland, 0.05 acre of ornamental vegetation, 0.18 acre of disturbed habitat, and 4.94 acres of disturbed coastal coyote brush scrub.

2.2 WORKSPACE REQUIREMENTS

Proposed Project construction would require the use of various temporary work areas, including staging areas; a fly yard; pole, structure, and underground duct bank work areas; and pull sites. The size and numbers of each temporary work area are shown in Table 1: Temporary Workspace Required. Some vegetation removal, as well as grading and/or excavation may be required to accommodate equipment and to allow site development to occur. Following construction, each work site would be restored to near pre-construction conditions to the extent practicable.

Table 1: Temporary Workspace Required

Associated Proposed Project Component/Workspace Description	Workspace Type	Quantity	Required Improvements	Approximate Dimensions (feet)	Total Area (acres)
230 kV Loop-in	Pole Work Area	2	Clearing, Grading, and Excavation	150 by 150	1.0
	Underground Work Area ¹	1	Clearing, Grading, and Excavation	1,000 by 50	1.1
	Pull Site	1	Clearing	225 by 150	0.8
69 kV Relocation	Pole Work Area	68	Clearing, Grading, and Excavation	150 (diameter)	27.6
	Underground Work Area	1	Clearing, Grading, and Excavation	4,100 by 30	2.8
	Pull Site ²	4	Clearing	150 by 150	1.0
138 kV Extension	Structure/Pole Work Area	5	Clearing, Grading, and Excavation	150 (diameter)	1.0
	Underground Work Area	1	Clearing, Grading, and Excavation	4,300 by 50	4.9
	Pull Site	1	Clearing	225 by 150	0.8
South Bay Substation	Staging Area	1	None	50 (buffer)	1.7
Underground Duct Banks ³	Jack-and-Bore Pit	10	Clearing, Grading, and Excavation	150 by 150	5.2
Yard at H Street and Bay Boulevard (H & Bay Yard)	Staging Area	1	None	280 by 310	2.0
	Fly Yard	1	None	100 by 100	0.2
Total	- -	97	- -	- -	50.1

¹ The underground work areas may be used during conductor and cable pulling activities.

² Portions of the 69 kV pull sites would overlap with their associated pole work areas.

³ Telegraph Creek (water feature 18 on Figure 6: Wetland and Waters Map) would be crossed using the jack-and-bore method. Up to three additional features (water features 1, 13, and 18 on Figure 6: Wetland and Waters Map) have been identified that may be crossed using the jack-and-bore method of construction as an alternative to trenching.

2.2.0 Staging Areas

Bay Boulevard Substation

During the decommissioning of the former LNG site and the subsequent site-development phase at the proposed Bay Boulevard Substation, SDG&E's existing easement would be used as a staging area. Following site development, the Bay Boulevard Substation footprint would be used as the staging area for the remainder of substation construction and activities. A concrete masonry wall would be installed to secure the substation site. This site would be used for equipment and materials storage, vehicle parking, as well as to house temporary office trailers. The entire former LNG site is currently enclosed by eight-foot-high chain-link security fencing topped with barbed wire; therefore, no temporary security fencing would be required during construction. The site would be gated and locked for security purposes.

To provide electrical service to the site during construction, a temporary tap to an existing distribution line would be installed. This temporary power would be used to provide power to the construction trailer, construction lighting, and/or hand tools, until the installation of transformers occurs. Installation of the temporary distribution tap would be accomplished by installing direct-bury wood distribution poles prior to construction. These poles would deliver power from the nearest tie-in point to the Bay Boulevard Substation site.

Transmission Easement

Following the site development activities at the proposed Bay Boulevard Substation, SDG&E's adjacent easement would continue to function as a staging area during construction of the remaining Proposed Project components. As described previously, this site would be powered from a temporary distribution tap from SDG&E's existing facilities in the vicinity of the Proposed Project and the LNG site's existing fence would be used to secure the area.

H & Bay Yard

Additional staging would occur at the existing H & Bay Yard, located approximately 1.2 miles north of the proposed substation site at the intersection of H Street and Bay Boulevard. This approximately 280-foot by 310-foot disturbed area has been used by SDG&E for staging purposes during previous projects. This staging area would be used for the storage of construction materials and equipment during the construction of all of the Proposed Project components. The entire H & Bay Yard would be enclosed by an approximately six-foot-high chain-link security fence and locking gate. No power sources would be installed at this staging area and no additional improvements would be necessary.

2.2.1 Fly Yard

An approximately 100-foot by 100-foot paved fly yard is planned to be established within SDG&E's existing easement located directly adjacent and west of the H & Bay Yard and would be used for refueling and picking up materials. Helicopters, as described in Section 2.4 Construction Methods, would be used to string the sock line (a small cable used to pull the conductor) used during conductor pulling activities. Helicopter flight would be generally limited to within SDG&E's existing easement as described in Section 2.1 Right-of-Way Requirements. Helicopter activities are anticipated to require up to 24 hours of total operation. SDG&E best

management practices (BMPs) would be implemented at the helicopter fly yard to reduce potential impacts to air quality, hazards and hazardous materials, and noise.

2.2.2 Work Areas

In addition to the staging areas discussed in the previous section, temporary workspace would be required to facilitate construction of each Proposed Project component. These anticipated workspace requirements are described in detail in the following subsections, summarized in Table 1: Temporary Workspace Required, and depicted in Figure 3: Detailed Project Components Map. All temporary work areas would be accessed by construction equipment using existing access roads or by overland travel. All work areas would be restored to near pre-construction conditions to the extent practical following the completion of construction.

2.2.3 Poles and Structures

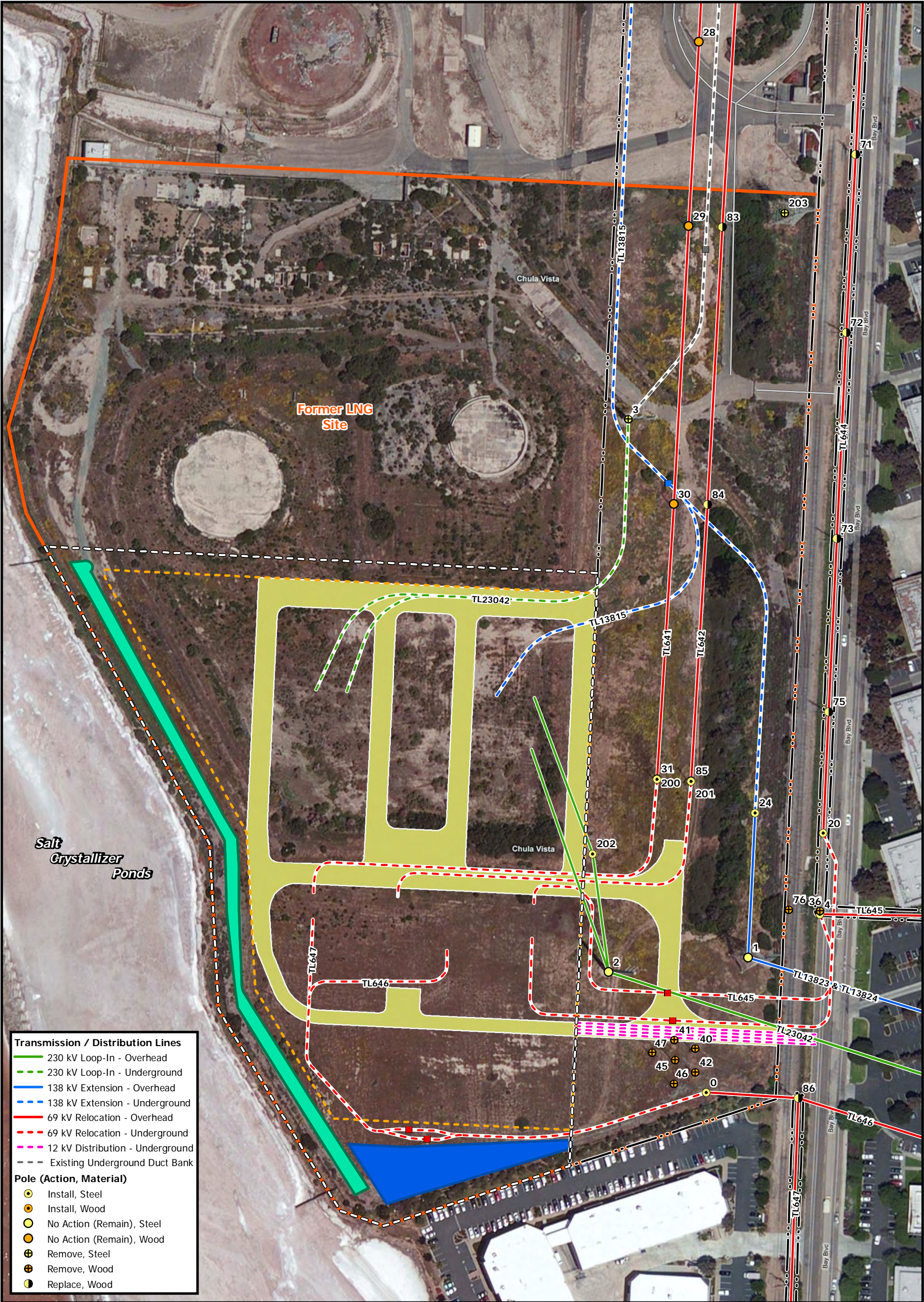
To accommodate construction equipment and activities during the installation and removal of transmission poles and structures, temporary construction areas would be cleared and graded at each individual location. An approximately 150-foot by 150-foot workspace would be established at each of the two 230 kV poles that would be installed or removed. Approximately 150-foot-diameter workspaces would be established at the sixty-eight 69 kV and five 138 kV poles and structures that would be installed, removed, or replaced. A total of approximately 75 of these workspaces, totaling approximately 29.6 acres, would be required.

2.2.4 Underground Construction

To accommodate the installation of the underground duct banks, temporary workspaces centered on the duct bank alignments would be established. These areas would be cleared and graded, as needed, to provide a safe working space at each for the operation of construction equipment. The 230 kV and 138 kV duct banks would require an approximately 50-foot-wide workspace while an approximately 30-foot-wide area would be used for the 69 kV duct banks. A total of approximately 9,400 linear feet of workspace, requiring approximately 8.8 acres, would be established prior to construction.

2.2.5 Pull Sites

Approximately six pull sites would be established to provide a safe working space for the installation and removal of overhead conductors and underground cables. These pull sites would generally be located adjacent to designated 230 kV, 138 kV, and 69 kV poles. The 230 kV and 138 kV pull sites would be approximately 225 feet long, 150 feet wide, and located directly in line or offset with the conductor. Pull sites required for the 69 kV relocation would be approximately 150 feet wide, and would extend approximately 150 feet from the base of the pole in line with the conductor's alignment. As a result, the pull sites would require approximately 3.7 acres of land. The temporary work areas used to install the underground duct banks would be used to facilitate pulling of the underground cables. Grading of the pull sites is not expected to be necessary.



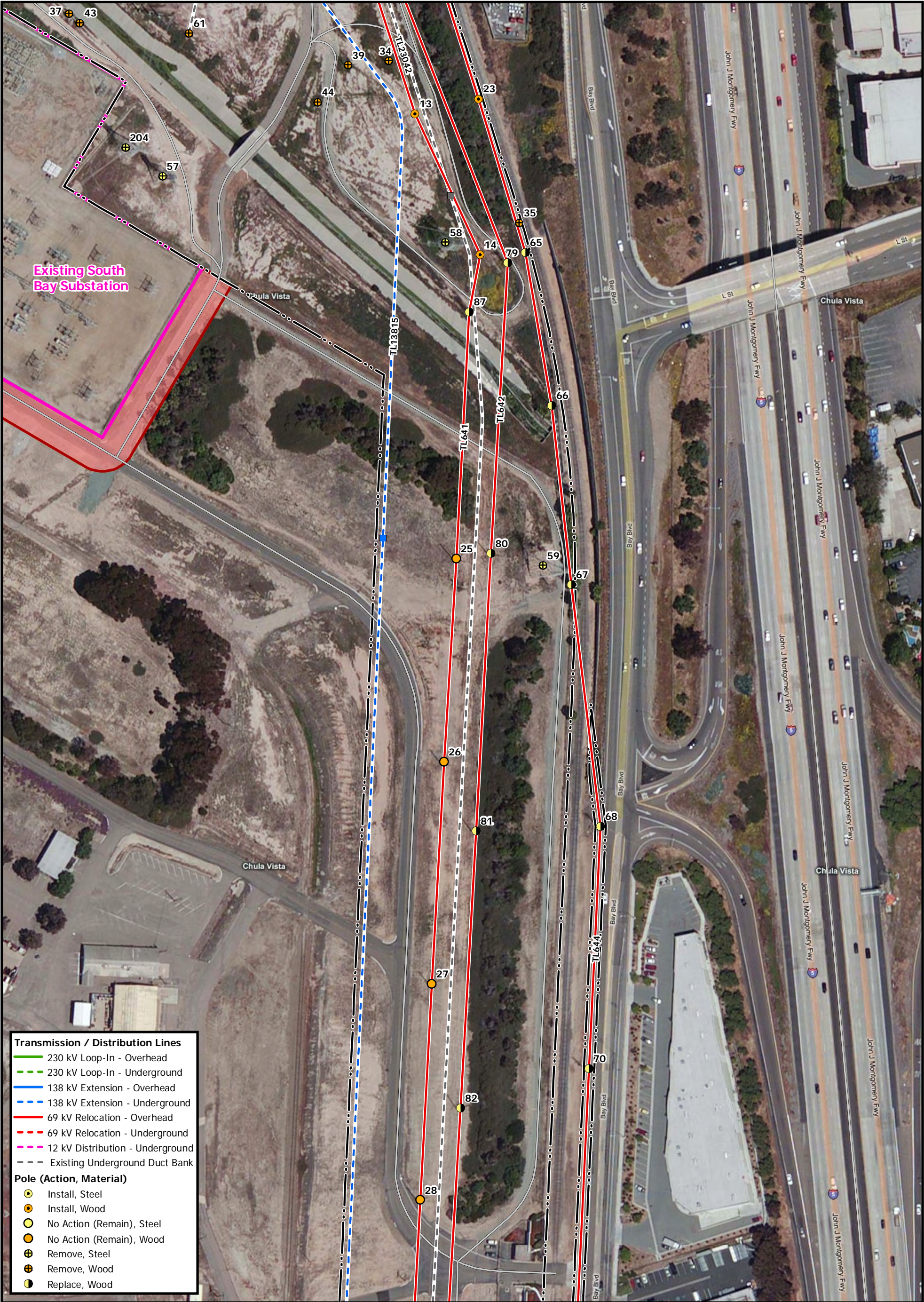
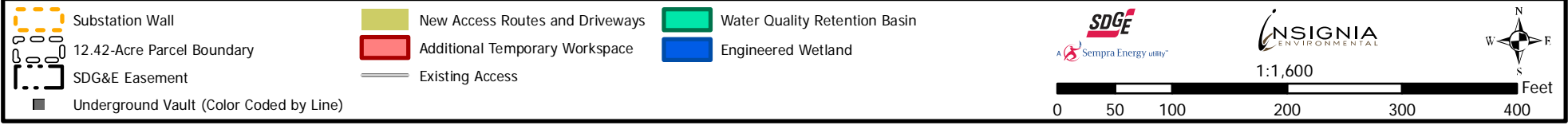


Figure 3: Detailed Project Components Map 2 of 3

South Bay Substation Relocation Project



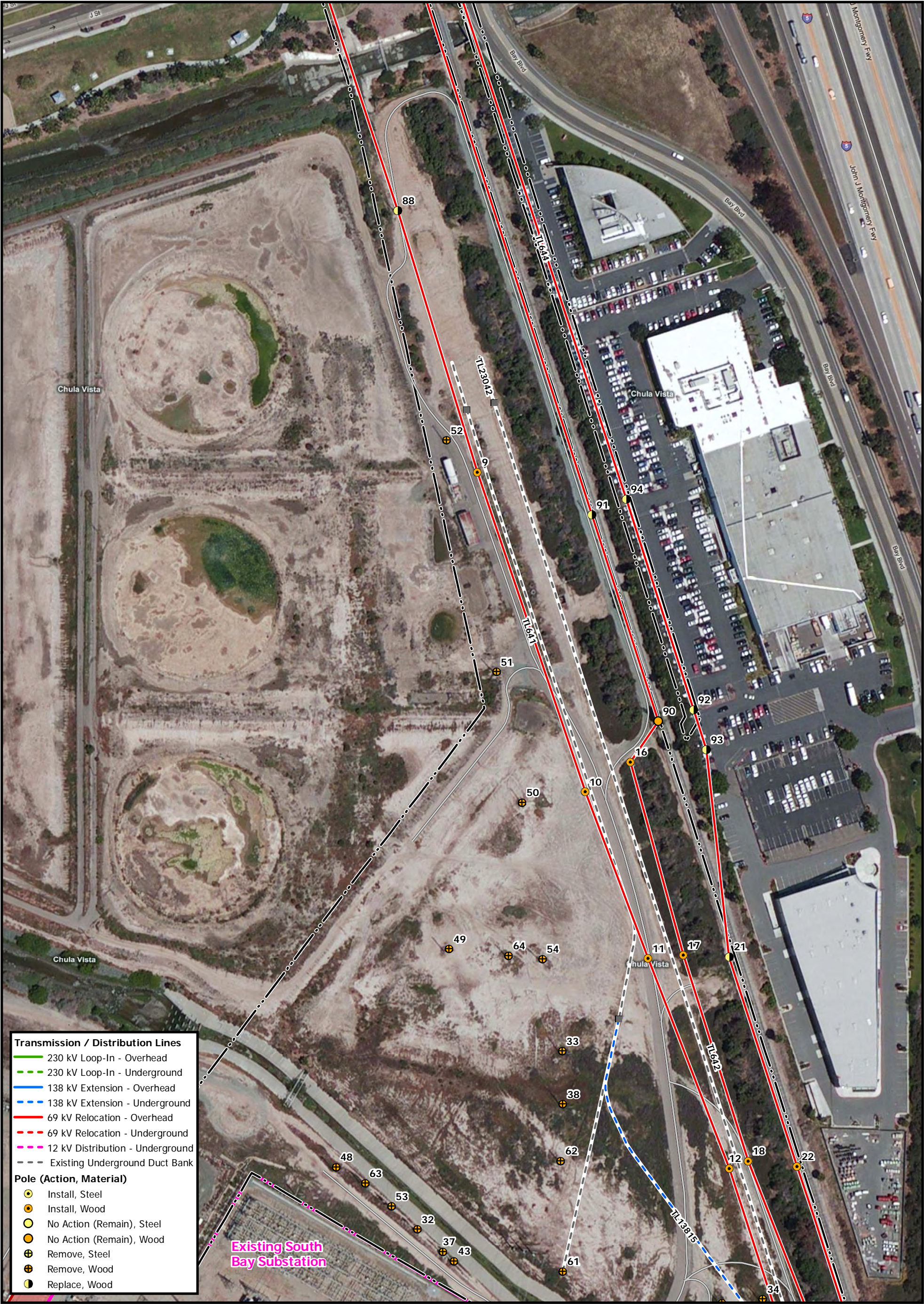
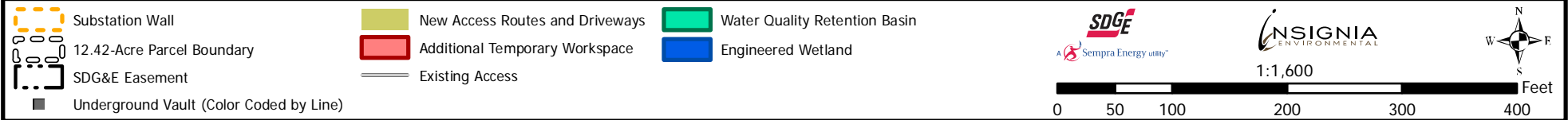


Figure 3: Detailed Project Components Map 3 of 3

South Bay Substation Relocation Project



2.3 ACCESS

2.3.0 Bay Boulevard Substation

An existing approximately 160-foot-long paved road provides access from Bay Boulevard to the current LNG site, SDG&E's existing 300-foot-wide easement, and the Bay Boulevard Substation site. Prior to the start of construction, and subject to further coordination with the Port District and the Metropolitan Transit System, this existing access route would be extended south to provide access for construction crews and heavy equipment to the proposed substation site. This access route is planned to be graded generally flat and approximately 30 feet wide. As construction progresses, the main access driveway would be built and then used to access the substation site.

2.3.1 Transmission Lines

SDG&E currently maintains a network of existing paved and unpaved access roads that are used to maintain and operate the existing transmission lines within their easements. Subject to further coordination with the Port District, this network of roads and the proposed substation access route would be used to access all temporary work areas required during construction. Construction crews may travel overland within SDG&E's existing easement on an as-needed basis to access work areas located outside of the range of existing roads. Prior to construction, all sensitive resources would be flagged and these areas would be avoided by construction crews. No new permanent access roads would be constructed to access these Proposed Project components.

2.3.2 South Bay Substation Demolition

An approximately 2,100-foot-long, two-lane paved road provides access to the existing South Bay Substation. No new temporary or permanent access roads would be constructed to access the substation.

2.4 CONSTRUCTION METHODS

Construction methods for the Bay Boulevard Substation, the overhead and underground transmission lines, and the underground distribution getaways are described in this section. Construction methods used to demolish the existing South Bay Substation are also discussed.

2.4.0 Bay Boulevard Substation

Clearing and Grading

Due to the disturbed/developed nature of the Bay Boulevard Substation site, extensive vegetation clearance is not anticipated as part of construction activities. Approximately 18.4 acres of on-site vegetation would be removed during the clearing and grading phase of Bay Boulevard Substation construction. Clearing activities would be accomplished through the use of mowers, excavators, front-end loaders, and/or D-9 bulldozers. No trees would be removed as part of the Proposed Project; however, the Bay Boulevard Substation site is located in an established industrial area that supports a limited number of trees that may be periodically trimmed during maintenance activities. This trimming would serve to reduce the potential for any trees to come in contact with electrical lines, potentially resulting in power outages. As needed, tree trimming

activities would be conducted utilizing a two-man crew, a one-man aerial lift truck, and a chipper trailer. The permanent cut and fill slopes for the Bay Boulevard Substation and the permanent cut and fill for the access roads and water quality basins would be stabilized during construction with BMPs that are outlined in the Proposed Project Storm Water Pollution Prevention Plan (SWPPP).

Foundation Construction

Following site preparation, construction of the substation equipment foundations (consisting of drilled pier, mat, and pad type foundations) and the grounding grid would commence. SDG&E would also conduct exploratory excavations (potholing) to verify the locations of existing underground facilities in the field prior to initiating excavation of foundation holes and other earthwork.⁴ Foundation construction would then commence with excavation activities that would be accomplished primarily by backhoes and drill rigs. Forms, reinforcing steel, and concrete would then be installed, as appropriate, to build the foundations for the substation equipment and the control shelter.

Dewatering of the foundation excavation may be necessary. Prior to construction, SDG&E would acquire a National Pollutant Discharge Elimination System General Permit for Discharges of Storm Water Associated with Construction Activities (General Construction Permit) from the state Water Resources Control Board and prepare a SWPPP. Alternatively, the water may be discharged into a community sanitary sewage system. If this is the preferred disposal method, SDG&E would secure permission from the local sewage system authority in advance of any discharging.

Above Grade Construction

Once the foundation work has been completed, major equipment and the 230 kV control house would be installed on their respective foundations or structures, inclusive of anchoring in their final positions.

Access Route and Driveway Construction

Newly paved areas would measure approximately 30 feet wide, and each side would be bordered by three-foot-wide Class II aggregate shoulders. Access road construction is planned to begin by grading and compacting the required area in accordance with engineering standards and the geotechnical requirements. Following compaction, road base is planned to be imported, distributed on site, and compacted. Finally, conventional paving equipment is planned to be used to distribute the asphalt road material along the main access route and driveways.

Cleanup and Post-Construction Restoration

All areas that would be temporarily disturbed by the Bay Boulevard Substation construction activities would be restored to near pre-construction conditions, to the extent practicable, following the completion of construction. Restoration would involve removal of all construction

⁴ SDG&E would notify Underground Service Alert a minimum of 48 hours in advance of excavating or conducting other ground-disturbing activities throughout construction.

debris for recycling or disposal off site, grading areas to original contours, and allowing natural revegetation as appropriate.

2.4.1 Overhead Transmission Line Construction

Clearing and Grading

Removal and installation of transmission line poles and structures would require clearance of up to approximately 32.2 acres of vegetation.⁵ Mowers and D-9 bulldozers would be used to clear pull sites and areas required for pole/structure installation and removal. Depending on the local topography, these areas may also be graded flat or in a terraced fashion. Clean soil may be imported, as necessary, to raise the elevation of the work areas.

Steel Pole Installation

Foundations

All of the steel poles that would be installed as part of the Proposed Project would be placed on new concrete foundations, typically consisting of drilled concrete piers. Following the preparation of the pole work area, the foundation process would begin with the excavation of a hole using a truck-mounted excavator. Each foundation hole would range from approximately six to nine feet in diameter and 20 to 45 feet in depth. Following excavation of the foundation hole, a reinforcing steel cage and anchor bolts would be assembled at one of the Proposed Project's staging areas, transported to the foundation site, and installed. Following the cage installation, a form would be built and concrete would be poured to a height of approximately six to 24 inches above grade.

Pole Installation

Steel poles would be delivered to the pole site via flatbed truck in two or more sections and assembled on-site using a small truck-mounted crane. Installation of direct-bury wood poles would begin with the excavation of holes measuring approximately three feet in diameter and approximately eight to 12 feet deep, depending on the type and height of the pole. Holes would be drilled using a truck-mounted auger or similar equipment. New poles would then be delivered to the site and placed with a small crane.

Overhead Conductor Installation

Conductor installation procedures would be similar for all overhead portions of the Proposed Project. Prior to stringing the new overhead line, temporary guard structures typically consisting of vertical wood poles with cross arms would be installed at crossings of energized electric and communication facilities, preventing the conductors from sagging onto other lines during the conductor installation. In some cases, bucket trucks may also be used for guard structures.

⁵ This calculation presents a worst-case scenario where all areas associated with overhead transmission line construction—pole work areas and pull sites—described in Table 1: Temporary Workspace Required would be cleared. The dimensions presented in Table 1: Temporary Workspace Required represent typical workspaces. When established during construction activities, these workspaces may be reduced in size to account for sensitive resources and local topography. SDG&E would generally use their existing easements, as described in Section 2.1 Right-of-Way Requirements, as work areas.

Conductor stringing operations would be facilitated with the installation of sheaves or “rollers” on the cross arms during structure installation, using aerial manlifts (bucket-trucks). Following installation of the sheaves, a sock line would be pulled onto the sheaves using a helicopter. Once the rope is in place, it would be attached to a steel cable and pulled back through the sheaves. The conductor would then be attached to the cable and pulled back through the sheaves using conventional tractor-trailer pulling equipment located at the pull sites. The conductor would then be clipped into the end of each insulator, the sheaves would be removed, and vibration dampers and other accessories would be installed. This process would be repeated for each conductor.

Approximately six designated pull sites would be required in order to tension the conductor to a pre-calculated level. The pull sites would be needed to load the tractors and trailers with reels of conductors, and the trucks with tensioning equipment. Each pull site would require clearing an area between approximately 0.5 acre and 0.7 acre.

Steel Pole and Lattice Structure Removal

Existing steel poles and lattice structures would be disassembled and removed by cranes and aerial manlifts. The sections would be transferred to a flatbed truck using a small truck-mounted crane. The steel poles would then be transported off site for recycling or disposal at an approved facility.

Once all of the poles and structures have been removed, their associated reinforced concrete foundation pads and piers would be jack-hammered to approximately one to two feet below grade. All debris located near the vicinity of the foundations would be removed from the site and would be recycled or disposed of at an approved facility. The remaining hole would then be backfilled with material similar to the surrounding area and the site would be restored to near pre-construction conditions.

Wood Pole Removal

Wood pole removal would begin with crews dismantling the hardware on the existing poles using cranes and aerial manlifts. The old poles would then be cut off at ground level and transported off site by flatbed trucks for disposal at an approved facility. The base of the pole would be abandoned in place if it cannot be removed. If the base of the pole is removed, then the void would be backfilled and compacted with native soil.

Cleanup and Post-Construction Restoration

With the exception of areas around all poles that would be kept clear of shrubs and other obstructions for inspection and maintenance purposes, all other areas that are temporarily disturbed would be restored to near pre-construction conditions, to the extent practicable, following the completion of the overhead transmission line installation. Restoration would include grading to original contours and allowing natural revegetation.

2.4.2 Underground Transmission Construction

Trenching

Unless alternate methods are required to cross existing facilities or sensitive resources, duct banks would be installed using open-cut trenching techniques. Excavators and other earth-

moving equipment would be used to establish trenches approximately three to six feet deep and three to seven feet wide. Dewatering is anticipated during trenching and underground duct bank installation activities conducted within proximity of the Bay Boulevard Substation. The proposed dewatering procedures would be similar to those required to dewater overhead transmission line excavations.

Jack-and-Bore

SDG&E would use the horizontal jack-and-bore construction technique to install conduits at locations along the underground route where open-cut trenching may not be permitted or may otherwise not be feasible or preferred, such as at railroad and trolley tracks, roads, and drainage channel crossings.

Horizontal boring (jack-and-bore) is an augering operation that simultaneously pushes a casing under an obstacle and removes the spoil inside the casing with a rotating auger. Boring operations would begin with excavating bore pits at the sending and receiving ends of the bore. Boring and receiving pits would typically measure approximately 20 feet by 40 feet. The depth of the proposed bore pits would be between 10 and 20 feet, depending on the facilities that would be crossed. An approximately 150-foot by 150-foot temporary construction area would be required at each bore pit location.

Duct Bank Installation

As the trenches for the underground duct banks are excavated, SDG&E would install the cable conduits (separated by spacers) and pour concrete around the conduits to form the duct banks. The duct banks would typically consist of six- to eight-inch-diameter polyvinyl chloride (PVC) conduits, which would house the electrical cables. An approximately four-inch-diameter conduit would also be included to house communication cables. The dimensions of the duct banks would be approximately three feet wide and three feet high. Once the PVC conduits are installed, engineered backfill would be imported, placed, and compacted, such that each duct bank would have a minimum cover of 36 inches.

Vault Installation

To facilitate the pulling and splicing of the cables, underground vaults would be installed in line with the 138 kV and 69 kV underground duct banks. These vaults would also provide access to the underground cables for maintenance, inspection, and repair during operation. During the previously discussed trenching activities, the trench would be widened at the underground vault locations to allow approximately two feet of additional clearance.

Cable Pulling, Splicing, and Termination

After installation of the conduit, SDG&E would install cables in the duct banks. Each cable segment would be pulled into the duct bank, spliced at each of the vaults along the route (if applicable), and terminated at the transition where the lines convert to overhead. To pull the cable through the ducts, a cable reel would be placed at one end of the section and a pulling rig would be placed at the other end.

Clean-up and Post-Construction Restoration

All areas that are temporarily disturbed by Proposed Project activities would be restored to near pre-construction conditions, to the extent practicable, following completion of construction. Restoration would involve removal of all construction debris for recycling or disposal off site, grading areas to original contours, and repaving or allowing natural revegetation, as appropriate.

2.4.3 Demolition of South Bay Substation

As part of the Proposed Project, the existing South Bay Substation would be demolished once the Bay Boulevard Substation is energized and the transmission lines are cut over from the South Bay Substation to the Bay Boulevard Substation. Prior to demolition of the existing South Bay Substation, the soil, conduit, control house materials, equipment, and steel structures would be tested for environmental hazards, such as oil, polychlorinated biphenyls, lead-based paint, and asbestos. All hazardous materials would be abated prior to, or as part of, the demolition process. Throughout the demolition of the substation, all removed equipment and materials would be tested in accordance with federal, state, and local standards to determine appropriate recycle, reuse, or disposal alternatives.

2.5 PERSONNEL

The number of personnel would range from seven to 36 for each phase of construction.

2.6 CONSTRUCTION SCHEDULE

SDG&E anticipates that construction of the Proposed Project would take a total of approximately 32 months. Construction would be limited to no more than 12 hours per 24-hour period (some activities, such as transformer oil processing, would require continuous work 24 hours per day for three to five days per transformer), six days per week as needed, except during SDG&E's need to perform electrical system transfers.

2.6.0 Bay Boulevard Substation

SDG&E anticipates that construction of the Bay Boulevard Substation would take approximately 22 months from site development beginning by approximately March 2012 until energization of the 230 kV bus by December 2013.

2.6.1 230 kV Loop-in

SDG&E anticipates that construction of the 230 kV loop-in, including site preparation, pole installation, and conductor stringing, would take approximately seven months to complete. Foundation work for the steel poles is scheduled to begin several months prior to the Bay Boulevard Substation energization, and would take approximately 1.5 months to complete. Once completed, installation of the steel poles and conductor stringing would require approximately two months to complete.

2.6.2 69 kV Relocation

It is anticipated that construction of the 69 kV transmission line would require approximately five months to complete. Foundation work for the poles is estimated to take approximately two

months to complete. Once foundation work is completed, pole installation and conductor stringing are estimated to be completed in approximately three months. The 69 kV transmission lines would be cut over to the Bay Boulevard Substation after completion and energization of the substation and would take between two and 12 months to complete.

2.6.3 138 kV Extension

It is anticipated that construction of the 138 kV extension would require approximately seven months to complete. The extension would be cut over following the transfer of all 69 kV transmission lines to the Bay Boulevard Substation.

2.6.4 South Bay Substation Demolition

Demolition of the existing South Bay Substation would require approximately 10 months to complete and would begin once the Bay Boulevard Substation is energized and the existing transmission lines have been relocated.

2.7 OPERATION AND MAINTENANCE

The following discussion describes the activities required for the long-term operation and maintenance of the Proposed Project once it is in service.

2.7.0 Bay Boulevard Substation

The Bay Boulevard Substation would be unmanned, and would be monitored and controlled via SDG&E's remote control center. Routine operations would require a single pick-up truck visiting the substation several times per week for switching, as well as several larger substation construction and maintenance trucks visiting several times per year for equipment maintenance. Ongoing maintenance would involve testing, monitoring, and repair of the equipment, as well as emergency and routine procedures to ensure efficient provision of SDG&E services. Routine maintenance of vegetation clearing would occur on an as-needed basis for safety and access purposes. These activities would typically involve clearing or trimming vegetation to achieve the minimum required working space around the substation facilities.

2.7.1 Transmission Lines

SDG&E would maintain a 30-foot minimum (from edge to foundation) working space around all steel transmission structures and a 10-foot minimum working space around all wood poles. These areas would be kept clear of shrubs and other obstructions to inspect and maintain the structures. In addition, to ensure safety and reliability, vegetation that has a mature height of 15 feet or more would not be allowed to grow within 10 horizontal feet of any conductor within the ROW. The transmission facilities associated with the Proposed Project would continue to be inspected, maintained, and repaired following completion of the Proposed Project.

2.7.2 Pole or Structure Brushing

Although the proposed facilities would be located within a highly urbanized area, pole or structure brushing may be needed periodically to reduce the risk of fire or to allow for aerial inspection. Inspection for brushing needs would typically occur on an annual basis. Such clearing activities would generally be achieved through the use of chain saws, weed trimmers,

rakes, shovels, and/or brush clearing hooks. An area approximately 60 feet in diameter would be cleared around each new steel pole base and 20 feet around each new wood pole base, using a three-man crew over a two-hour period.

Application of Herbicides

The use of herbicides may be needed to prevent vegetation that is cleared during brushing activities from re-establishing itself. SDG&E would typically apply one or more of 16 standard herbicides that have been recommended by the United States (U.S.) Fish and Wildlife Service (USFWS) specifically for use by SDG&E. The herbicides would generally be applied within a 10-foot radius around the base of each pole, as needed.

Equipment Repair and Replacement

Conductors, insulators, switches, transformers, lightning arrest devices, line junctions, or other electrical equipment may be supported on various SDG&E poles or structures. Repairs to, or replacement activities of such components may be required in order to ensure that SDG&E is able to continually provide uniform, adequate, safe, and reliable service.

Insulator Washing

Insulator washing generally requires access to the base of the structure and a working area of approximately 30 by 40 feet. Inspection of the insulators typically occurs on an annual basis to identify the need for washing. Insulator washing may also occur at the Bay Boulevard Substation, depending on the type of insulators used and the potential level of contamination.

3 – METHODOLOGY

Data regarding biological resources for the Proposed Project area were obtained through a literature review of reference materials including manuals and guides of California plants, California birds, and mammals; a reconnaissance-level general biological survey; and a site-specific wetland delineation conducted in accordance with all pertinent regulatory guidelines. In addition, protocol-level branchiopod and rare plant surveys were conducted. The reference materials and plans consulted are further described in Section 3.0 Literature Search, and additional information regarding survey methodology and the wetland delineation is contained in Section 3.2 Survey.

3.0 LITERATURE SEARCH

Preliminary investigations included study of aerial photographs, U.S. Geological Survey (USGS) topographic maps, National Wetland Inventory maps, and literature and database searches, as described further in the subsections that follow.

3.0.0 Review of Applicable Plans

All planning documents relevant to the Proposed Project area, including five San Diego County plans—the San Diego County Multiple Species Conservation Program (MSCP), Chula Vista MSCP, Port District Master Plan, Chula Vista General Plan, and City of Chula Vista Local Coastal Program (LCP)—were reviewed. In addition, the SDG&E Subregional Natural

Community Conservation Plan (NCCP), the City of Chula Vista Wetlands Protection Program (WPP), and other applicable local ordinances were also consulted. Environmental documents, including the Draft Environmental Impact Report (EIR) for the Chula Vista Bayfront Master Plan, the SDG&E Otay Mesa Power Purchase Agreement Transmission Project Final EIR, and the SDG&E Silvergate Transmission Substation Project Draft EIR, were also reviewed.

3.0.1 Sensitive Species Lists

A search of the California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and Game (CDFG), was conducted for all USGS quadrangle maps that lie within five miles of the Proposed Project area, including Point Loma, National City, Imperial Beach, and Imperial Beach OEW. Other resources that were reviewed included the California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California, the SDG&E Subregional NCCP, and San Diego County Bird Atlas. Records for all known sensitive plants and animals within 0.25 mile, one mile, and five miles of the Proposed Project were compiled and reviewed. Species were considered sensitive if they met the following criteria:

- on CNPS List 1B.1, 1B.2, 1B.3, 2.1, 2.2, 2.3, 3, or 4;
- federally listed as endangered, threatened, or are a candidate for listing status; or
- state-listed as endangered, threatened, a California Species of Special Concern, or fully protected.

The Carlsbad office of the USFWS also provided a list of threatened and endangered species known to occur near or within the Proposed Project area. This list is included in Attachment A: USFWS Species List.

Determination of the potential for listed, sensitive, or noteworthy species to occur was assessed using a point system based upon the known elevational and geographic ranges, the habitat requirements for each species, the most recent dates of occurrence records, and the distance of the occurrence localities from the Proposed Project site. The criteria used include the following:

1. Date of most recent CNDDB record
 - a. Less than 30 years: assign one point
 - b. Between 30 and 60 years or unknown: assign two points
 - c. Greater than 60 years: assign three points
2. Distance from Proposed Project site of CNDDB record
 - a. Less than 0.25 mile: assign one point
 - b. Between 0.25 mile and one mile: assign two points
 - c. Greater than one mile: assign three points
3. Habitat in the project area
 - a. Suitable habitat: assign one point
 - b. Marginal habitat: assign two points
 - c. No habitat: assign three points

The points assigned based on the three criteria were then totaled. The potential for occurrence of the species was then assigned as follows:

- Three to four points: high potential
- Five to six points: moderate potential
- Seven to eight points: low potential
- Nine points: no potential

Additionally, if a species was known to be present at the Proposed Project site, the occurrence potential was designated as present.

3.0.2 Vegetation Communities

Plant community descriptions and their locations were characterized according to R.F. Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California*, and CDFG's *Guide to Wildlife Habitats in California and California Wildlife Habitat Relationship System*.

3.0.3 United States Fish and Wildlife Service Critical Habitat

A search of the Federal Register was conducted to identify whether the Proposed Project area is located within any USFWS-designated critical habitat areas. In addition, recovery plans for sensitive species and Geographic Information System data from the USFWS website were also reviewed.

3.1 AGENCY CORRESPONDENCE

On November 18, 2010, Insignia Environmental corresponded with the USFWS by email and received approval regarding plans to conduct protocol-level surveys for listed vernal pool branchiopods in the Proposed Project area. Upon completion of the surveys, a 45-day report would be filed with the USFWS.

3.2 SURVEY

3.2.0 General Biological Surveys

Insignia Environmental (Insignia) biologists Jeffrey Coward and Lauren Brudney conducted reconnaissance-level biological surveys of the entire Proposed Project area on March 9, 2010. The surveys included a total of approximately 96.8 acres that included all Proposed Project components. Project components surveyed included the 12.42-acre Bay Boulevard Substation site, the existing 7.22-acre South Bay Substation parcel, and all unpaved access roads and locations of proposed new access roads to the substation site. In addition, the existing easement for the proposed 69 kV transmission line relocation, 230 kV loop-in, and the 138 kV extension were surveyed, including pole locations, work areas, fly yard, pull sites, staging areas, and existing and proposed access roads. The H & Bay Yard would be used for off-site storage of materials and was not included in the survey area, as it is an existing developed staging yard. Additionally, the fly yard associated with the Proposed Project was not included in the survey area, as it is an existing developed area.

The biologists documented the dominant plant communities and potential habitat for wildlife species. They also documented plant and animal species observed directly or detected from calls, tracks, scat, nests, or other signs. The wildlife surveys were performed during the day; therefore, nocturnal animals were identified by evidence that was observed during the surveys. Plant species that could not be identified in the field were identified later using taxonomic keys. The potential for sensitive plant and animal species, determined by the presence of diagnostic habitat elements, was documented.

3.2.1 United States Fish and Wildlife Service Protocol-Level Branchiopod Surveys

Insignia biologist Gretchen Padgett-Flohr is currently conducting a USFWS protocol-level survey for listed branchiopods in the Proposed Project area. Wet-season sampling of the seasonal wetlands within the Proposed Project site was completed in April of 2011. According to USFWS protocol for wet-season branchiopod surveys, once seasonal wetland features hold at least three centimeters of water, sampling for branchiopods occurred within eight days using a seine, dip net, or aquarium net. Afterwards, seasonal wetlands were sampled once every 14 days until 120 days passed or the wetland features dried up. During that period, if the seasonal wetland features dried up and refilled with water, sampling was reinitiated. Per the USFWS protocol, dry-season soil sampling is also required because no listed branchiopods were found during the wet season sampling. Dry-season soil sampling is anticipated to be completed by July of 2011. According to USFWS protocol for dry-season branchiopod surveys, 10 soil samples would be taken from the top one to three centimeters of each seasonal wetland feature once the features are completely dry. These soil samples would then be examined for fairy shrimp cysts. Final results of both surveys would be included in a separate report.

3.2.2 Rare Plant Surveys

Insignia biologist Kristina Bischel and Merkel & Associates, Inc. biologist Kyle Ince conducted a rare plant survey for the Proposed Project on May 5 and 6, 2011. Prior to conducting the survey, a targeted list of special-status plant species with potential to occur was generated by conducting a search of the CNPS Inventory of Rare and Endangered Vascular Plants of California and the CNDDDB database for occurrences documented within 0.25 mile, 0.5 mile, and 1 mile of the Proposed Project area. Species on the target list included federally and state-listed species and CNPS List 1 through 4 species. The list of target plant species includes all plant species in Table 2: Sensitive Plant Species with the Potential to Occur.

The surveys were conducted in accordance with CNPS *Botanical Survey Guidelines*, CDFG's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*, and the USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*. The biologists conducted the survey by walking transects within the Proposed Project area to look for target species. The transects were spaced approximately 15 to 50 feet apart and varied based on the density of vegetation cover. All plant species observed in the Proposed Project area were recorded and Global Positioning System locations of sensitive plant species were recorded.

3.2.3 Delineation of Jurisdictional Waters

A wetland delineation of wetland and non-wetland waters was conducted at the Proposed Project area, which included the proposed Bay Boulevard Substation site, transmission line corridor, and

associated work areas. The wetland delineation was conducted in accordance with all applicable regulatory guidelines, including the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual, the USACE Interim Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region, the California Coastal Commission (CCC) Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone, the CCC Statewide Interpretive Guidelines For Wetlands And Other Wet Environmental Sensitive Habitat Areas, the City of Chula Vista LCP, and the City of Chula Vista MSCP Subarea Plan.

Insignia biologist Kristina Bischel and Merkel & Associates, Inc. wetland biologists Kyle Ince and Joe Thompson performed the field investigation for the delineation and reconnaissance survey from March 8 through March 11 and May 3 through 5, 2010. Wetlands were identified by observing the presence of three wetland parameters—hydrophytic vegetation, wetland hydrology, and hydric soils. Non-wetland waters were delineated by identifying the ordinary high water mark (OHWM) for the waterbody. Data was recorded on wetland field data forms and a submeter-accurate global positioning system unit was used to record the boundaries of the wetlands and non-wetland waters. Photographs of the wetland and non-wetland waters were also taken. A detailed description of the wetland and non-wetland delineation parameters, as well as survey data sheets and photographs, can be found in the South Bay Substation Relocation Project Preliminary Wetland Determination Report (Merkel 2010). An overview of the results is provided in the South Bay Substation Relocation Project Wetland Delineation Overview Report.

3.3 IMPACT DETERMINATION

Potential impacts associated with the Proposed Project can be classified as temporary, permanent, direct, and/or indirect. Temporary impacts generally include impacts associated with construction activities, including the use of vehicles or helicopters, storage of construction materials and equipment, or vegetation removal in areas that would be restored once construction is complete. Permanent impacts generally include impacts associated with construction and installation of a new facility. Direct impacts may refer to the loss or removal of vegetation communities due to construction of new access roads or work at staging/laydown areas. Indirect impacts may include interruption of nesting or foraging behavior due to loss of prey items, such as insects or food resources. Impacts to sensitive species may occur either through temporary or permanent habitat loss, interruption of normal species routines, or through direct mortality.

Potential impacts to sensitive species associated with the Proposed Project were assessed by analyzing specific species' requirements, including necessary vegetative habitat, elevational range, foraging needs, denning or breeding requirements, migratory trends, current ranges, and known occurrences or records. Additionally, an estimate of the amount of vegetation removal planned for the clearing of the ROWs, work areas, and access roads was assessed. Impacts to aquatic resources were identified by examining the proximity of these resources to Proposed Project work areas and the construction needs within those areas. In addition, potential changes in hydrology and vegetation that might result from the Proposed Project were analyzed.

Table 2: Sensitive Plant Species with the Potential to Occur

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	1B.1 CE FT	Yes	San Diego thorn-mint occurs in coastal scrub, valley and foothill grasslands, openings within chaparral, and vernal pools. It is typically associated with clay soils at elevations between 30 and 3,000 feet. It is an annual herb that blooms from April to June.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. Three CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area. Two of these occurrences are more than 60 years old and are presumed extirpated. This species was not observed during the May 2011 rare plant survey. Low Potential.
California adolphia (<i>Adolphia californica</i>)	2.1	No	California adolphia occurs in chaparral, coastal scrub, and valley and foothill grasslands, primarily in clay substrates and is found at elevations from 150 to 2,500 feet. It is a deciduous perennial shrub with a blooming period from December to May.	No suitable habitat is present within the Proposed Project area and the Proposed Project area is outside of the known elevation range for the species. Three CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area, the most recent of which dates from 1998. However, this species was not observed during the May 2011 rare plant survey. Low Potential.
Shaw’s agave (<i>Agave shawii</i>)	2.1	Yes	Shaw’s agave occurs in coastal scrub and coastal bluff scrub and occurs at elevations from sea level to 285 feet. It is a perennial succulent and blooms from May to September.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. Additionally, this species was not observed at the Proposed Project site during the May 2011 rare plant survey and would likely have been seen if present because it is a large perennial. No Potential.
San Diego bur-sage (<i>Ambrosia chenopodiifolia</i>)	2.1	No	San Diego bur-sage occurs in coastal scrub habitats at elevations between 180 to 500 feet. It is a perennial shrub that blooms from April to June.	No suitable habitat is present within the Proposed Project area and the Proposed Project area is outside of the known elevation range for the species. Several CNDDDB occurrences documented within the past 30 years are between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Singlewhorl borrobush (<i>Ambrosia monogyra</i>)	2.2	No	Singlewhorl borrobush typically occurs in sandy substrate in chaparral and Sonoran desert scrub at elevations below 1,600 feet. It is a perennial shrub with a blooming period from August to November.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence documented within one mile of the Proposed Project area; however, the record dates from 1936. There are five CNDDDB occurrences documented between one mile and five miles of the Proposed Project site. This species was not observed during the May 2011 rare plant survey. Low Potential.

⁶ Explanation of state and federal listing codes:

Federal listing codes: -FE: Federally Endangered Species -FT: Federally Threatened Species -FC: Candidate for Federal listing	California listing codes: -CE: State-listed as Endangered -CR: State-listed as Rare	CNPS lists: -1B.1: Rare, threatened or endangered in California or elsewhere; seriously threatened in California -1B.2: Rare, threatened or endangered in California or elsewhere; fairly threatened in California -1B.3: Rare, threatened or endangered in California or elsewhere; not very threatened in California -2.1: Rare, threatened or endangered in California only; seriously threatened in California -2.2: Rare, threatened or endangered in California only; fairly threatened in California -3: More information is needed regarding these species; taxonomically uncertain -4: Limited in distribution or infrequent throughout California
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Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
San Diego ambrosia (<i>Ambrosia pumila</i>)	IB.1 FE	Yes	San Diego ambrosia often occurs in disturbed areas and sometimes occurs in alkaline areas in coastal scrub, valley and foothill grasslands, and vernal pools at elevations below 1,400 feet. San Diego ambrosia is a perennial herb that blooms from April to October.	Marginal habitat is present within the southern portion of the Proposed Project area. There are five CNDDB occurrences that have been documented in the past 30 years that are located between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Aphanisma (<i>Aphanisma blitoides</i>)	IB.2	Yes	Aphanisma occurs in coastal bluff scrub, coastal dunes, and coastal scrub at elevations below 1,000 feet and is often found in sandy substrates. It is an annual herb that blooms from March to June.	No suitable habitat is present within the Proposed Project area. Two CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area; however, both of these occurrences date from more than 60 years ago. This species was not observed during the May 2011 rare plant survey. No Potential.
Dean's milk-vetch (<i>Astragalus deanei</i>)	IB.1	No	Dean's milk-vetch occurs in cismontane woodlands, coastal scrub, and riparian forests between 250 and 2,200 feet in elevation. The species is a perennial herb and blooms from February to May.	No suitable habitat is present within the Proposed Project area and the Proposed Project area is outside of the known elevation range for the species. One CNDDB occurrence, dated 1963, has been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Coastal dunes milk-vetch (<i>Astragalus tener</i> var. <i>titii</i>)	IB.1 FE CE	Yes	Coastal dunes milk-vetch occurs in coastal dunes and coastal prairie often in vernal mesic areas and is found at elevations below 165 feet. It is an annual herb with a blooming period from March to May.	No suitable habitat is present in the Proposed Project area. One CNDDB occurrence, dated 1983, has been documented between one mile and five miles of the Proposed Project area; however, the CNDDB notes that this occurrence may be extirpated. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coulter's saltbush (<i>Atriplex coulteri</i>)	IB.2	No	Coulter's saltbush occurs in coastal dunes, coastal scrub, vernal pools, and valley and foothill grasslands at elevations below 1,500 feet, and is typically found in alkaline or clay substrate. It is a perennial herb that blooms from March to October.	No suitable habitat is present in the Proposed Project area. Two CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area. Both of these occurrences are more than 60 years old. This species was not observed during the May 2011 rare plant survey. No Potential.
South coast saltscale (<i>Atriplex pacifica</i>)	IB.2	No	South coast saltscale occurs in coastal dunes, coastal scrub, and playas at elevations below 500 feet and is usually within coastal sage scrub. It is an annual herb that blooms from March to October.	No suitable habitat is present within the Proposed Project area.. Three CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area. The dates of these occurrences are unknown. This species was not observed during the May 2011 rare plant survey. Low Potential.
Golden-spined cereus (<i>Bergerocactus emoryi</i>)	2.2	No	Golden-spined cereus occurs in chaparral, coastal scrub, and closed-cone coniferous forests at elevations below 1,300 feet, and is often found in sandy substrates. It is a perennial succulent that blooms from May to June.	No suitable habitat is present within the Proposed Project area. There are five CNDDB occurrences of the species that have been documented between one mile and five miles of the Proposed Project area. However, this species was not observed during any of the surveys for the Proposed Project and would likely have been observed if present because it is a large perennial cactus. Although according to the criteria identified in Section 3.0.1 Sensitive Species Lists, potential to occur would be expected to be low, golden-spined cereus is not likely to occur in the Proposed Project area due to the lack of suitable habitat within the Proposed Project site and its lack of presence during the previous site surveys. Therefore, the species has no potential to occur on the site. No Potential.
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	IB.1	No	San Diego goldenstar occurs in chaparral, coastal scrub, valley and foothill grasslands, and vernal pool habitats, at elevations from 165 to 1,525 feet, and may occur in association with clay soils. It is a perennial bulbiferous herb that blooms from April to May.	Marginal habitat is present within the southern portion of the Proposed Project area where seasonal wetlands are present. The Proposed Project is outside of the species' known elevation range and no CNDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.

Species Name	Listing Status	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	1B.1	Yes	Orcutt's brodiaea occurs in closed-cone coniferous forests, chaparral, cismontane woodlands, meadows and seeps, valley and foothill grasslands, and vernal pools at elevations from 95 to 5,550 feet. This perennial bulbiferous herb is associated with mesic, clay, and sometimes serpentine soils. It blooms from May to July.	Marginal habitat is present within the southern portion of the Proposed Project area where seasonal wetlands are present. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Round-leaved filaree (<i>Californa macrophylla</i>)	1B.1	No	Round-leaved filaree occurs in cismontane woodlands and valley and foothill grasslands at elevation from 45 to 3,935 feet, and is associated with clay soils. It is an annual herb that blooms from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Lewis' evening primrose (<i>Camissonia lewisia</i>)	3	No	Lewis' evening primrose occurs in coastal bluff scrub, cismontane woodlands, coastal dunes, coastal scrub, and valley and grasslands at elevations from sea level to 980 feet. It is associated with sandy or clay soils. It is an annual herb that blooms from March to May (and occasionally into June).	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	2.2	Yes	Wart-stemmed ceanothus occurs in chaparral habitats and is found at elevations less than 1,300 feet. It is a perennial evergreen shrub with a blooming period from December to May.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence for the species that has been documented between one mile and five miles of the Proposed Project area that was recorded between 30 and 60 years ago. This species was not observed during any of the Proposed Project surveys and it is a large perennial shrub and would likely have been seen if present. No Potential.
Orcutt's pincushion (<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>)	1B.1	No	Orcutt's pincushion occurs in coastal dunes and coastal bluff scrub under 330 feet in elevation. It is an annual herb with a blooming period from January to August.	No suitable habitat is present within the Proposed Project area. There are two CNDDDB occurrences of the species that have been documented between one mile and five miles of the Proposed Project area, but these occurrences were recorded more than 60 years ago. This species was not observed during the May 2011 rare plant survey. No Potential.
Orcutt's spineflower (<i>Chorizanthe orcuttiana</i>)	1B.1 FE CE	Yes	Orcutt's spineflower occurs in maritime chaparral, closed-cone coniferous forests, and coastal sage scrub at elevations less than 400 feet and is typically found in sandy openings. It is an annual herb with a blooming period from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	1B.2	No	Long-spined spineflower occurs in coastal scrub, chaparral, meadows and seeps, valley and foothill grasslands, and vernal pools at elevations below than 5,000 feet, and is often associated with clay substrates. It is an annual herb with a blooming period from April to July.	Marginal habitat is present within the southern portion of the Proposed Project area. There is one CNDDDB occurrence that has been documented within five miles of the Proposed Project area that was recorded in 1996. This species was not observed during the May 2011 rare plant survey. Low Potential.
Salt marsh bird's-beak (<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>)	1B.2 FE CE	Yes	Salt marsh bird's-beak is an annual herb that occurs in coastal dunes, salt marshes, and swamps at elevations below 100 feet. It is often found in slightly raised hummocks in salt marsh habitat and is also known to occupy the edge of salt pans. The blooming period is from May to October.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are six CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area and the most recent occurrence was recorded in 2004. This species was not observed during the May 2011 rare plant survey. Low Potential.
Summer holly (<i>Comarostaphylis diversifolia</i> spp. <i>diversifolia</i>)	1B.2	No	Summer holly is a perennial evergreen shrub that occurs in chaparral and cismontane woodlands at elevations from 95 to 2,590 feet. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. Additionally, this species has not been observed in any of the site surveys and, since it is an evergreen shrub, the species would likely have been seen if present. No Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
San Diego sand aster (<i>Corethrogyne flaginifolia</i> var. <i>incana</i>)	IB.1	No	San Diego sand aster is a perennial herb that occurs in coastal scrub and chaparral at elevations below 350 feet. The blooming period is from June to September.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. There are two CNADB occurrences that have been documented between one mile and five miles of the Proposed Project area and at least one of these was recorded approximately 30 to 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Orcutt's bird's-beak (<i>Dicranostegia orcuttiana</i>)	2.1	Yes	Orcutt's bird's-beak is an annual herb that occurs in coastal scrub. It is often found in seasonally dry drainages and upland adjacent to riparian habitat at elevations below 1,200 feet. The blooming period is from April to July, although rare blooms can occur in March and September.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. There are four CNADB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which dates from 2000. This species was not observed during the May 2011 rare plant survey. Low Potential.
Otay tarplant (<i>Deinandra conjugens</i>)	IB.1 FT CE	No	Otay tarplant is an annual herb that occurs in coastal scrub, valley grasslands, and foothill grasslands at elevations below 1,000 feet and is often found in clay substrates. The blooming period is from May to June.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. There are eight CNADB occurrences that have been documented between one mile and five miles of the Proposed Project area. The most recent occurrence was recorded in 1994. This species was not observed during the May 2011 rare plant survey. Low Potential.
Orcutt's dudleya (<i>Dudleya attenuate</i> ssp. <i>orcuttii</i>)	2.1	No	Orcutt's dudleya occurs in coastal bluff scrub, chaparral, and coastal scrub and is associated with rocky or gravelly soils at elevations between 10 to 165 feet. It is a perennial herb that blooms from May to July.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within five miles of the Proposed Project area. Additionally, this species has not been observed at the site during the May 2011 rare plant survey and would most likely have been seen if present because it is a moderately-sized perennial. No Potential.
Blochman's dudleya (<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>)	IB.1	No	Blochman's dudleya is a perennial herb that occurs in coastal scrub, chaparral, and valley and foothill grasslands at elevations below 1,500 feet and is often found in clay or serpentine substrates. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. A single CNADB occurrence for the species has been documented between one mile and five miles of the Proposed Project area that was recorded more than 60 years ago. This occurrence may be extirpated. This species was not observed during the May 2011 rare plant survey. No Potential.
Variegated dudleya (<i>Dudleya variegata</i>)	IB.2	Yes	Variegated dudleya is a perennial herb that occurs in cismontane woodlands, coastal scrub, chaparral, valley and foothill grasslands, and vernal pools at elevations below 2,000 feet and is often found in clay substrates. It usually grows in small areas devoid of shrub cover even though scrub elements may occur nearby. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. There are several CNADB occurrences that have been documented between one mile and five miles of the Proposed Project area, however, the most recent occurrence was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sticky dudleya (<i>Dudleya viscida</i>)	IB.2	Yes	Sticky dudleya occurs in coastal bluff scrub, chaparral, cismontane woodlands, and coastal scrub at elevations between 35 to 1,804 feet and is associated with rocky soils. It is a perennial herb that blooms from May to June.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within five miles of the Proposed Project area. Additionally, this species was not observed at the site during the May 2011 rare plant survey and would most likely have been seen if present because it is a moderately-sized perennial. No Potential.
Palmer's goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	IB.1	Yes	Palmer's goldenbush is a perennial evergreen shrub that occurs in coastal scrub typically in mesic areas at elevations below 2,000 feet. The blooming period is from July to November, although July blooms are uncommon.	No suitable habitat is present within the Proposed Project area. No CNADB occurrences have been documented within one mile of the Proposed Project area. There is one CNADB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1992. This species was not observed during the May 2011 rare plant survey. Low Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	1B.1 FE CE	Yes	San Diego button-celery is an annual/perennial herb that occurs in coastal scrub, valley and foothill grassland, and vernal pools at elevations below 2,000 feet and is typically found in mesic areas. The blooming period is from April to June.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded between 30 and 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sand-loving wallflower (<i>Erysimum annophilum</i>)	1B.2	Yes	Sand-loving wallflower is a perennial herb that occurs in maritime chaparral, coastal dunes, and sandy openings in coastal scrub at elevations between sea level and 200 feet. It is a perennial herb that blooms from February to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Cliff spurge (<i>Euphorbia misera</i>)	2.2	No	Cliff spurge is a perennial shrub that occurs in coastal bluff scrub, coastal scrub, and Mojavean desert scrub. It is often found in rocky substrate and occurs at elevations less than 1,700 feet. The blooming period is from December to August.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are seven CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2009. This species was not observed during the May 2011 rare plant survey. Low Potential.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	2.1	Yes	San Diego barrel cactus is a perennial stem succulent that occurs in chaparral, coastal scrub, valley and foothill grasslands, and vernal pools at elevations below 1,500 feet. The species prefers xeric habitats. Optimal habitat for the San Diego barrel cactus appears to be Diegan sage scrub hillslides, often at the crest of slopes and growing among cobble. The blooming period is from May to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are 19 CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2000. This species was not observed during the May 2011 rare plant survey. Low Potential.
Palmer’s frankenia (<i>Frankenia palmeri</i>)	2.1	No	Palmer’s frankenia is a perennial herb that occurs in coastal dunes, coastal salt marshes and swamps, and playas at elevations below 50 feet. The blooming period is from May to July.	No suitable habitat is present within the Proposed Project area. One CNDDDB occurrence has been documented within one mile of the Proposed Project area, which dates from 1994. Two additional presumed extant CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	1B.1 FE CR	No	Mexican flannelbush is a perennial evergreen shrub that occurs in chaparral, cismontane woodlands, and closed-cone coniferous forests at elevations below 2,500 feet. It often occurs in gabbroic, metavolcanic, or serpentine areas. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area; however, this occurrence was recorded more than 60 years ago. This species was not observed during the May 2011 rare plant survey. No Potential.
Campbell’s liverwort (<i>Geothallus tuberosus</i>)	1B.1	No	Campbell’s liverwort is an ephemeral liverwort occurs in coastal scrub and vernal pools at elevations between 30 to 1,965 feet. The species is a bryophyte, meaning it is not a flowering plant, thus, there is no blooming period.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Beach goldenaster (<i>Hereotheca sessiliflora</i> ssp. <i>sessiliflora</i>)	1B.1	No	Beach goldenaster is a perennial herb that occurs in coastal chaparral, coastal dunes, and coastal scrub at elevations below 4,000 feet. The blooming period is from March to December.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are four CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2007. This species was not observed during the May 2011 rare plant survey. Low Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	IB.2	No	Decumbent goldenbush is a perennial shrub that occurs in coastal scrub and chaparral at elevations below 450 feet. It often occurs in sandy substrates and disturbed areas. The blooming period is from April to November.	Suitable habitat is present within the Proposed Project area and the species was observed during the May 2011 rare plant survey. In addition, one CNDDB occurrence has been documented within 0.25 mile of the Proposed Project area; however, the date of this occurrence is unknown. One CNDDB occurrence has been documented between 0.25 mile and one mile of the Proposed Project area; however, the date of this occurrence is also unknown. Present.
San Diego marsh-elder (<i>Iva hayesiana</i>)	2.2	No	San Diego marsh-elder is a perennial herb that occurs in marshes, swamps, and playas at elevations between 35 and 1,700 feet. The blooming period is from April to October.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are three CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 1990. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	IB.1	No	Coulter's goldfields is an annual herb that occurs in coastal salt marshes and swamps, playas, and vernal pools at elevations below 4,000 feet. The blooming period is from February to June.	Marginal habitat is present within the southern portion of the Proposed Project area. One CNDDB occurrence has been documented within one mile of the Proposed Project area, which dates from between 30 and 60 years ago. There are two additional presumed extant CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Robinson's pepper-grass (<i>Lepidium virginicum</i> var. <i>robinsonii</i>)	IB.2	No	Robinson's pepper-grass is an annual herb that occurs in coastal scrub and chaparral below 2,900 feet in elevation. The blooming period is from January to July.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that is was recorded between 30 and 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sea dahlia (<i>Leptosyne maritima</i>)	2.2	No	Sea dahlia is a perennial herb that occurs in coastal bluff scrub and coastal scrub at elevations below 500 feet. The blooming period is from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Nuttall's lotus (<i>Lotus nuttallianus</i>)	IB.1	Yes	Nuttall's lotus is an annual herb that occurs in coastal dunes and coastal scrub at elevations below 100 feet. It usually occurs in sandy substrates. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. One CNDDB occurrence has been documented within 0.25 mile of the Proposed Project area, which dates from 2000. One additional occurrence has been documented between 0.25 mile and one mile of the Proposed Project area. There are four additional presumed extant CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Jennifer's monardella (<i>Monardella stoneana</i>)	IB.2	No	Jennifer's monardella occurs in closed-cone coniferous forests, chaparral, coastal scrub, and riparian scrub at elevations from 30 to 2,590 feet, and is often associated with rocky, intermittent streambeds. It is a perennial herb that blooms from June to September.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Willow monardella (<i>Monardella vinea</i>)	IB.1 FE CE	No	Willow monardella occurs within alluvial ephemeral washes in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodlands at elevations from 160 to 735 feet. It is a perennial herb that blooms from June to August.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Little mouse-tail (<i>Myosurus minimus</i> spp. <i>apus</i>)	3.1	Yes	Little mouse-tail occurs in vernal pools and valley and foothill grasslands at elevations between 65 and 2,100 feet. It is an annual herb that blooms from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Mud nama (<i>Nama stenocarpum</i>)	2.2	No	Mud nama is an annual/perennial herb that occurs along lake margins and riverbanks associated with marshes and swamps at elevations below 1,700 feet. The blooming period is from January to July.	No suitable habitat is present in the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Spreading navarretia (<i>Navarretia fossalis</i>)	1B.1 FT	Yes	Spreading navarretia is an annual herb that occurs in chenopod scrub, playas, vernal pools, and marshes and swamps at elevations below 4,300 feet. It is typically found in assorted shallow freshwater marshes and swamps. The blooming period is from April to June.	Marginal habitat is present along the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2003. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Prostrate vernal pool navarretia (<i>Navarretia prostrata</i>)	1B.1	No	Prostrate vernal pool navarretia is an annual herb that occurs in coastal scrub, meadows and seeps, vernal pools, and valley and foothill grasslands at elevations below 2,300 feet. It is typically found in alkaline grasslands and mesic areas. The blooming period is from April to July.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coast woolly-heads (<i>Nemacaulis denudata</i> var. <i>denudata</i>)	1B.2	No	Coast woolly-heads is an annual herb that occurs in coastal dunes at elevations below 350 feet. The blooming period is from April to September.	No suitable habitat is present in the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are five CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. At least two of these occurrences are more than 60 years old. Of the remaining occurrences, the one most recently recorded was less than 30 years ago and was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.
Slender cottonheads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)	2.2	No	Slender cottonheads is an annual herb that occurs in coastal dunes, desert dunes, and Sonoran desert scrub at elevations between 165 and 1,400 feet. The blooming period is from April to May, although rare blooms can occur in March.	The Proposed Project area is outside of the known elevation range for the species. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area; however, this occurrence was recorded greater than 60 years ago. This species was not observed during the May 2011 rare plant survey. No Potential.
Snake cholla (<i>Opuntia californica</i> var. <i>californica</i>)	1B.1	Yes	Snake cholla is a perennial stem succulent species that occurs in chaparral and coastal scrub at elevations between 100 and 500 feet. It usually occurs on xeric hillsides. The blooming period is from April to May.	The Proposed Project area is outside of the known elevation range for the species. One CNDDDB occurrence has been documented within one mile of the Proposed Project area; however, the date of this occurrence is unknown. There are eight CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
California Orcutt grass (<i>Orcuttia californica</i>)	1B.1 CE FE	Yes	California Orcutt grass occurs in vernal pools at elevations from 50 to 2,165 feet. It is an annual herb with a blooming period of April to August.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Baja California birdbush (<i>Ornithostaphylos oppositifolia</i>)	2.1 CE	No	Baja California birdbush is a perennial evergreen shrub that occurs in chaparral at elevations between 180 and 2,700 feet. The blooming period is from January to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Brand's star phacelia (<i>Phacelia stellaris</i>)	1B.1 FC	No	Brand's star phacelia is an annual herb that occurs in coastal dunes and coastal scrub at elevations below approximately 1,300 feet. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Olay Mesa mint (<i>Pogogyne nudiuscula</i>)	1B.1 FE CE	Yes	Olay Mesa mint is an annual herb that occurs in vernal pools, chaparral, and open grasslands and is often found in gravelly or clay-loam substrates. The species only occurs in the Olay Mesa, northern Baja California, and Mexico. The blooming period is from May to June.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that was recorded in 2003. However, according to the CNDDB record, the occurrence is presumed to be a transplant from outside of the species' native habitat and range. This species was not observed during the May 2011 rare plant survey. Low Potential.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	1B.1	No	Nuttall's scrub oak is a perennial evergreen shrub that occurs in chaparral, coastal scrub, and closed-cone coniferous forests at elevations between 50 to 1,300 feet. It is often associated with sandy or clay-loam substrates. The blooming period is from February to April.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. No Potential.
Santa Catalina Island currant (<i>Ribes viburnifolium</i>)	1B.2	No	Santa Catalina Island currant is a perennial evergreen shrub that occurs in chaparral and cismontane woodlands at elevations between 100 to 1,000 feet. The blooming period is from February to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1990. This species was not observed during the May 2011 rare plant survey. Low Potential.
Small-leaved rose (<i>Rosa minutifolia</i>)	2.1 CE	Yes	Small-leaved rose is a perennial deciduous shrub that occurs in chaparral and coastal scrub at elevations between 450 and 550 feet. The blooming period is from January to June.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.
Chaparral ragwort (<i>Senecio aphanactis</i>)	2.2	No	Chaparral ragwort is an annual herb that occurs primarily in chaparral, cismontane woodlands, and coastal scrub at elevations below 2,700 feet. It is sometimes found in alkaline substrate. The blooming period is from January to April.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Purple stemodia (<i>Stemodia durantifolia</i>)	2.1	No	Purple stemodia is a perennial herb that occurs in Sonoran desert scrub at elevations between 550 and 1,000 feet. It is often found in mesic and sandy areas. The blooming period is from January to December.	Marginal habitat is present within the southern portion of the Proposed Project area. One CNDDB occurrence has been documented within one mile of the Proposed Project area, which dates from more than 60 years ago. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. All of these occurrences were recorded more than 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.

Species Name	Listing Status ⁶	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Oil neststraw (<i>Stylocline citroleum</i>)	1B.1	No	Oil neststraw is an annual herb that occurs in chenopod scrub, coastal scrub, and valley and foothill grasslands at elevations between 160 and 1,300 feet. It is often found in clay substrates. The blooming period is from March to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded more than 60 years ago. This species was not observed during the May 2011 rare plant survey. No Potential.
Estuary seablite (<i>Suaeda esteroa</i>)	1B.2	No	Estuary seablite is a perennial herb that occurs in coastal salt marshes and swamps at elevations below 20 feet. The blooming period is from May to October, although rare blooms can occur in January.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence that has been documented within one mile of the Proposed Project area; however, this occurrence dates from more than 60 years ago. There are three CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Parry’s tetracoccus (<i>Tetracoccus dioicus</i>)	1B.2	Yes	Parry’s tetracoccus is a perennial deciduous shrub that occurs in coastal scrub and chaparral at elevations between 540 and 3,300 feet, and is typically associated with dry slopes. The blooming period is from April to May.	No suitable habitat is present within the Proposed Project area. One CNDDDB occurrence has been documented within one mile of the Proposed Project area, which dates from more than 60 years ago. There are three CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.

4 – REGULATORY SETTING

4.0 FEDERAL

4.0.0 Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. The ESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 United States Code [U.S.C.] §§ 1532(19), 1538). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging-up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S.C. § 1538(c)).

Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed species or its critical habitat. Through consultation and the issuance of a Biological Opinion, the USFWS may issue an incidental take statement, allowing take of the species that is incidental to another authorized activity, provided that the action would not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits to private parties with the development of a habitat conservation plan, such as SDG&E's NCCP.

4.0.1 San Diego Gas & Electric Company Subregional Natural Community Conservation Plan

Under Section 10(a) of the ESA, SDG&E developed a comprehensive subregional multiple species and habitat NCCP to effectively preserve and enhance covered sensitive species and their habitats during operation, maintenance, and expansion of its electric and natural gas transmission system (16 U.S. Code § 1539). In addition, the NCCP constitutes a permit issued pursuant to Fish and Game Code Section 2081⁷ with an implementation agreement with the CDFG for the management and conservation of multiple species and their associated habitats as established according to the California ESA (CESA) and the state's NCCP Act.

The purpose of the Subregional NCCP is to establish and implement a long-term agreement between SDG&E, USFWS, and CDFG for the preservation and conservation of sensitive species and their habitats while allowing SDG&E to develop, install, maintain, operate, and repair facilities necessary to provide energy services to customers living in SDG&E's service area. Fifty-two plant species and 58 wildlife species, some of which are federally and/or state listed, are covered under the NCCP. Under the NCCP, incidental take of a covered species would be authorized during otherwise lawful activities. The NCCP also provides steps to minimize and mitigate for any potential impacts to covered species and their habitats.

⁷ Fish and Game Code Sections 2081(b) and (c) allow the CDFG to issue an incidental take permit for a State-listed threatened and endangered species only if specific criteria are met. (*See also* CCR, tit. 14, § 783.4(a),(b).)

The NCCP identifies 61 Operational Protocols designed to avoid and minimize potential impacts to sensitive species and their habitats, and to provide appropriate mitigation where such impacts are unavoidable in order to ensure survivability and conservation of protected species and their habitat. These 61 protocols include provisions for personnel training, pre-activity studies, maintenance, and repair and construction of facilities, including access roads, and emergency repairs. SDG&E's NCCP does not exempt projects subject to permits from the California Public Utilities Commission, the CCC, or several other federal and state agencies. Therefore, many projects, including the Proposed Project, would be subject to California Environmental Quality Act (CEQA) review. The NCCP is intended to form the basis for evaluating impacts to sensitive species and their habitats in subsequent environmental reviews. SDG&E's NCCP has also defined habitat enhancement measures.

Under its NCCP, SDG&E consults with the USFWS and CDFG when there is a potential to impact endemic species that have highly restricted distribution ranges. As described in the Implementing Agreement for the SDG&E NCCP, the USFWS, CDFG, and SDG&E agree that for absent unforeseen circumstances, the mitigation measures provided in SDG&E's NCCP constitute the only mitigation measures that shall be required for any activity covered by the NCCP when the project results in an impact to a covered species or its habitat.

The Proposed Project falls within the area where SDG&E's utility operations are governed by the NCCP. For the Proposed Project, SDG&E has adopted the mitigation measures and Operational Protocols contained in the NCCP. In addition, SDG&E would implement Project-specific APMs to further minimize potential impacts to ensure the protection and conservation of listed and covered species and their habitats. While the Proposed Project is located within areas included in both the City of Chula Vista's General Plan and MSCP Subarea Plan, SDG&E's public utility activities, such as the Proposed Project, are generally not subject to the discretionary regulatory jurisdiction of such local governments; therefore, they are not governed by the terms and conditions of such plans. However, in implementing its NCCP for the Proposed Project, SDG&E would coordinate with the City of Chula Vista and other jurisdictions to achieve consistency to the extent feasible. Where consistency is not feasible, SDG&E's NCCP provides for appropriate protocols and mitigation measures to protect natural community and natural resource values in these conservation-planning areas.

4.0.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) recognizes international treaties between the U.S. and other countries that have been accorded to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- Falconry
- Raptor propagation
- Scientific collecting
- Special purposes (rehabilitation, education, migratory game bird propagation, and salvage)
- Take of depredating birds, taxidermy, and waterfowl sale and disposal

The regulations governing migratory bird permits can be found in 50 Code of Federal Regulations (CFR) Part 13 (General Permit Procedures) and 50 CFR Part 21 (Migratory Bird Permits).

4.0.3 Clean Water Act

The purpose of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredge or fill material into Waters of the U.S. without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR § 328.3(b)). The U.S. Environmental Protection Agency has veto authority over USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

Substantial impacts to Waters of the U.S. may require an Individual Permit. Projects that only minimally affect Waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, provided such permits’ other respective conditions are satisfied. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. For the Proposed Project, this certification or waiver would need to be issued by the San Diego Regional Water Quality Control Board (RWQCB).

4.1 STATE

4.1.0 California Endangered Species Act

The CESA generally parallels the main provisions of the ESA. Section 2080 of the Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the Fish and Game Code as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful projects. State lead agencies are required to consult with the CDFG to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

4.1.1 Fish and Game Code Section 4700

The State of California first began to designate species as “fully protected” prior to the creation of the CESA and the ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, including fish, amphibians, reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the CESA and/or the ESA. Fully protected species may not be taken or possessed at any time (Fish and Game Code § 4700).

4.1.2 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code §§ 1900–1913) was created with the intent to “preserve, protect, and enhance rare and endangered plants in this State.” The NPPA is administered by the CDFG. The CDFG Commission has the authority to designate native plants as “endangered” or “rare” and to protect them from take.

4.1.3 Fish and Game Code Sections 1600 through 1606

Sections 1601 through 1606 of the Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement Application be submitted to the CDFG for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFG reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFG and applicant is a Lake or Streambed Alteration Agreement.

4.1.4 Fish and Game Code Sections 3503, 3503.5, 3513, and 3800

The State of California has incorporated the protection of birds and nests in Sections 3503, 3503.5, 3513, and 3800 of the Fish and Game Code.

4.1.5 Porter-Cologne Water Quality Act

The intent of the Porter-Cologne Act is to protect water quality and the beneficial uses of water, and applies to both surface and ground water. Under this law, the state Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne, referred to as “Waters of the state,” include isolated waters that are no longer regulated by the USACE. Any person discharging, or proposing to discharge, waste to Waters of the state must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

4.1.6 California Coastal Commission

The CCC generally regulates development within the state’s coastal zone, which includes development within wetlands located in the coastal zone. The City of Chula Vista LCP contains detailed mitigation and biological resources management requirements that apply to areas delineated in the Midbayfront Subarea, but these requirements do not apply to the Proposed Project site as the Proposed Project site is not under jurisdiction of the City of Chula Vista. Nonetheless, the City of Chula Vista LCP notes that sensitive habitats may exist in areas that have not been delineated, and therefore requires that environmental professionals analyze all environmental resources.

The CCC typically applies a “one-parameter” test to identify wetlands, which differs from the “three-parameter” approach employed by the USACE. The three wetland parameters are hydrophytic vegetation, wetland hydrology, and hydric soils. The majority of the seasonal ponds, drainages, and the emergent wetland located in the Proposed Project area are potentially subject to CCC jurisdiction because each feature has at least one of these parameters.

The CCC protects Environmentally Sensitive Habitat Areas (ESHAs) per Section 30240 of the California Coastal Act, which states that “...environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.” An ESHA is defined as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.”

ESHA designations are often based on the presence of rare habitats, or on areas that support populations of rare, sensitive, or especially valuable species or habitats. The CDFG identifies rare habitats in their List of California Terrestrial Natural Communities Recognized by the CNDDDB (CDFG 2003). Rare species are defined as those that are listed under the CESA or ESA, those that are on Lists 1, 2, 3, or 4 of the CNPS, and those for which there is other compelling evidence of rarity such as published academic studies.

4.2 LOCAL

4.2.0 City of Chula Vista Wetlands Protection Program

The City of Chula Vista WPP is incorporated in the City of Chula Vista MSCP Subarea Plan, which is part of the City of Chula Vista General Plan. The WPP extends wetlands protection through project entitlement reviews and the associated CEQA process. This process also provides an evaluation of wetlands avoidance and minimization and ensures compensatory mitigation for unavoidable impacts, thereby achieving an overall “no net loss” of wetlands. Impacts to wetlands must be avoided or minimized to the maximum extent practicable pursuant to the City of Chula Vista WPP, Section 5.2.4 of the Subarea Plan. Dependent on wetland types, the City of Chula Vista would apply a wetland mitigation ratio based on habitat type as detailed in Table 5-6 of the Chula Vista Subarea MSCP Plan. The Proposed Project would not require any discretionary permits from the City of Chula Vista, and therefore the Proposed Project is not regulated under the WPP. However, SDG&E still intends to comply with the WPP.

5 – RESULTS

San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federally and state-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species.

A wide range of marine and biological resources exist in the vicinity of the Proposed Project area, primarily due to the adjacent San Diego Bay and the approximately 4,000-acre San Diego Bay National Wildlife Refuge (SDBNWR). The SDBNWR protects mudflats, salt marshes, and eelgrass (*Zostera* spp.) beds, which can provide attractive breeding habitat for a wide range of species. Additionally, the SDBNWR is located in the Pacific Flyway, a major north-south avian migratory corridor that extends along the west coast from Alaska to Patagonia, and provides suitable foraging habitat for many resident and migratory avian species. There are no preserve areas inside the Proposed Project area, although the eastern boundary of the SDBNWR is adjacent to the western boundary of the Proposed Project area.

The existing South Bay Substation is adjacent to the northeastern border of the SBPP site, in a largely industrial and disturbed area. The 7.22-acre substation site is located approximately 0.5 mile north of the proposed Bay Boulevard Substation.

The Bay Boulevard Substation site is part of a larger approximately 33-acre parcel presently owned by the Port District, and is located south of the existing South Bay Substation and west of Interstate 5. The approximately 33-acre parcel is the site of a former LNG plant. The foundations of the aboveground storage tanks still exist at this location. A retention basin was installed around the former LNG site storage tanks and currently remains on the proposed Bay Boulevard Substation site. Approximately 9.5 acres of the 33-acre parcel are within an existing SDG&E utility easement. The utility easement is a part of one of three separate easements that travel between the existing South Bay Substation and the proposed Bay Boulevard Substation sites. The proposed Bay Boulevard Substation site is adjacent to the Western Salt Works crystallizer ponds, which are located in the southern portion of San Diego Bay. The Bay Boulevard Substation site and associated easements are depicted in Figure 2: Project Overview Map.

The Proposed Project area ranges in elevation from approximately 10 feet to 23 feet above mean sea level (MSL), with the lower elevations in the southwest corner of the former LNG bermed retention basin, and the highest elevations at the top of the retention basin berm. The average elevation along the west side of the Proposed Project area is approximately 14 feet above MSL. Rainfall records from the nearest climatological station (Chula Vista) show an average annual rainfall of 9.1 inches, with a minimum of 0.9 inches and a maximum of 16.1 inches.

5.0 VEGETATION COMMUNITIES

Eight vegetation communities—seasonal wetland, emergent wetland, non-native grassland, disturbed coastal coyote brush scrub, Eucalyptus woodland, ornamental vegetation, disturbed habitat, and developed land—occur within the Proposed Project area. The location of these different vegetation communities are provided in Figure 4: Vegetation Communities Map.

Vegetation is a prime factor in assessing the suitability of a site for use by certain wildlife species and the potential for occurrence of certain plant species. A description of each plant community, the associated and observed wildlife species, and the location of each community within the Proposed Project area follows.

5.0.0 Seasonal Wetlands

Seasonal wetlands are shallow depressions in the ground that contain standing water for part of the year. The amount and duration of standing water varies among wetlands and strongly influences the plant and animal associations present. Seasonal wetlands are typically seasonally saturated due to heavy rains, shallow groundwater, and flat topography. Because the wetlands



Figure 4: Vegetation Communities Map

South Bay Substation Relocation Project

Substation Wall

12.42-Acre Parcel Boundary

SDG&E Easement

Decumbent goldenbush individual

Urban/Developed (12000)

Disturbed Coyote Brush Scrub (32110)

Disturbed Habitat (11300)

Emergent Wetland (52440)

Eucalyptus Woodland (79100)

Non-native Grassland (42200)

Ornamental Vegetation (no Holland code)

Seasonal Wetland (no Holland code)

SDGE
A Sempra Energy utility

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ENVIRONMENTAL

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0 200 400 800 1,200 Feet

usually contain standing water for only part of the year, they are unable to support fish and, therefore, can provide a predator-free breeding habitat for many amphibian species.

A total of 17 seasonal wetlands have been identified within the Proposed Project area. The seasonal wetlands located at the Proposed Project site exhibit one or more wetland feature. Four of the seasonal wetlands (water features 5 through 8) are located within the retention basin of the former LNG site on the Bay Boulevard site. The remainders are located outside of this area. The four seasonal wetlands within the retention basin are most likely present due to the surrounding berm and the shallow depressions which are underlain by clay within the detention basin. The deepest and most long-lived of the wetlands is approximately three to four feet deep, and is located at the southwest corner of the retention basin. The other three depressions within the bermed area are relatively short-lived, holding water at a maximum depth of approximately three to four inches and a maximum duration of eight to 10 days.

Water features 2 through 4 are the deepest and most long-lived of the seasonal wetlands outside of the retention basin. They can be found in the southeastern portion of the Proposed Project site, near the base of a 230 kV tower. The most long-lived of these wetlands (water feature 2) retains water for a maximum of four to eight weeks. When an adequate amount of precipitation occurs water features 2 through 4 interconnect. All of the other seasonal wetlands located outside of the retention basin are relatively shallow, scattered depressions that are approximately two to four inches deep and retain water for approximately eight days.

The seasonal wetland features in the Proposed Project area are disturbed, vegetated primarily by non-native plant species, and have relatively low biological value. The dominant plant species in the majority of these depressions is a non-native forb, grass poly (*Lythrum hysopifolia*). Other hydrophytic plant species found in several of these seasonal wetlands include alkali weed (*Cressa truxillensis*), saltmarsh sand-spurry (*Spergularia salina*) and curly dock (*Rumex crispus*). The depressions south of the bermed area also include species, such as hairy clover fern (*Marsilea vestita* ssp. *vestita*), and spike rush (*Eleocharis* sp.). Within the bermed area, hydrophytic shrub species—mule fat (*Baccharis salicifolia*) and small-flower tamarisk (*Tamarix parviflora*)—are present in the area surrounding the ponded water. Aquatic resources in the Proposed Project area are further described in Section 5.6 Aquatic Resources.

5.0.1 Emergent Wetland

Typical freshwater emergent wetlands are characterized by erect, water-loving plant species dominated by sparse perennial marsh plants up to six feet tall. Emergent wetlands are flooded frequently enough to support an anaerobic soil environment in which the roots of the associated plant species can thrive. On the upper margins of emergent wetlands, saturated or periodically flooded soils typically support hydrophytic plant species, including big leaf sedge (*Carex amplifolia*), baltic rush (*Juncus balticus*), and redroot nutgrass (*Cyperus erythrorhizos*). On more saturated sites, common cattail (*Typha latifolia*) and tule bulrush (*Schoenoplectus californicus*) are potential dominant species.

Emergent wetlands can be among the most productive of wildlife habitats in California, providing food, cover, and water for more than 160 avian species and numerous mammals, reptiles, and amphibians; however, in the case of the on-site emergent wetlands, productivity and species diversity is relatively low.

Within the Proposed Project area, emergent wetland occurs in only one location—a man-made drainage ditch that parallels Bay Boulevard along the eastern Proposed Project boundary. This wetland is approximately four to six inches deep and is dominated by non-native hydrophytic species. Plant species observed within and around this wetland included dallis grass (*Paspalum dilatatum*), Bermuda grass (*Cynodon dactylon*), and curly dock. In addition, some patches of the native Dombey's spike-rush (*Eleocharis montevidensis*) were observed in the drainage. The emergent wetland habitat within the Proposed Project area is disturbed, and productivity and species diversity is relatively low.

5.0.2 Non-Native Grassland

Typical non-native grassland areas may have historically supported native grassland or other native plant communities in the past, but these areas have been invaded by exotic annuals. The flora of non-native grasslands ranges from a dense to sparse cover of introduced annual grasses, which may include numerous species of showy-flowered, non-native or native wildflowers. Typically, non-native grassland includes at least 50-percent cover of the entire herbaceous layer attributable to annual non-native grass species, although other plant species (native and non-native) may be intermixed. These annuals germinate with the onset of the rainy season and set seed in late winter or spring. Non-native grasslands are often associated with deep, fine-textured soils that contain some clay content.

Typical wildlife species that may use this habitat include mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), and red-tailed hawk (*Buteo jamaicensis*). At the Proposed Project site, non-native grassland occurs within the southern section of the Proposed Project area, within areas previously disturbed by grading and clearing activities. This vegetation is low-growing and dominated by species such as Bermuda grass and barley (*Hordeum* spp.). A high volume of herbaceous species, including black mustard (*Brassica nigra*), white-stemmed filaree (*Erodium brachycarpum*), garland daisy (*Glebionis coronaria*), and peppergrass (*Lepidium* spp.), were intermixed with these grasses. Coyote brush (*Baccharis pilularis* ssp. *consanguinea*) was also observed in some areas of non-native grassland.

5.0.3 Disturbed Coastal Coyote Brush Scrub

Coastal coyote brush scrub is a type of coastal sage scrub community that is dominated by coyote brush and is typically composed of a more open shrub canopy. The herbaceous understory is also typically sparse. Coyote brush is a colonizing species that is indicative of disturbed conditions and is often found in moderately moist low-lying settings throughout California. Typical species that may be found in the shrub layer in pristine coastal scrub at lower cover can include California sagebrush (*Artemisia californica*), bush monkeyflower (*Mimulus aurantiacus*), sages (*Salvia* spp.), bush lupines (*Lupinus* spp.), and California buckwheat (*Eriogonum fasciculatum*). The understory is often dominated by non-native species, such as filaree (*Erodium* spp.) and canarygrass (*Bromus* spp.), and native species, such as rushes (*Juncus* spp.) and deer grass (*Muhlenbergia rigens*).

The coyote brush scrub community within the Proposed Project area is not associated with any of the typical plants found in a coastal sage scrub community, as it contains a large number of non-native and ornamental plants, including crystalline ice plant (*Mesembryanthemum crystallinum*), slender-leaved ice plant (*Mesembryanthemum nodiflorum*), bank catclaw (*Acacia*

redolens), acacia cyclops (*Acacia cyclops*), small-flower tamarisk, and tree tobacco (*Nicotiana glauca*). Coastal sage scrub is considered a sensitive habitat by the City of Chula Vista and the CDFG; however, because the coyote brush scrub habitat in the Proposed Project area contains a preponderance of non-native plant species and does not contain other typical native plants found within a coastal sage scrub community, it is not considered a sensitive habitat.

Wildlife species most often associated with coastal coyote brush scrub include such species as the California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), and western scrub-jay (*Aphelocoma californica*). Scrub habitats also provide cover and forage for mammal species, including California ground squirrel (*Spermophilus beecheyi*) and desert cottontail rabbit (*Sylvilagus audubonii*). Side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*) are also commonly found in these habitats.

Disturbed coastal coyote brush scrub occurs within the southern portion of the Proposed Project area, adjacent to the underground portion of transmission line 647 and parallel to the southern boundary of the Proposed Project site, within areas previously impacted by grading and clearing activities.

5.0.4 Eucalyptus Woodland

Typical Eucalyptus woodlands are dominated by several species of Eucalyptus (*Eucalyptus* spp.). Eucalyptus trees are not native to California and are considered invasive species because of their rapid growth rate and broad cover. These trees were historically planted as windbreaks and for aesthetic and horticultural purposes around houses and other developed areas. Many Eucalyptus species, however, have become naturalized and have invaded natural riparian areas. The understory within well-established groves of Eucalyptus is usually very sparse due to the closed canopy and the allelopathic⁸ nature of the leaf litter.

As a wildlife habitat, these woodlands provide nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to Eucalyptus flowers. The sparse understory, however, offers very limited wildlife habitat.

In the Proposed Project area, Eucalyptus woodlands occur in two small patches within disturbed and developed habitat. Both patches are located in the eastern portion of the Proposed Project area, between Bay Boulevard and the existing South Bay Substation, as shown in Figure 4: Vegetation Communities Map. These areas are dominated by several species of Eucalyptus, including blue gum (*Eucalyptus globules*).

5.0.5 Disturbed Habitat/Ornamental Vegetations

Disturbed habitat includes land cleared of vegetation, such as dirt roads, or lands containing a preponderance of non-native plant species. This type of habitat can also include areas that are

⁸ Allelopathy is a biological phenomenon that is characteristic of some plants. An allelopathic plant produces certain biochemicals that influence the growth and development of other organisms. The biochemicals, called allelochemicals, can have a beneficial or detrimental effect on neighboring organisms.

mowed or landscaped regularly, such as ornamental vegetation, and, thus, precludes the development of native vegetation communities. Disturbed habitat includes all areas within the Proposed Project area or in the immediate Proposed Project vicinity that have been previously disturbed and have not returned to native habitat.

Wildlife species that are typically associated with disturbed habitat and ornamental vegetation include Anna's hummingbird (*Calypte anna*), ruby-throated hummingbird (*Archilochus colubris*), house finch (*Carpodacus mexicanus frontalis*), American goldfinch (*Spinus tristis*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), northern mockingbird (*Mimus polyglottos*), and rock dove (*Columbia livia*).

At the Proposed Project site, disturbed habitat occurs throughout the majority of the Proposed Project area and ornamental vegetation occurs intermittently along the eastern edge of the Proposed Project area. Both vegetation communities are dominated by species such as peppertree (*Schinus* spp.), acacia (*Acacia* spp.), common olive (*Olea europaea*), and oleander (*Nerium oleander*).

5.0.6 Urban/Developed

Urban/developed land includes areas where permanent structures and/or pavement have been placed, which prevents the growth of vegetation. Developed land within the Proposed Project area includes areas such as the H & Bay Yard, existing South Bay Substation, and existing access roads.

5.0.7 Sensitive Vegetation Communities

Coastal coyote brush scrub is a type of coastal sage scrub community that is dominated by coyote brush and is typically composed of a more open shrub canopy. Coastal sage scrub is considered a sensitive habitat by the City of Chula Vista and the CDFG; however, because the coyote brush scrub habitat in the Proposed Project area contains a preponderance of non-native plant species and does not contain other typical native plants found within a coastal sage scrub community, it is not considered a sensitive habitat. Therefore, there are no sensitive vegetation communities within the Proposed Project site.

5.0.8 Environmentally Sensitive Habitat Areas

Implementing a conservative approach to potential biological impacts, the Proposed Project site was studied to assess potential impacts of the Proposed Project on the Sweetwater Marsh National Wildlife Refuge and the potential presence of any previously undiscovered ESHAs. To qualify as environmentally sensitive per the CCC definition, a particular habitat must be properly identified; largely undeveloped, and otherwise relatively pristine; and part of a large, continuous block of relatively pristine native vegetation; however, for habitats that are rare or that support individuals of rare species, it is not necessary that they be relatively pristine. The habitats on site were surveyed and accurately mapped by multiple professional biologists. The site has historically been fully developed for industrial uses, which have only partially been removed from the site. The site itself is predominantly, if not fully, comprised of previously filled lands. All habitats on the site are disturbed and lack the characteristics of pristine communities. This is due to the fact that the current habitats present reflect relatively early stages of non-native vegetation colonization on fill soils. As a result, vegetated communities are poorly developed.

The Proposed Project site is distant and isolated from contiguous blocks of relatively pristine native vegetation. The site is located approximately 700 feet from the nearest tidal waters, approximately 700 feet from a salt works drainage ditch, and more than 1,100 feet (0.21 mile) from the shoreline of the San Diego Bay. It is located approximately 2,000 feet (0.38 mile) from the nearest natural salt marsh habitat at Telegraph Creek marsh to the north, and over 7,000 feet (1.33 miles) from the nearest native upland habitat within the Otay River to the south.

Although the Proposed Project area is largely disturbed and is not located in an area of pristine habitat, according to the CCC, habitats that are rare or that support individuals of rare species do not have to be relatively pristine or continuous in order to qualify as environmentally sensitive. One individual of one rare plant—decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)—was found on the Proposed Project site during the May 2011 rare plant survey. The one individual was located in non-native annual grassland habitat southwest of the bermed area within the former LNG site. This species is discussed further in the section that follows. The area where the rare plant was discovered was not determined to be an ESHA due to its lack of suitable habitat. The vegetation present in this area and the presence of only one mature plant indicates that this area is not of sufficient quality to support large numbers of the species.

5.1 SENSITIVE PLANT SPECIES

Special-status plant species include those species listed by the USFWS and CDFG as endangered, threatened, proposed, or candidate species, and those listed as sensitive or rare. In addition, sensitive plant species include those listed in the CNPS Inventory of Rare and Endangered Vascular Plants of California (2001). Special-status plant species with the potential to occur in the Proposed Project area appear in Table 2: Sensitive Plant Species with the Potential to Occur. CNDDDB occurrences within one mile of the Proposed Project area are depicted in Figure 5: CNDDDB Occurrences Map.

A total of 65 special-status plant species were originally identified on the target survey list as having potential to occur within the Proposed Project area. One sensitive plant species was found to be present within the Proposed Project area during the May 2011 rare plant survey. Of the remaining 64 sensitive plant species, none were determined to have a high potential to occur in the Proposed Project area; however, five species were assessed to have a moderate potential to occur within the Proposed Project area, 34 species were assessed to have a low potential to occur within the Proposed Project area, and 25 species were determined to have no potential to occur within the Proposed Project area.

5.1.0 Species Present in the Proposed Project Area

Decumbent Goldenbush

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*) is a perennial shrub that occurs in coastal scrub and chaparral habitats at elevations below 450 feet, often occurring in sandy substrates and disturbed areas. The blooming period is from April to November. As previously discussed, one decumbent goldenbush individual was located in non-native annual grassland habitat southwest of the bermed area within the former LNG site during the May rare plant survey. The decumbent goldenbush individual was located in upland habitat and was not

associated with wetland features. The location of the decumbent goldenbush that was discovered is depicted on Figure 4: Vegetation Communities Map.

5.1.1 Species with a Moderate Potential to Occur

San Diego Ambrosia

San Diego ambrosia (*Ambrosia pumila*) is a perennial herb that occurs in coastal scrub habitats, valley and foothill grassland, and vernal pools at elevations less than 1,400 feet, but can also occur in disturbed areas. Although San Diego ambrosia was not observed during the March 2010 reconnaissance surveys or the May 2011 rare plant survey, there are several CNDBB records that document occurrences of the species between one mile and five miles of the Proposed Project site, the most recent of which dates from 2006. Marginal habitat for the species in the form of non-native grassland and seasonal wetland is located within the southern portion of the Proposed Project area. In addition, marginal habitat for San Diego ambrosia could exist throughout the majority of the Proposed Project area, as the bulk of the Proposed Project area can be classified as disturbed. However, San Diego ambrosia would have been identified during the site surveys if it was present as it is a perennial species.

Palmer's Frankenia

Palmer's frankenia (*Frankenia palmeri*) is a perennial herb that occurs in coastal dunes, salt marshes, swamps, and playas at elevations below 50 feet. Although Palmer's frankenia was not observed during the March 2010 reconnaissance surveys or the May 2011 focused rare plant survey, one CNDBB occurrence has been documented within one mile of the Proposed Project area, which dates from 1994. However, no suitable habitat is present within the Proposed Project area as there are no coastal dunes, salt marshes, swamps, or playas within the site. In addition, Palmer's frankenia would have been identified during the rare plant surveys conducted in May 2011 if it was present as it is a perennial species.

Coulter's Goldfields

Coulter's goldfields (*Lasthenia glabrata* spp. *coulteri*) is an annual herb that occurs in coastal salt marshes, swamps, playas, and vernal pools at elevations below 4,000 feet. Marginal habitat for this species is present in the form of seasonal wetlands located in the southern portion of the Proposed Project area. In addition, one CNDBB occurrence has been documented within one mile of the Proposed Project area; however, the date of this occurrence is between 30 to 60 years old. The species was not observed during the May 2011 rare plant survey.

Nuttall's Lotus

Nuttall's lotus (*Lotus nuttallianus*) is an annual herb that occurs in coastal dunes and coastal scrub at elevations below 100 feet. The species typically occurs in sandy substrates. One CNDBB occurrence, dating from 2000, has been documented within 0.25 mile of the Proposed Project area. No suitable habitat for Nuttall's lotus is present on the Proposed Project site as there are no coastal dunes or coastal scrub present on site. In addition, the species was not observed during the May 2011 rare plant survey.

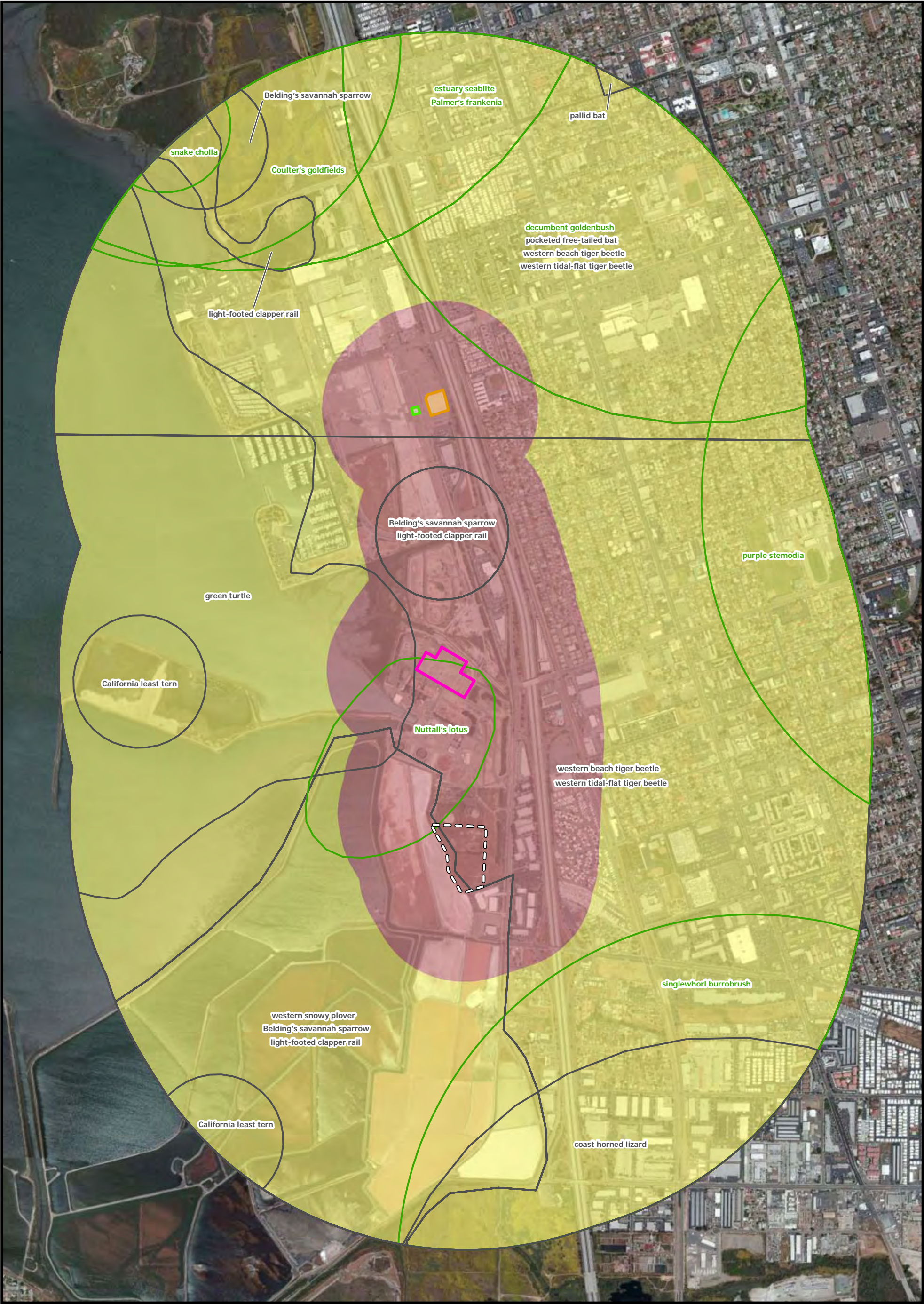


Figure 5: CNDDDB Occurrences Map

South Bay Substation Relocation Project

Existing South Bay Substation

12.42-Acre Parcel Boundary

H & Bay Yard

Fly Yard

Animal Occurrence

Plant Occurrence

Quarter-Mile Project Buffer

One-Mile Project Buffer

SDGE
A Sempra Energy utility

INSIGNIA
ENVIRONMENTAL

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Spreading Navarretia

Spreading navarretia (*Navarretia fossalis*) is an annual herb that occurs in chenopod scrub, playas, vernal pools, marshes, and swamps at elevations less than 4,300 feet. There is one CNDDDB occurrence of the species that is located between one mile and five miles of the Proposed Project area that dates from 2003. Spreading navarretia was not observed during the March 2010 reconnaissance surveys or the May 2011 rare plant surveys, but marginal habitat for the species is located along the southern portion of the Proposed Project area in the form of seasonal wetlands.

5.2 GENERAL WILDLIFE SPECIES

One reptilian species, San Diego alligator lizard (*Elgaria multicarinata webbii*) was observed in the Proposed Project area during the general biological surveys and/or incidentally during focused plant and wildlife surveys.

Avian species observed during site surveys of the Proposed Project area include the song sparrow (*Melospiza melodia*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), California towhee (*Pipilo crissalis*), European starling (*Sturnus vulgaris*), gull (*Larus* spp.), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), ruby-throated hummingbird (*Archilochus colubris*), bush tit (*Psaltirparus minimus*), American robin (*Turdus migratorius*), house finch (*Carpodacus mexicanus frontalis*), American goldfinch (*Spinus tristis*), mourning dove (*Spinus tristis*), black phoebe (*Sayornis nigricans semiatra*), red-tailed hawk (*Buteo jamaicensis calurus*), yellow-rumped warbler (*Dendroica coronata*), American kestrel (*Falco sparverius sparverius*), American crow (*Corvus brachyrhynchos*), spotted sandpiper (*Actitis macularia*), and horned lark (*Eremophila alpestris*).

Mammalian species observed during the site surveys include desert cottontail rabbit (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and domestic cat (*Felis silvestris catus*).

Additionally, an unidentified passerine nest was observed within ornamental vegetation during the reconnaissance-level surveys conducted for the Proposed Project, and an American crow was observed building a nest on one of the electric distribution towers within the Proposed Project site.

5.3 SENSITIVE WILDLIFE SPECIES

Special-status wildlife species include those species listed by the USFWS or CDFG as endangered, threatened, or proposed; by the CDFG as Fully Protected or California Species of Special Concern; and as regionally sensitive in SDG&E's NCCP. Special-status wildlife species with the potential to occur in the Proposed Project area are listed in Table 3: Sensitive Wildlife Species with the Potential to Occur. CNDDDB occurrences within one mile of the Proposed Project area are depicted in Figure 5: CNDDDB Occurrences Map. Forty-three special-status wildlife species occur within five miles of the Proposed Project area:

- one avian species was present on the Proposed Project site;

- two invertebrate, one amphibian, nine avian, and one mammalian species have a moderate potential to occur; and
- six reptilian, one invertebrate, seven avian, and eight mammalian species have a low potential to occur.

In addition, one invertebrate, one reptilian, and five avian species were determined to have no potential to occur within the Proposed Project area. Species known to occur and species with a moderate potential to occur within the Proposed Project area are discussed in detail in the subsections that follow. No wildlife species were identified as having a high potential to occur within the Proposed Project site.

5.3.0 Species Present in the Proposed Project Area

California Horned Lark

California horned lark (*Eremophila alpestris*) typically inhabits areas with sparse vegetation including sandy shores, grasslands, mesas, and agricultural lands. Breeding occurs during the months of March through July, with most activity occurring in May. The California horned lark forages by walking and running on the ground, and feeds on spiders, insects, insect larvae, snails, buds, and berries. California horned larks typically forage in flocks, except during the breeding season.

Two flocks of California horned larks were observed during the March 2010 reconnaissance field surveys in the ornamental vegetation on the eastern side of the Proposed Project area adjacent to Bay Boulevard. The species was also observed in a biological survey of the Proposed Project area conducted in 2007. Suitable foraging habitat exists within the Proposed Project area; however, the species is not expected to breed within the area due to the lack of suitable breeding habitat such as agricultural fields or tall grasses. No CNDDDB occurrences have been documented within one mile of the Proposed Project area.

5.3.1 Species with a High Potential to Occur

None of the wildlife species identified in the database and literature searches were determined to have a high potential to occur in the Proposed Project area.

5.3.2 Species with a Moderate Potential to Occur

Invertebrates

San Diego Fairy Shrimp

San Diego fairy shrimp (*Branchinecta sandiegonensis*) inhabit fresh or saltwater vernal pools, pot holes, and other ephemeral pools. Marginal habitat for San Diego fairy shrimp is present within the seasonal wetlands located in the southern portion of the Proposed Project area. One CNDDDB occurrence for the species, dating from 2001, has been documented between one mile and five miles of the Proposed Project area. The pH within the seasonal wetlands in the bermed retention basin located in the Proposed Project area appears to be too high to support the species. USFWS protocol-level wet-season surveys for listed vernal pool branchiopods, including San Diego fairy shrimp, were conducted in November of 2010 through April of 2011. No San Diego fairy shrimp were found in the Proposed Project area. USFWS protocol-level dry-season soil

Table 3: Sensitive Wildlife Species with the Potential to Occur

Species Name	Listing Status ⁹	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Invertebrates				
<i>Aquatic Invertebrate</i>				
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE	Yes	San Diego fairy shrimp inhabit fresh or saltwater vernal pools, pot holes, and other ephemeral pools. No individuals have been found in riverine waters, marine waters, or other permanent bodies of water. The species thrives in arid areas where water is present for only part of the year.	Marginal habitat is present within the seasonal wetlands in the Proposed Project area. One CNDDDB occurrence, which was recorded in 2001, has been documented for the species and is located within five miles of the Proposed Project area. USFWS protocol-level fairy shrimp surveys are currently being conducted on site to confirm the potential for the presence of the species within on-site seasonal wetlands. As of May 31, 2011, these surveys are negative. Moderate Potential.
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE	Yes	Riverside fairy shrimp inhabit lowland vernal pools that retain water through late spring. It can be considered a warm-water species and requires water with a pH range of approximately six to seven. Once eggs are hydrated, it usually takes between seven to 12 days for the shrimp to hatch.	Marginal habitat is present at the larger seasonal wetlands within the Proposed Project area; however, the pH within the seasonal wetlands is higher than would typically support the species. One CNDDDB occurrence, which was recorded in 2001, has been documented for the species and is located within five miles of the Proposed Project area. USFWS protocol-level fairy shrimp surveys are currently being conducted on site to confirm the potential for the presence of the species within on-site seasonal wetlands. As of May 31, 2011, these surveys are negative. Moderate Potential.
<i>Butterflies</i>				
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE	No	Quino checkerspot butterfly occurs in coastal sage scrub, chaparral, and juniper woodlands, as well as open meadows adjacent to these habitats, and ranges from sea level to 3,000 feet in elevation. Appropriate habitat must contain the species’ primary larval host plant (historically this has been dotseed plantain [<i>Plantago erecta</i>]; however, the species may also lay eggs on woolly plantain [<i>Plantago patagonica</i>], Coulter’s snapdragon [<i>Antirrhinum coulterianum</i>], dark-tip bird’s beak [<i>Cordylanthus rigidus</i>], and purple owl’s clover [<i>Castilleja exserta</i>]). Suitable habitat must also contain open areas with low-growing or sparse vegetation. The species also prefers areas with rocky outcroppings. Adults generally emerge in early spring.	No suitable habitat is present within the Proposed Project area. There are no CNDDDB occurrences that have been documented within five miles of the Proposed Project area. In addition, the Proposed Project site is not located within the survey area recommended by the USFWS. No Potential.

⁹ Explanation of state and federal listing codes

Federal listing codes:

- FE: Federally listed as Endangered
- FT: Federally listed as Threatened
- FC: Candidate for Federal listing

California listing codes:

- CE: State-listed as Endangered
- CT: State-listed as Threatened
- CSC: California State Species of Concern
- CFP: Fully Protected by the State of California

Species Name	Listing ⁹ Status	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Wandering skipper (<i>Panoquina errans</i>)	Regionally Sensitive ¹⁰	Yes	Wandering skipper is found in salt marshes in coastal Southern California, coastal Baja California, and western Mexico. It is only found along the coast, and generally requires habitat such as ocean bluffs and other open areas near the ocean. The species utilizes saltgrass (<i>Distichlis spicata</i>), as well as other plant species, as a host plant during the larval stage. Wandering skipper is most commonly observed from March to November.	No suitable habitat is present within the Proposed Project area. Saltgrass was not observed during the 2010 field surveys or the wetland delineation. There is one CNDDB occurrence, which was recorded in 1982, that has been documented between one mile and five miles of the Proposed Project. Low Potential.
Vertebrates				
Reptiles				
Silvery legless lizard (<i>Anniella pulchra pulchra</i>)	CSC	No	Silvery legless lizard occurs in moist, warm, loose soils with plant cover. The species is generally found in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. The presence of leaf litter often indicates suitable habitat. It is often found under surface objects, such as rocks, boards, driftwood, and logs. The species is sometimes found in suburban gardens in Southern California.	No suitable habitat is present in the Proposed Project area. There is one CNDDB occurrence, which was recorded in 2004, that has been documented for the species between one mile and five miles of the Proposed Project. The species has not been observed during any of the field surveys for the Proposed Project. Low Potential.
Belding's orange-throated whiptail (<i>Aspidoscelis [Chenidophorus] hyperythrus beldingi</i>)	CSC	Yes	Belding's orange-throated whiptail frequents dry, often rocky hillsides; ridges and valleys that support coastal sage scrub; open chaparral; dry washes; and sparse grasslands mixed with sage scrub species. It is fairly common where pristine habitats are available and has an elevation range that extends from near sea level to approximately 3,430 feet. Breeding usually takes place in May, although it has occasionally been observed in July.	No suitable habitat is present in the Proposed Project area. There are six CNDDB occurrences that document the species between one mile and five miles of the Proposed Project area, two of which were recorded less than 30 years ago. The species has not been observed during any of the field surveys for the Proposed Project. Low Potential.
Green turtle (<i>Chelonia mydas</i>)	FT	No	The green turtle occurs near shores along bays and estuaries and in open ocean waters. It is found throughout the world in tropical and subtropical waters. It has been known to occur in the San Diego Bay, including within the warm water discharge channel of the South Bay Power Plant. However, no nesting has been known to occur within the San Diego Bay area. Green turtles typically require an ambient water temperature range of approximately 46 to 89 degrees Fahrenheit. Green turtles reproduce every two to five years. Nesting seasons tend to vary by location.	No suitable habitat for green turtle is present within the Proposed Project area. There is one CNDDB occurrence that documents the species within 0.25 mile, one occurrence that documents the species within one mile, and another occurrence that documents the species within five miles of the Proposed Project area. All of these occurrences were recorded in 2009. Based upon the criteria identified in Section 3.0.1 Sensitive Species Lists, potential to occur in the Proposed Project area due to lack of suitable habitat and significant physical barriers, such as cliffs, that would prevent the species from entering the Proposed Project site from the San Diego Bay. Suitable habitat is present within the San Diego Bay, immediately west of the Proposed Project area. In addition, the SBPP is located to the west of the Proposee Project area and this is likely where the CNDDB occurrences for green turtle were documented. The species has not been observed during any of the field surveys for the Proposed Project. Therefore, the species was determined to have low potential to occur on the Proposed Project site. Low Potential.

¹⁰ Regionally sensitive is a listing status for narrow endemic species in SDG&E's NCCP. Narrow endemic species should be avoided, with the exception of work relating to emergencies and repairs of existing facilities.

Species Name	Listing Status ⁹	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Northern red-diamond rattlesnake (<i>Crotalus ruber ruber</i>)	CSC	Yes	Northern red-diamond rattlesnake inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, and cultivated areas. The species is generally found on the desert slopes of the mountains, although it can occasionally be found in rocky desert flats. The species is usually absent from higher elevations and is usually found below 3,900 feet. Breeding occurs from March through May.	Marginal habitat is present in the Proposed Project area. One CNDDDB occurrence, which was recorded in 1987, documents the species within five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. Low Potential.
Coronado skink (<i>Eumeces skiltonianus interparietalis</i>)	CSC	Yes	Coronado skink inhabits grasslands, woodlands, pine forests, and chaparral, especially in open sunny areas such as clearings and the edges of creeks and rivers. The species prefers rocky areas near streams with lots of vegetation, although it can also be found in areas away from water. It is generally found in most terrestrial habitat types, with the exception of the desert, from sea level to about 6,600 feet in elevation. Breeding takes place from June to August.	No suitable habitat is present in the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. No Potential.
San Diego horned lizard (<i>Phrynosoma coronatum blainvillei</i>)	CSC	Yes	San Diego horned lizard is typically found in open coastal sage scrub, chaparral, grasslands, and juniper and oak woodlands. It is more commonly found in open sandy washes with scattered shrubs used for cover. The species typically requires fine, loose, sandy soils where they can bury themselves; an abundance of native ants as a food source; and open areas for basking. It inhabits areas from near sea level to 7,029 feet in elevation. After breeding, San Diego horned lizard females can lay up to 21 eggs in May and June.	No suitable habitat is present in the Proposed Project area. There is one CNDDDB occurrence for the species within one mile of the Proposed Project area; however, the date of this occurrence is unknown, and this population may be extirpated. The species has not been observed during any of the field surveys for the Proposed Project site. Low Potential.
Two-striped garter snake (<i>Thamnophus hammondi</i>)	CSC	Yes	Two-striped garter snake is a primarily aquatic species and is generally found around pools, creeks, cattle tanks, and other water sources. It is often found in association with rocky areas and vegetation communities such as oak woodlands, chaparral, brushlands, and coniferous forests. The species' elevation range extends from sea level to 8,000 feet. Breeding takes place from late March to early August.	No suitable habitat is present within the Proposed Project area due to the lack of permanent water sources. One recent CNDDDB occurrence, which was recorded in 2004, documents the species between one mile and five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. Low Potential.
Amphibians				
Western spadefoot (<i>Spea hammondi</i>)	CSC	Yes	Western spadefoot prefers open areas with sandy or gravelly soils and is found in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. The species requires rainpools that do not contain bullfrogs (<i>Lithobates catesbeianus</i>), fish, or crayfish (<i>Procambarus clarkii</i>). The species' elevation range extends from sea level to 4,650 feet. In the San Diego area, breeding depends on pooled water and takes place from January to June. In dry years, breeding may not occur.	Suitable habitat is present in the southern portion of the Proposed Project area. One CNDDDB occurrence, which was recorded in 1999, documents the species between one mile and five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. Moderate Potential.
Birds				
Cooper's hawk (<i>Accipiter cooperi</i>)	CSC	Yes	Cooper's hawk is found in numerous lowland and foothill canyons and in urban areas, usually below 6,000 feet in elevation. The breeding range extends from Siskiyou County south to San Diego County. It is found in coastal slopes wherever there are trees and uses Eucalyptus (<i>Eucalyptus</i> spp.) and oak (<i>Quercus</i> spp.) to nest. Breeding occurs from late March to mid-June.	Suitable foraging and nesting habitat is present within the Proposed Project area. One recent CNDDDB occurrence, which was recorded in 2001, documents the species between one mile and five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. Low Potential.

Species Name	Listing Status	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Southern rufous-crowned sparrow (<i>Aimophila ruficeps</i>)	CSC	Yes	Southern rufous-crowned sparrow prefers coastal lowlands and foothills with sage scrub, broken chaparral, and grassland scattered with shrubs. The species avoids developed areas and is rarely found in elevations greater than 4,000 feet. The species breeds in sparsely vegetated scrubland. It is not known precisely when breeding season begins; however, the species has been observed carrying nesting material as early as March.	No suitable nesting or foraging habitat is present within the Proposed Project area. One recent CNDDB occurrence, which was recorded in 2002, documents the species between one mile and five miles of the Proposed Project area. The species has not been observed during any of the field surveys for the Proposed Project site. Low Potential.
Short-eared owl (<i>Asio flammeus</i>)	CSC	No	Short-eared owl requires stands of tall grasses in dry or wet habitats in the lowlands for breeding and roosting. This species hunts over saltwater and freshwater marshes, grasslands, meadows, river margins, and agricultural lands. They rarely breed in southern California and are uncommon to rare along the entire coast, as they are a transient winter visitor to most areas of California.	Suitable foraging habitat is present within the southern portion of the Potential Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site; however, an owl pellet from an unidentified owl species was found within the Proposed Project site. Therefore, short-eared owl was identified to have a moderate potential to occur within the Proposed Project site. Moderate Potential.
Western burrowing owl (<i>Athene cunicularia</i>)	CSC	Yes	Western burrowing owl lives in dry, open areas with no trees and short grass. The species is found in golf courses, cemeteries, airports, vacant lots, university campuses, pastures, and prairie dog (<i>Cynomys</i> spp.) towns. Western burrowing owl is generally found at elevations from approximately 200 to 5,000 feet. It nests in burrows that are often dug by a small mammal, especially the California ground squirrel (<i>Spermophilus beecheyi</i>). This species breeds from March to August.	Marginal foraging habitat is present within the Proposed Project area. No small mammal burrows were observed within the Proposed Project area; therefore, no suitable nesting habitat is present. In addition, there are no CNDDB occurrences documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 1988. During previous SDG&E 2005 field surveys of the Proposed Project area, one western burrowing owl was observed. This individual was likely a wintering migrant. It is not anticipated that the individual would have remained in the area due to the lack of food sources, foraging habitat, and nesting habitat. The species was not observed during any of the other field surveys for the Proposed Project site. Moderate Potential.
San Diego cactus wren (<i>Campylorhynchus brunneicapillus sandiegense</i>)	CSC	Yes	San Diego cactus wren is typically found on arid slopes with stands of cactus. The species nests in cholla (<i>Opuntia</i> spp.) or other large branching cactus, yucca, or thorny shrubs and trees. They can be found in areas up to 6,000 feet in elevation and generally breed in successional scrub habitat. Breeding begins in late February or early March and continues through June.	No suitable nesting or foraging habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. There are six CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2000. Low Potential.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT	Yes	Western snowy plover winters in California on sparsely vegetated sand beaches, dry salt flats, dredge spoils, and salt evaporation ponds. This species range in California extends coastally and intermittently from the Oregon to the Mexican border and is widespread on lakes in the drier interior portions of the state. Breeding occurs on dune-backed beaches, barrier beaches, and salt evaporation ponds. Breeding may begin as early as February and extend through September.	No suitable nesting or foraging habitat is present in the Proposed Project area. The species may forage directly outside the Proposed Project area within the salt marshes and San Diego Bay. There is one CNDDB occurrence that has been documented within 0.25 mile of the Proposed Project area, dating from between 30 and 60 years ago. There is one CNDDB occurrence that has been documented within one mile of the Proposed Project area. There are four CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Moderate Potential.

Species Name	Listing Status ⁹	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Northern harrier (<i>Circus cyaneus</i>)	CSC	Yes	Northern harrier forages over meadows, grasslands, rangelands, desert sinks, and freshwater emergent wetlands. This species nests in meadows and in both fresh and salt open marshlands. This species' breeding elevation can extend from about sea level to over 8,000 feet. Outside of breeding season, the species can be observed at elevations up to 10,000 feet. The species rarely breeds or nests in southern California, due to disturbance and disappearance of suitable breeding habitat.	Suitable foraging habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 2001. Moderate Potential.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC CE	No	Western yellow-billed cuckoo prefers open woodlands with clearings and dense scrubby vegetation, often along water. Breeding habitat generally consists of mixed old growth riparian forests of willow and cottonwood. Breeding generally occurs in the summer between May and August at elevations below 2,500 feet.	No suitable nesting or foraging habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, however, the occurrence was recorded more than 60 years ago. The species was not observed during any of the field surveys for the Proposed Project site. No Potential.
White-tailed kite (<i>Elanus leucurus</i>)	CFP	No	White-tailed kite favors agricultural areas, grasslands, marshes, savannas, and other open land or sparsely wooded areas. The species nests in riparian woodland, oaks, and sycamores and forages in open, grassy areas. They are generally found in areas below 2000 feet in elevation, but have occasionally been seen in mountainous areas. Breeding generally occurs in the lowlands and foothills west of the Sierra Nevada, and the southeastern deserts in California. White-tailed kites form a monogamous pair in December, and nest building starts in January.	Marginal foraging habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
California horned lark (<i>Eremophila alpestris</i>)	CSC	No	California horned lark is sometimes found in areas that are sparsely vegetated naturally, but is usually found where some disturbance has thinned the vegetation or created openings. Grazing, maintenance of firebreaks, and grading preceding development are all factors that contribute to sparse vegetation. The species breeds in suitable habitat at elevations ranging from below sea level to over 12,000 feet. Breeding generally occurs from March to June.	Suitable foraging habitat and marginal nesting habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area; however, two flocks of approximately 15 individuals were observed during the 2010 reconnaissance field surveys in the central portion of the Proposed Project area near the north gated entrance. Present.
American peregrine falcon (<i>Falco peregrinus</i>)	Delisted CFP	Yes	American peregrine falcon is found in a variety of habitats which contain cliffs for nesting and open areas for foraging. The species frequents large cities and construct nests on buildings. Transient and wintering birds occur most frequently at lower elevations, but they have occurred from below sea level to over 12,000 feet. Breeding generally occurs in mountainous and coastal areas, and egg-laying generally occurs from February to March.	Marginal foraging habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1990. The species was not observed during any of the field surveys for the Proposed Project site. Moderate Potential.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	CT	No	The majority of California black rails are found in the tidal salt marshes of the northern San Francisco Bay region. California black rail breeds in salt or freshwater marshes, where the ground is moist but not entirely submerged, and in grassy wet meadows. The California black rail is only known to occur at low elevations. Breeding generally occurs from February to September.	No suitable nesting or foraging habitat is present in the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are three CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area; however, all of the occurrences were recorded more than 60 years ago. The species was not observed during any of the field surveys for the Proposed Project site. No Potential.

Species Name	Listing ⁹ Status	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Osprey (<i>Pandion haliaetus</i>)	CSC	No	Osprey inhabits coastal areas and lowland lakes. The species tends to nest in manmade structures, and is generally found over water. During the non-breeding season, it can be found mainly along the coast and coastal lowlands. Breeding occurs from March through September.	Marginal foraging and nesting habitat are present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Belding's savannah sparrow (<i>Passerculus sandwichensis beldingi</i>)	CE	Yes	Belding's savannah sparrow is a year-round resident of California that breeds and nests in tidal salt marshes or around lagoons in low vegetation dominated by pickleweed (<i>Salicornia</i> spp.). Foraging generally occurs in nearby mud flats, beaches, rocks, and low coastal strand vegetation. The species generally occurs at low elevations, and its range extends from Santa Barbara County south to the Mexican border. Breeding generally occurs from late March to early July.	Suitable foraging habitat is present within the Proposed Project area; however, no suitable nesting habitat exists within the Proposed Project area. Nine CNDDB occurrences have been documented within five miles of the Proposed Project area, all of which were recorded in 2001. Two of these occurrences were documented within 0.25 mile, two have been documented within 1 mile, and five have been documented between one and five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Moderate Potential.
California brown pelican (<i>Pelecanus occidentalis californicus</i>)	Delisted CFP	Yes	California brown pelican nests in colonies on offshore islands that are free of mammalian predators and human disturbance, are of sufficient elevation to prevent flooding of nests, and are associated with an adequate and consistent food supply. The species roosts communally and uses breakwaters, jetties, sand spits, and offshore sand bars extensively as daily loafing and nocturnal roost areas. It is rarely found away from salt water and does not normally venture more than 20 miles out to sea. Breeding can occur as early as December and as late as August.	No suitable nesting or foraging habitat is present in the Proposed Project area. Foraging habitat for brown pelican is located to the west of the Proposed Project area in the San Diego Bay. No CNDDB occurrences have been documented within five miles of the Proposed Project area. One California brown pelican was observed to the west of the Proposed Project area during the 2010 reconnaissance field surveys. Moderate Potential.
Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	FT	Yes	Coastal California gnatcatcher is an obligate, permanent resident of coastal sage scrub vegetation. It makes limited use of adjacent habitats outside of the breeding season. The species is restricted to elevations from sea level to approximately 2,000 feet. Coastal California gnatcatcher breeds from February to late August, but most of the breeding occurs between mid-March and mid-May.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are 12 CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2006. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Light-footed clapper rail (<i>Rallus longirostris levipes</i>)	FE CE	Yes	Light-footed clapper rail is a very localized resident that is found primarily in lower salt marsh habitat, especially in areas dominated by cordgrass (<i>Spartina</i> spp.). The species has also been found in virtually all marshlike habitat, including pickleweed (<i>Salicornia</i> spp.) stands and freshwater marsh dominated by cattails (<i>Typha</i> spp.). The species has been known to occur coaswise intermittently in 15-19 saltwater marshes from Santa Barbara County south to San Diego County. Breeding season generally occurs from mid-March through July, with peak activity in late June.	No suitable habitat is located in the Proposed Project area. However, four CNDDB occurrences have been documented within one mile of the Proposed Project area, two of which were documented within 0.25 mile, the most recent of which dates from 2003. In addition, seven CNDDB occurrences have been documented within one mile and five miles of the Proposed Project area. The species was not observed during any of the site surveys. Moderate Potential.
Black skimmer (<i>Rynchops niger</i>)	CSC	No	Most breeding colonies of black skimmer are found on beaches, or sand islands, particularly in coastal Southern California. In other parts of their range, they utilize sand bars, dredge spoil islands or salt marshes where they nest on mats of dead vegetation. Black skimmer tends to feed in lagoons, diked ponds, tidal channels, and generally undisturbed shallow waters, usually near the seacoast.	No suitable habitat is located in the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. Black skimmer was not observed during any of the site surveys. No Potential.

Species Name	Listing Status ⁹	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
California least tern (<i>Sterna antillarum browni</i>)	FE CE	Yes	California least tern mainly nests in colonies along the coast. Historically, the species preferred colony sites that were located on barrier dunes at river mouths, lagoon entrances, and along sandy strips of sparse coastal strand vegetation. Currently, more than 20 small breeding colonies are scattered from greater San Francisco Bay south along the coast to South San Diego Bay. San Diego County contains the greatest number of breeding colonies in California. Breeding occurs from May through August.	No suitable nesting or foraging habitat is present in the Proposed Project area; however, suitable foraging habitat exists outside the Proposed Project area within the San Diego Bay. There are two CNDDB occurrences that have been documented within one mile of the Proposed Project area, the most recent of which dates from 1988. There are six CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Moderate Potential.
Elegant tern (<i>Thalasseus elegans</i>)	CSC	Yes	Elegant terns are highly colonial nesters. The species’ diverse nesting habitats include sandy and marshy coastal islands and sandy islets in salt lakes. During the winter, it is found foraging in most bays and protected areas of north San Diego County, including, but not limited to, the mouth of the Santa Margarita River, Oceanside Harbor, Buena Vista Lagoon, Agua Hedionada Lagoon and San Elijo Lagoon, and south to La Jolla Cove and Mission Bay. Elegant least terns are typically found foraging singly or in groups of two or three. At times, the species is found foraging in the outer salt crystallizer ponds of the San Diego Bay Salt Works. Breeding typically occurs from mid April through early September.	No suitable nesting or foraging habitat is present in the Proposed Project area. The species may forage in the outer salt crystallizer ponds of the San Diego Bay Salt Works just west of the Proposed Project area. However, no CNDDB occurrences have been documented within five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. No Potential.
Gull-billed tern (<i>Sterna nilotica vanrossemi</i>)	CSC	No	Gull-billed tern is an uncommon and local summer visitor from late March to the end of August. Gull-billed terns breed on gravelly or sandy beaches. The species winters in salt marshes, estuaries, lagoons and plowed fields. In winter, it is less frequently observed along rivers, around lakes, and in fresh-water marshes. Gull-billed terns feed along shorelines, canals, and waterways, and forage over nearby agricultural lands. Breeding occurs from mid April through late July.	No suitable nesting or foraging habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. No Potential.
Least Bell’s vireo (<i>Vireo bellii pusillus</i>)	FE CE	Yes	Least Bell’s vireo is a rare and local summer visitor from about mid-March to the end of August ranging from sea level in coastal areas to approximately 1,500 feet in the interior areas. Least Bell’s vireo breeds locally in willow riparian thickets with good overstory and understory vegetation, preferably where flowing water is present. Critical habitat for the Least Bell’s vireo has been designated along portions of the San Diego River and Sweetwater River. Breeding typically occurs from late March to late September.	No suitable nesting or foraging habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are six CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2004. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Mammals				
Pallid bat (<i>Antrozous pallidus</i>)	CSC	No	Pallid bat inhabits deserts, grasslands, shrublands, woodlands, and forests. It is generally found in the Sonoran life zone, at elevations from 100 to 7,000 feet. It is most commonly found in open, dry habitats with rocky areas. The species roosts in rocky outcrops, snags, and abandoned man-made structures. Mating of the pallid bat may occur as early as October and continue through February.	Marginal foraging habitat is present within the southern portion of the Proposed Project area. One CNDDB occurrence, which dates from more than 60 years ago, has been documented within one mile of the Proposed Project area. There are three CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area; however, all of the occurrences were recorded more than 60 years ago. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.

Species Name	Listing Status	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	CSC	Yes	Northwestern San Diego pocket mouse inhabits coastal sage scrub, sage scrub or grassland ecotones, and chaparral communities at elevations ranging from 100 to 7,000 feet. It inhabits open, sandy weed-grown areas in the low desert and foothills of both the Upper and Lower Sonoran life zones of southwestern California and northern Baja California. Little information is available on this species breeding; however, breeding usually occurs in the spring.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2002. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Mexican long-tongued bat (<i>Choeronycteris mexicana</i>)	CSC	No	Mexican long-tongued bat occurs in a wide variety of habitats from arid thorn scrub to tropical deciduous forests and mixed oak-conifer forests and generally inhabits elevations up to 6,200 feet. Preferred roosting sites for the species appear to be mines, caves, and rock fissures. The species is rare in southern California. Breeding usually occurs from June through July.	No suitable foraging or roosting habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2002. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Western mastiff bat (<i>Eumops perotis californicus</i>)	CSC	No	Western mastiff bat inhabits arid and semiarid lowlands in the Lower Sonoran life zone of California at elevations from 100 to 4,000 feet. The species primarily roosts in crevices in vertical cliffs, usually granite or consolidated sandstone, and in broken terrain with exposed rock faces. It is also found occasionally in high buildings, trees, and tunnels. Western mastiff bat roost sites may change from season to season. Due to its large size, it needs vertical faces to drop from in order to take flight. Western mastiff bat nursery roosts can be found in tight rock crevices. Breeding likely occurs from April through September.	No suitable foraging or roosting habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
San Diego black-tailed hare (<i>Lepus californicus bennetii</i>)	CSC	Yes	San Diego black-tailed hare generally occurs in open areas or semi-open country, typically in grasslands, agricultural fields, or sparse coastal sage scrub, at elevations ranging from sea level to 6,000 feet. It is generally not found in chaparral or woodland habitats. The length of the breeding season depends on the duration and severity of winter. In California, the species can breed throughout the year.	Marginal habitat is present throughout the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2002. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
San Diego wood rat (<i>Neotoma lepida intermedia</i>)	CSC	Yes	San Diego wood rat is found in a variety of shrub and desert habitats, and is primarily associated with rock outcroppings, boulders, cacti, or areas of dense undergrowth in elevations ranging from sea level to 8,500 feet. The species is associated with cholla cactus (<i>Opuntia</i> spp.), which it uses for water and dens. Breeding generally occurs from late October or November through April.	No suitable habitat is present throughout the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that was recorded in 2003. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	CSC	No	Pocketed free-tailed bat is confined primarily to arid lowland areas. In California, it has been located only in the Lower and Upper Sonoran life zones, at elevations ranging from 100 feet to 7,000 feet. It is associated primarily with creosote bush and chaparral habitats. The species is found primarily in association with prominent rock features such as very large boulder jumbles or rocky canyons. Pocketed free-tailed bat is a crevice-dwelling species, and is usually associated with high cliffs and rugged rock outcroppings, although it has also been found in caves and buildings. The species typically breeds in March or April, and young are born in late June to early July.	No suitable foraging or roosting habitat is present in the Proposed Project area. One CNDDB occurrence, which dates from between 30 and 60 years ago, has been documented within 0.25 mile of the Proposed Project area. There are three CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, one of which was documented within one mile. The species was not observed during any of the field surveys for the Proposed Project site. Moderate Potential.

Species Name	Listing Status ⁹	Covered under the NCCP (Yes/No)	Habitat Requirements	Potential to Occur
Pacific pocket mouse (<i>Perognathus longimembris pacificus</i>)	FE CSC	Yes	Pacific pocket mouse occurs on fine-grain, sandy, or gravelly substrates in the immediate vicinity of the Pacific Ocean. The species is known to occur on coastal strand, coastal dunes, river alluvium, and coastal sage scrub habitats on marine terraces. Pacific pocket mice occupy habitats such as coastal sage scrub dominated by sagebrush (<i>Artemisia californica</i>) (Dana Point Headlands); mixed sage scrub and maritime chaparral sagebrush dominated by sagebrush and white sage (<i>Salvia apiana</i>) (San Mateo Creek); and the ecotone of coastal sage scrub and nonnative grassland, white sage, and slender buckwheat (<i>Eriogonum elongatum</i>) (Santa Margarita). Breeding generally occurs from April through July, but the season can vary depending on the temperature, availability of food, and quantity of plant growth in the habitat.	Marginal habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area; however, this occurrence was recorded greater than 60 years ago. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.
American badger (<i>Taxidea taxus</i>)	CSC	Yes	American badger occurs primarily in grasslands, parklands, farms, and other treeless areas with friable soil and a supply of rodent prey. The species is also found in forest glades and meadows, marshes, brushy areas, hot deserts, and mountain meadows. It is sometimes found at elevations up to 12,000 feet, but is usually found in the Sonoran and Transition life zones (elevations lower and warmer than those characterized by coniferous forests). American badgers are occasionally found in open chaparral (with less than 50-percent plant cover) and riparian zones. Breeding generally occurs in the between December and February and cubs are born between March and April.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. The species was not observed during any of the field surveys for the Proposed Project site. Low Potential.

sampling surveys are currently being conducted in the Proposed Project area and would be completed by July of 2011.

Riverside Fairy Shrimp

Riverside fairy shrimp (*Streptocephalus woottoni*) are found in deep, cool lowland vernal pools that retain water through late spring. Riverside fairy shrimp require water with a pH range of approximately six to seven. Once hydrated, eggs from the soil hatch within seven to 12 days, depending on water temperatures. Marginal habitat for Riverside fairy shrimp is present within the larger seasonal wetland located in the bermed retention basin in the southern portion of the Proposed Project area; however, the pH within the wetlands is approximately 11.0, which is significantly higher than pH conditions that support the species. One CNDDDB occurrence for the species, dating from 2001, has been documented between one mile and five miles of the Proposed Project area. USFWS protocol-level wet-season surveys for listed branchiopods, including Riverside fairy shrimp, were conducted in November of 2010 through April of 2011 in the Proposed Project area. No listed branchiopods, including Riverside fairy shrimp, were found during the wet-season surveys. USFWS protocol-level dry-season soil sampling surveys are currently being conducted and are anticipated to be completed by July of 2011. The results of both surveys would be documented in a separate report.

Amphibians

Western Spadefoot

Western spadefoot (*Spea hammondi*) is generally found in open areas with sandy or gravelly soils. The species can be present in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, sandy washes, lowlands, and alkali flats. Western spadefoot requires seasonal rain pools that do not contain bullfrogs, fish, or crayfish. Throughout the range of the species, the breeding season is dependent on the timing of seasonal pool inundation; but in the San Diego area, breeding generally takes place from January to June.

Suitable foraging and breeding habitat for western spadefoot is present in the southern portion of the Proposed Project area in the form of grasslands, open areas with sandy or gravelly soils, and seasonal wetland features. In addition, one CNDDDB occurrence, dating from 1999, documents the species between one mile and five miles of the Proposed Project area. However, the species has not been observed during any previously conducted site surveys and no breeding was observed during the four-month-long wet-season surveys for listed vernal pool branchiopods.

Birds

Short-eared Owl

Short-eared owls (*Asio flammeus*) are crepuscular, being most active at dawn and dusk. Outside the breeding season, they may gather in flocks. Short-eared owls inhabit marshes and grassland habitats. Short-eared owls nest on the ground in the shelter of a grass mound, under a grass tuft, or among herbaceous ground cover. They typically eat small mammals, but birds may be the focal prey when short-eared owls are hunting in marshes and coastal areas where large numbers of shorebirds are present. The species is regularly observed wintering in small numbers in the South Bay estuary.

Short-eared owls were not observed during the March 2010 reconnaissance field surveys or other surveys of the Proposed Project area; however, an owl pellet from an unidentified species was found within the Proposed Project site during the March 2010 surveys at the base of a transmission pole in non-native grassland habitat. No CNDDDB records document short-eared owl occurrences within one mile of the Proposed Project area. Suitable foraging habitat in the form of grasslands is present within, and in the vicinity of, the Proposed Project area; however, no suitable nesting habitat is present in the Proposed Project area. The short-eared owl is therefore not expected to breed in the area.

Western Burrowing Owl

Western burrowing owls (*Athene cunicularia*) can be found in dry, open areas characterized by short vegetation and a lack of trees, such as occurs in golf courses, pastures, cemeteries, and open lots. Western burrowing owls nest in burrows that were often originally dug by mammals, such as prairie dogs, ground squirrels, and badgers. The burrows can be several feet long, with numerous twists and turns, and are often lined with horse or cow manure and decorated with prey remains that often are gifts brought by a male to a female.

Western burrowing owls were not observed during the March 2010 reconnaissance field surveys or surveys of the Proposed Project area. However, one western burrowing owl was observed near a pipe in the vicinity of a stand of ornamental vegetation on the eastern portion of the Proposed Project area adjacent to Bay Boulevard during a previous field survey of the Proposed Project area. This western burrowing owl was likely a wintering migrant, as there is marginal foraging habitat for western burrowing owls within in the Proposed Project area. Given the marginal foraging habitat and lack of food sources such as small mammals within the site, it is unlikely that the burrowing owl would have remained in the area. In addition, no small mammal burrows have been observed within the Proposed Project area; therefore, no potential breeding habitat is present. There are no CNDDDB records that document occurrences within one mile of the Proposed Project area.

Western Snowy Plover

Western snowy plover (*Charadrius alexandrinus nivosus*) can be found wintering in California on sand beaches, dry salt flats, dredge spoils, and salt evaporation ponds. The species generally breeds on dune-backed beaches, barrier beaches, and salt evaporation ponds. No suitable nesting or foraging habitat for western snowy plover is present in the Proposed Project area. However, the species may forage directly outside of the Proposed Project area within nearby salt marshes and San Diego Bay. One CNDDDB occurrence that dates from between 30 and 60 years ago has been documented within 0.25 mile of the Proposed Project area. The species was not observed during any of the field surveys that have been conducted of the Proposed Project site.

Northern Harrier

Northern harriers (*Circus cyaneus*) can be found foraging over meadows, grasslands, rangelands, desert sinks, and freshwater and emergent wetlands. Northern harriers nest in meadows and fresh- and salt-water open marshlands. Nests, typically comprised of sticks and grass, are constructed on the ground, although northern harriers also nest within marsh vegetation and raised mounds of reeds. Northern harriers feed primarily on voles (*Microtus californicus*) and other small mammals, but also prey upon on insects, reptiles, and amphibians.

Northern harriers were not observed during the March 2010 reconnaissance field surveys or other site surveys and there are no CNDDDB records that document occurrences within one mile of Proposed Project area. However, the species is anecdotally known to occur in the vicinity of the Proposed Project area. Additionally, suitable foraging habitat exists throughout the area in the form of grasslands and seasonal wetlands. No suitable nesting habitat is present within the Proposed Project area.

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus*) is found in a variety of habitats up to 12,000 feet in elevation. The species requires cliffs for nesting and open areas for foraging. American peregrine falcon can be present in large cities, and has been known to occasionally nest on buildings. Most occurrences of American peregrine falcon at lower elevations have been identified as transient and wintering birds. The species generally breeds in mountainous and cliffside coastal areas.

Marginal foraging habitat for American peregrine falcon is located within Proposed Project area in the form of open areas. However, no CNDDDB occurrences have been documented within one mile of the Proposed Project area and the species was not observed during the March 2010 reconnaissance field surveys or other surveys of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area and dates from 1990. No suitable nesting habitat is present within the Proposed Project area.

Belding's Savannah Sparrow

Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) requires tidal salt marshes or lagoons for breeding and nesting. The species generally forages in mud flats, beaches, rocks, and low coastal strand vegetation. Belding's savannah sparrow is a year-round resident of California and is typically found at low elevations. Suitable foraging habitat for the species exists within the Proposed Project area in the form of rocks, beaches, and low coastal strand vegetation; however, no nesting habitat is present within the Proposed Project area. There are nine CNDDDB occurrences documented, two of which are within 0.25 mile, two occurrences have been documented within one mile, and five occurrences have been documented between one mile and five miles of the Proposed Project area. All of the occurrences documented date from 2001. The species was not observed during the March 2010 reconnaissance surveys or other surveys of the Proposed Project area.

California Brown Pelican

California brown pelican (*Pelecanus occidentalis californicus*) nests in colonies on offshore islands that are undisturbed by predators and humans. The islands must also be of sufficient elevation to prevent flooding of nests, and must have an adequate and consistent food supply. California brown pelican also roosts communally and dwells in breakwaters, jetties, sand spits, and offshore sand bars during the day and may roost in these areas at night as well. The species is rarely found away from salt water and does not normally travel more than 20 miles away from shore. Although no suitable foraging or nesting habitat for California brown pelican is located within the Proposed Project area, one California brown pelican was observed flying over the area west of the Proposed Project area that is adjacent to San Diego Bay during the March 2010

reconnaissance field surveys. There are no CNDDDB occurrences of California brown pelican within five miles of the Proposed Project area.

Light-footed Clapper Rail

Light-footed clapper rail (*Rallus longirostris levipes*) is primarily found in lower salt marsh habitat, particularly in areas dominated by cordgrass (*Spartina* spp.). The species has also been found in virtually all marshlike habitat, including pickleweed (*Salicornia pacifica*) stands and freshwater marsh dominated by cattails (*Typha* spp.). Although no suitable habitat for light-footed clapper rail is located within the Proposed Project area, there are four CNDDDB occurrences documented within one mile of the Proposed Project area, two of which were within 0.25 mile, and the most recent record dates from 2003. There are seven CNDDDB occurrences documented between one mile and five miles of the Proposed Project area; however, the species was not observed during the March 2010 reconnaissance field surveys or other site surveys.

California Least Tern

California least tern (*Sternula antillarum browni*) generally nests in colonies along the coast, preferring sites located on barrier dunes at river mouths, lagoon entrances, and along sandy strips of sparse coastal vegetation. There are currently more than 20 small breeding colonies scattered along the coast of California, many of which can be found in San Diego County. There is no suitable nesting or foraging habitat for California least tern present in the Proposed Project area. However, suitable foraging habitat exists outside of the Proposed Project area in San Diego Bay. There are two CNDDDB occurrences that have been documented within one mile of the Proposed Project area, the most recent of which dates from 1988. The species has not been observed during any of the field surveys conducted of the Proposed Project site.

Mammals

Pocketed Free-Tailed Bat

Pocketed free-tailed bat (*Nyctinomops femorosaccus*) is primarily found in arid lowland areas at elevations ranging from 100 feet to 7,000 feet. The species typically is associated with creosote bush and chaparral habitats, and is generally found in areas with prominent rock features, such as rocky canyons. Pocketed free-tailed bat dwells in crevices in areas such as high cliffs and rock outcroppings, although the species has occasionally been found in caves and buildings. Although no suitable roosting or foraging habitat is present for pocketed free-tailed bat in the Proposed Project area, there is one CNDDDB occurrence, which dates from between 30 and 60 years ago, that has been documented within 0.25 mile of the Proposed Project area.

5.4 UNITED STATES FISH AND WILDLIFE SERVICE CRITICAL HABITAT

Under the ESA, to the extent prudent and determinable, the USFWS is required to designate critical habitat for endangered and threatened species (16 U.S.C. § 1533 (a)(3)). Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter.

Designated critical habitats require special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. Critical habitat designation delineates all suitable habitat occupied or not, that is essential to the survival and recovery of the species.

There are no USFWS-designated critical habitats located in or within one mile of the Proposed Project area. Critical habitat for San Diego fairy shrimp (*Branchinecta sandiegonensis*), Western snowy plover (*Charadrius alexandrinus nivosus*), least Bell's vireo (*Vireo bellii pusillus*), Coastal California gnatcatcher (*Polioptila californica californica*), Quino checkerspot butterfly (*Euphydryas editha quino*), and Otay tarplant (*Deinandra conjugens*) are present within five miles of the Proposed Project area.

5.5 WILDLIFE MIGRATION CORRIDORS

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features, such as canyon drainages, ridgelines, or areas with vegetation cover, provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate gene flow between populations. Wildlife corridors are considered sensitive by resource and conservation agencies.

Terrestrial wildlife species tend to travel along natural drainages that simultaneously provide protective cover from predators and a foraging source. There are no natural drainage features within the Proposed Project area. Development occurs throughout the area; therefore, the quality of the site as a wildlife movement corridor for terrestrial species is diminished.

The Pacific Flyway, located just west of the Proposed Project area within the San Diego Bay, is one of the six major north-south migration routes for waterfowl in the U.S., Mexico, and Canada. The Pacific Flyway links breeding grounds in the north to more southerly wintering areas and is therefore utilized by an abundance of bird species during migration. As part of the Pacific Flyway, the San Diego Bay and associated aquatic features provide high-quality resting and foraging areas for numerous birds during the migratory seasons. The Proposed Project area is not within the Pacific Flyway and the quality of resources for migratory birds in the Proposed Project Area are poor when juxtaposed to the resources present along the Flyway.

5.6 AQUATIC RESOURCES

The Proposed Project site contains wetland and non-wetland water features that may be subject to regulation by five agencies—the USACE, RWQCB, CDFG, CCC, and City of Chula Vista. The water features are described in the following subsections and are depicted in Figure 6: Wetland and Waters Map. A detailed description of each wetland and non-wetland water feature is provided in Table 4: Wetland and Water Resources and the South Bay Substation Relocation Project Wetland Delineation Report. No riparian communities were identified in the Proposed Project area.

6 – IMPACTS

Temporary, permanent, direct and/or indirect impacts to critical habitats, vegetation communities, sensitive plants, sensitive wildlife, and aquatic resources were assessed and are described in the following sections. No impacts were identified to critical habitats as none are present. Temporary and permanent impacts would occur to vegetation communities. In addition, temporary and permanent direct and indirect impacts could occur to avian, sensitive mammal, and reptile species; however, these impacts would be reduced to a less-than-significant level with the implementation of the APMs described in Section 7 – Applicant-Proposed Measures. Construction of the Proposed Project would result in permanent impacts to wetlands and jurisdictional waters; however, SDG&E would mitigate for impacts according to the NCCP and the APMs described in Section 7 – Applicant-Proposed Measures.

6.0 VEGETATION COMMUNITIES

Construction of the Bay Boulevard Substation, transmission lines, and associated access roads, and demolition of the existing South Bay Substation could directly or indirectly result in temporary disturbance to and/or permanent loss of vegetation communities, and sensitive plant species. Temporary and direct disturbance includes short-term impacts during construction of new pole structures and removal of existing towers, construction of new access roads and improvement to existing access roads, and work at staging/laydown areas. Permanent direct loss involves long-term impacts associated with permanent Proposed Project features (e.g., new transmission towers and new substation). The Proposed Project would temporarily affect up to approximately 15.82 acres of developed land, 0.03 acre of emergent wetland, 4.57 acres of non-native grassland, 0.26 acre of Eucalyptus woodland, 5.26 acres of ornamental vegetation, 22.87 acres of disturbed habitat, and 1.45 acres of disturbed coastal coyote brush scrub. These temporary impact acreages are based on a worst-case scenario in which the majority of the SDG&E easement would be temporarily and directly impacted through vegetation removal, grading, excavation, or overland travel.

The Proposed Project would permanently and directly impact approximately 0.20 acre of developed land, 2.41 acres of seasonal wetland, 0.03 acre of emergent wetland, 8.74 acres of non-native grassland, 0.05 acre of ornamental vegetation, 0.18 acre of disturbed habitat, and 4.94 acres of disturbed coastal coyote brush scrub. There would be no permanent impacts to Eucalyptus woodland. These temporary and permanent impacts are summarized in Table 5: Vegetation Community Impacts and depicted in Figure 7: Bay Boulevard Substation Temporary and Permanent Impact Areas.

6.0.0 Sensitive Vegetation Communities

No sensitive vegetation communities occur within the Proposed Project Area. Therefore no impacts to sensitive vegetation communities would occur.

6.0.1 Environmentally Sensitive Habitat Areas

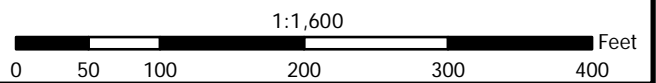
No ESHA has been identified in the Proposed Project area or within 500 feet of the Proposed Project; thus, no impacts to ESHA are anticipated.



Figure 6: Wetland and Waters Map 1 of 3

South Bay Substation Relocation Project

- Substation Wall
- 12.42-Acre Parcel Boundary
- SDG&E Easement
- Wetland or Water



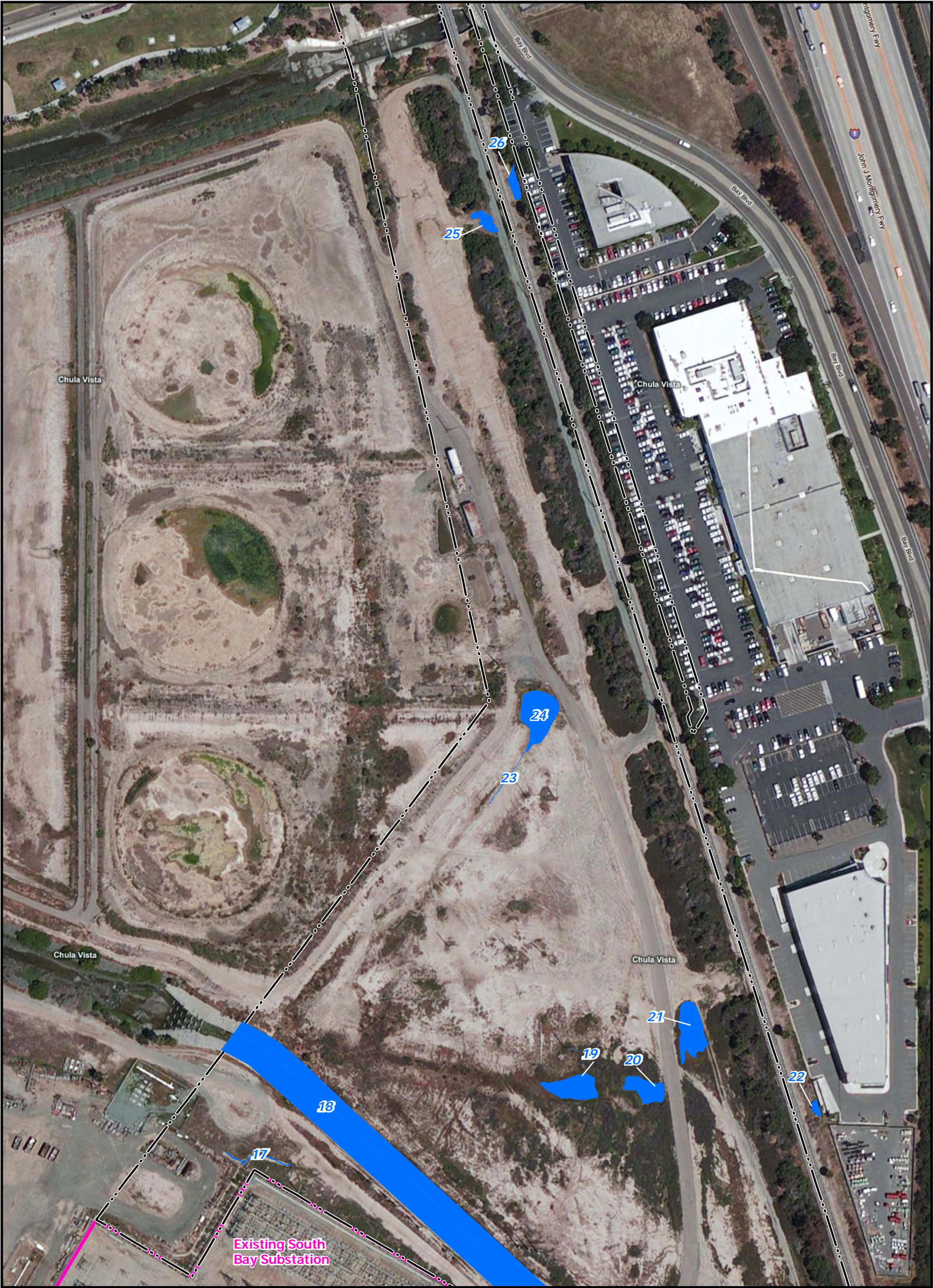


Figure 6: Wetland and Waters Map 3 of 3

South Bay Substation Relocation Project

- Substation Wall
- 12.42-Acre Parcel Boundary
- SDG&E Easement
- Wetland or Water

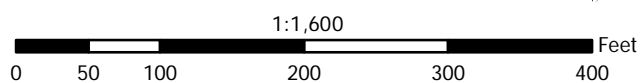


Table 4: Wetland and Water Resources

Feature Number	Approximate Total Acreage	Description
1	0.366	Drainage feature containing an emergent wetland that includes a total of approximately 0.099 acre under the OHWM and approximately 0.267 acre from the OHWM to the top of the bank of the drainage feature. Two small sections of the drainage are considered water rather than an emergent wetland. This drainage feature has connectivity to navigable waters.
2	0.136	Moderate-sized seasonal wetland feature with no surface and groundwater connectivity.
3	0.027	Small seasonal wetland feature with no surface and groundwater connectivity.
4	0.003	Small seasonal wetland feature with no surface and groundwater connectivity.
5	2.141	Large feature that contains mule fat scrub, seasonal wetland, and disturbed wetland scrub. The wetland feature has no surface or groundwater connectivity.
6	0.030	Small seasonal wetland feature with no surface and groundwater connectivity.
7	0.007	Small seasonal wetland feature with no surface and groundwater connectivity.
8	0.062	Moderate-sized seasonal wetland feature with no surface and groundwater connectivity.
9	0.003	Small seasonal wetland feature with no surface and groundwater connectivity.
10	<0.001	Small seasonal wetland feature with no surface and groundwater connectivity.
11	<0.001	Small seasonal wetland feature with no surface and groundwater connectivity.
12	0.027	Ephemeral drainage feature that includes approximately 0.015 acre under the OHWM and approximately 0.012 acre from the OHWM to the top of the bank of the drainage feature. This drainage feature has connectivity to navigable waters.
13	0.406	Moderate-sized ephemeral drainage feature that includes approximately 0.082 acre under the OHWM and approximately 0.324 acre from the OHWM to the top of the bank of the drainage feature. This drainage feature has connectivity to navigable waters.

Feature Number	Approximate Total Acreage	Description
14	0.021	An approximately one-foot-wide roadside drainage ditch with connecting approximately 0.5-foot-wide ephemeral swale. The drainage feature includes approximately 0.021 acre under the OHWM. The drainage feature has no connectivity to navigable waters.
15	0.011	Ephemeral swale drainage feature that includes approximately 0.011 acre under the OHWM. This drainage feature has connectivity to navigable waters.
16	0.013	A series of concrete-lined drainage features that include approximately 0.013 acre under the OHWM. This drainage feature has connectivity to navigable waters.
17	0.005	Ephemeral swale drainage feature that includes approximately 0.005 acre under the OHWM. The drainage feature has no connectivity to navigable waters.
18	1.653	Intermittent drainage (Telegraph Creek) feature that includes approximately 0.432 acre under the OHWM and approximately 1.221 acres from the OHWM to the top of the bank of the drainage feature. This drainage feature has connectivity to navigable waters.
19	0.050	Seasonal wetland feature that has no surface and groundwater connectivity.
20	0.036	Seasonal wetland feature that has no surface and groundwater connectivity.
21	0.059	Seasonal wetland feature that has no surface and groundwater connectivity.
22	0.005	Wetland feature that meets only one of the three wetland parameters. This feature includes a small area of mule fat scrub. The drainage feature has no connectivity to navigable waters.
23	0.002	Ephemeral swale drainage feature that includes approximately 0.002 acre under the OHWM. The drainage feature has no connectivity to navigable waters.
24	0.072	Moderate-sized seasonal wetland feature that has no surface or groundwater connectivity.
25	0.015	Small seasonal wetland feature that meets only two of the three wetland parameters. The wetland feature has no surface or groundwater connectivity.

Feature Number	Approximate Total Acreage	Description
26	0.012	Small seasonal wetland feature that meets only one of the three wetland parameters. The wetland feature has no surface or groundwater connectivity.
TOTAL	5.162	Not Applicable (NA)

Table 5: Vegetation Community Impacts

Impact Type	Developed	Seasonal Wetland	Emergent Wetland	Non-native Grassland	Eucalyptus Woodland	Ornamental Vegetation	Disturbed Habitat	Disturbed Coastal Coyote Brush Scrub
Permanent Impacts (acres)	0.20	2.41	0.03	8.74	0.00	0.05	0.18	4.94
Temporary Impacts (acres)	15.82	0.00	0.03	4.57	0.26	5.26	22.87	1.45
Total (acres)	16.02	2.41	0.06	13.31	0.26	5.31	23.05	6.39



**Figure 7: Bay Boulevard Substation
Temporary and Permanent Impact Areas**

**South Bay Substation
Relocation Project**

- Substation Wall
- 12.42-Acre Parcel Boundary
- SDG&E Easement
- Permanent Substation and Driveways
- Permanent Cut and Fill
- Temporary Disturbance



1:2,218

0 140 280 560 Feet

6.1 SENSITIVE PLANT SPECIES

Construction activities could potentially impact sensitive plant species. One individual of one sensitive plant species—decumbent goldenbush—is known to be present at the Proposed Project site based on the May 2011 rare plant survey. It is anticipated that Proposed Project activities would directly impact the decumbent goldenbush individual.

Decumbent goldenbush is not a covered species under SDG&E's NCCP; therefore, impacts to the species cannot be mitigated under the NCCP. SDG&E would utilize Proposed Project-specific APM, as discussed in Section 7 – Applicant-Proposed Measures, to mitigate for the impact to this species. In particular, APM-BIO-06 includes transplanting and/or reseeded any decumbent goldenbush individuals, if impacted. Implementation of APM-BIO-06 would reduce the impacts to decumbent goldenbush to a less-than-significant level.

No other sensitive plant species were found during the rare plant survey. Five additional sensitive plant species—San Diego ambrosia, Palmer's frankenia, Coulter's goldfields, Nuttall's lotus, and spreading navarretia—were determined to have a moderate potential to occur within the Proposed Project area, and 34 sensitive species were determined to have a low potential to occur within the Proposed Project area. None of these species were detected during the rare plant survey; therefore, no impacts to these species are expected to occur.

6.2 GENERAL WILDLIFE SPECIES

Construction activities could potentially impact non-sensitive wildlife species. Direct permanent impacts may include the removal of potential foraging habitat, destruction of burrows or dens, or injury or mortality from construction activities. Indirect temporary impacts may include the disruption of normal behavior due to a temporary increase in noise from construction equipment and vehicles. SDG&E would implement protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 20, 24, 25, 27, 29, 34, 35, 37, 38, 41, 48, 50, 55, and 57, as described in Attachment B: SDG&E NCCP and Operational Protocols. These protocols include, but are not limited to, restricting vehicles to existing roads when feasible, avoiding wildlife to the extent practicable, and conducting pre-construction surveys. Implementation of SDG&E's NCCP and APMs would reduce the impacts to general wildlife species to a less-than-significant level.

6.3 SENSITIVE WILDLIFE SPECIES

6.3.0 Sensitive Invertebrate Species

USFWS protocol-level wet-season surveys for listed branchiopods with the potential to occur in the Proposed Project area, such as Riverside and San Diego fairy shrimp, were conducted in November of 2010 through April of 2011. No listed branchiopods were found during the wet-season surveys. USFWS protocol-level dry-season soil sampling surveys are currently being conducted and are anticipated to be completed by July of 2011, which would confirm the presence or absence of listed branchiopods in the seasonal wetland features. The results of both surveys would be documented in a separate report.

Riverside fairy shrimp and San Diego fairy shrimp are not expected to occur in these seasonal wetland features because the pH in these features is higher (ranging up to 11.0) than the pH

necessary to support the species. In addition, these species require cool vernal pools that retain water through late spring to complete the life cycle—typically a minimum of two to three weeks—but the majority of the wetland features in the Proposed Project area are shallow depressions, approximately two to four inches deep, that retain water for approximately eight days. Therefore, as the species are not expected to occur in the Proposed Project area, no impact to sensitive invertebrate species is expected to occur.

6.3.1 Sensitive Amphibian Species

One sensitive amphibian species—western spadefoot—has a moderate potential to occur in the Proposed Project area. Construction activities have the potential to temporarily and directly impact western spadefoot through the temporary loss of foraging habitat such as open areas and grasslands. These construction activities could include the temporary removal of foraging habitat, due to the creation of staging or laydown areas for the construction of new pole structures. Approximately 4.57 acres of non-native grasslands are anticipated to be temporarily impacted by construction of the Proposed Project. In addition, the construction of the Proposed Project could permanently and directly impact potential western spadefoot breeding and foraging habitat through the permanent direct loss of seasonal wetlands, grasslands, and open areas, due to the construction of permanent Proposed Project features such as the substation. Approximately 2.41 acres of seasonal wetland and 8.74 acres of non-native grassland are anticipated to be permanently impacted due to the Proposed Project.

Although western spadefoot habitat has the potential to occur in the Proposed Project area, it is not likely that the species would be present due to the highly disturbed nature of the habitat. In addition, the species has not been observed during any of the reconnaissance or protocol-level surveys conducted of the Proposed Project site. Therefore, although western spadefoot could potentially be impacted by construction of the Proposed Project, impacts to the species are anticipated to be less than significant.

6.3.2 Sensitive Avian and Other Nesting Avian Species

Construction activities could potentially impact nesting raptors, passerines, and other sensitive bird species. Direct permanent impacts may include the removal of potential nesting habitat such as shrubs or trees. Indirect temporary impacts may include the disruption of nesting behavior due to a temporary increase in noise from construction equipment and vehicles. SDG&E would implement protocols 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 17, 20, 24, 25, 27, 29, 34, 35, 41, 44, 48, 50, 54, 55, and 57, as described in Attachment B: SDG&E NCCP and Operational Protocols. These protocols include, but are not limited to, restricting vehicles to existing roads when feasible, avoiding wildlife to the extent practicable, conducting pre-construction surveys, and avoiding work during the nesting season to the extent practicable. Additionally, SDG&E would utilize Proposed Project-specific APMs, as discussed in Section 7 – Applicant-Proposed Measures. In particular, APM-BIO-03 includes avoiding construction during the raptor breeding season to the extent practicable, monitoring active raptor nests, and removing inactive raptor nests. Implementation of SDG&E's NCCP and APMs would reduce the impacts to nesting avian species to a less-than-significant level.

Construction activities could also potentially impact foraging raptors, passerines, and other sensitive bird species. Permanent and direct impacts may include the removal of degraded

foraging habitat and/or the removal of some food sources. Temporary and indirect impacts such as the disruption of foraging behavior due to a temporary increase in noise from construction equipment and vehicles may also occur. Eight sensitive avian species were either observed during the field survey, or have a moderate potential to occur within the Proposed Project area. These species include, but are not limited to, the northern harrier, California horned lark, and western burrowing owl. Permanent impacts to foraging habitat would be limited, because the marginally suitable habitat within the Proposed Project area has been previously disturbed and is in a degraded state. In addition, the amount of previously disturbed habitat to be removed within the Proposed Project area is of lower quality than the areas of the SDBNWR to the west of the Proposed Project area. Therefore, permanent construction impacts to foraging sensitive avian species would be less than significant.

Transmission lines and other facility structures provide potential perching opportunities for raptor species, which can increase the potential for predation of wildlife by raptors. Because the Proposed Project involves the relocation of existing facilities, the extent of predation on sensitive and common wildlife species is not anticipated to differ from existing conditions. Furthermore, because all of the new support structures being installed by SDG&E for the Proposed Project are wood or steel poles—which provide less suitable perching platforms than lattice structures—and a significant portion of the transmission lines would be routed underground, the Proposed Project would decrease raptor perching opportunities.

Concerns regarding potential electrocution of wildlife species from transmission lines—which would be classified as a permanent and direct impact—are primarily focused on avian species. Electrocution of avian species can occur from wing contact with two conductors as avian species perching, landing, or taking off from a utility pole can complete the electrical circuit. Avian electrocutions can also occur, through simultaneous contact with energized phase conductors and other equipment, or simultaneous contact with an energized wire and a grounded wire. Electrocution of avian species poses a greater potential hazard to larger birds, such as raptors, because their body sizes and wing spans are large enough to bridge the distance between the conductor wires and, thus, complete the electrical circuit. The transmission line structures would be constructed in compliance with the Avian Power Line Interaction Committee's Suggested Practices for Avian Protection on Power Lines, as detailed in APM-BIO-04 in Section 7 – Applicant-Proposed Measures. In addition, as part of the Proposed Project, SDG&E would be utilizing underground transmission lines in place of existing overhead transmission lines, which would reduce the possibility of avian electrocution within the Proposed Project area. Therefore, the potential for wildlife electrocution would be reduced as a result of the Proposed Project.

6.3.3 Sensitive Mammal Species

One sensitive mammal species—pocketed free-tailed bat—has a moderate potential to occur in the Proposed Project area. Pocketed free-tailed bat roosts in crevices, and is generally associated with areas containing high cliffs and prominent rock features. As there are no prominent rock features, boulders, rock outcroppings, or caves in the Proposed Project area, the species is not expected to occur in the Proposed Project area due to the lack of suitable foraging or roosting habitat. In addition, the species has not been observed during any of the site surveys conducted of the Proposed Project site. Therefore, no impacts to pocketed free-tailed bat are expected to occur as a result of the Proposed Project.

6.3.4 Sensitive Reptile Species

Construction of the Proposed Project may impact sensitive reptile species within the Proposed Project area by permanently affecting approximately 2.41 acres of suitable habitat in the form of seasonal wetland features. No temporary impacts to suitable habitat are anticipated. However, there are no sensitive reptile species with moderate or high potential to occur within the Proposed Project area; thus, no impacts are expected to occur.

6.4 UNITED STATES FISH AND WILDLIFE SERVICE CRITICAL HABITAT

There are no USFWS-designated critical habitats located in, or within one mile of, the Proposed Project area; therefore, no impacts to critical habitats would occur as a result of the Proposed Project.

6.5 WILDLIFE MIGRATION CORRIDORS

Avian migration routes, such as the Pacific Flyway, are not anticipated to sustain impacts as a result of the Proposed Project as the avian flight routes are not located within the Proposed Project area. In addition, there are no natural drainage features located within the Proposed Project area that could provide migration corridors for terrestrial wildlife species. As the Proposed Project is located in an urban developed area, the site has a low potential to be used as a wildlife migration corridor and there would be no impacts.

6.6 AQUATIC RESOURCES

The construction of the Proposed Project would likely result in direct temporary and permanent impacts to waters under the jurisdiction of the USACE, RWQCB, CDFG, CCC, and Chula Vista WPP. The impacts to wetland and non-wetland water features are detailed in Table 6: Permanent and Temporary Impacts to Wetlands and Waters. The total permanent impact acreage to wetlands and waters would be approximately 2.43 acres, and the total temporary impact acreage to wetlands and waters would be approximately 0.027 acre. These wetland features are disturbed and have low biological value. SDG&E would avoid all other on-site wetlands and mitigate for impacts, as described in the NCCP and APM-BIO-05 in Section 7 – Applicant-Proposed Measures, which stipulates obtaining authorizations from the appropriate jurisdictional agencies and mitigating for permanent impacts to jurisdictional waters.

Indirect impacts to wetlands and waters could also result from construction materials spillage and erosion and sedimentation. These potential impacts would be avoided and minimized through implementation of the Proposed Project's SWPPP and Spill Prevention, Control and Countermeasure Plan, which are both required by law, as well as SDG&E's Water Quality Construction BMP Manual.

Table 6: Permanent and Temporary Impacts to Wetlands and Waters

Map Identification Number	Approximate Permanent Impacts (acres)	Approximate Temporary Impact (acres)
1	0.026	0.013
2	0.136	--
3	0.027	--
4	0.003	--
5	2.141	--
6	0.030	--
7	0.007	--
8	0.062	--
13	--	0.011
14	--	0.002
15	--	0.001
TOTAL	2.43	0.027

7 – APPLICANT-PROPOSED MEASURES

With the implementation of the Proposed Project's SWPPP and Spill Prevention, Control and Countermeasure Plan, which are both required by law, as well as SDG&E's Water Quality Construction BMP Manual, the Proposed Project would result in a less-than-significant impact to aquatic resources. In addition, SDG&E has designed and incorporated the following APMs into the Proposed Project to avoid or minimize potential impacts to biological resources:

- APM-BIO-01: SDG&E would conduct activities in accordance with NCCP Operational Protocols to avoid, minimize, or mitigate impacts to biological resources.
- APM-BIO-02: A biological monitor would be present during all vegetation removal activities. Within 72 hours prior to vegetation removal, the biological monitor would survey the site to ensure that no sensitive species would be impacted.
- APM-BIO-03: If a raptor nest is observed during pre-construction surveys, a qualified biologist would determine if it is active. If the nest is deemed inactive, SDG&E, under the supervision of a biological monitor, would remove and dismantle the nest promptly from existing structures that would be affected by Proposed Project construction. Removal of nests would occur outside of the raptor breeding season (July to January). If the nest is determined to be active, the biological monitor would establish a buffer zone around the nest, and monitor the nest to ensure nesting and/or breeding activities are not disrupted. If the biological monitor determines that Proposed Project activities are disturbing or disrupting nesting activities, work within the vicinity of the nest would be halted until the young have fledged.
- APM-BIO-04: Structures would be constructed to conform to the Avian Power Line Interaction Committee's Suggested Practices for Avian Protection on Power Lines to help minimize impacts to raptors.
- APM-BIO-05: Permanent impacts to all jurisdictional resources would be compensated through a combination habitat creation (i.e., establishment) and habitat restoration at a minimum of a one-to-one ratio or as required by the permitting agencies.
- APM-BIO-06: Impacts to decumbent goldenbush would be minimized by avoiding impacts to individual plants to the maximum extent practical. If avoidance is not feasible, individual plants would be transplanted and relocated to an appropriate site (as determined by a qualified biologist) within the Proposed Project area. The plants would be located as close as possible to their original location, and in the same orientation (e.g., with the west-facing side of the plant facing west when relocated). If relocation of decumbent goldenbush is not feasible, or if transplanted individuals are unsuccessful, seeds would be collected and used in restoration efforts following construction of the Proposed Project.

8 – REFERENCES

- American Ornithologists' Union. *Checklist of North American Birds*. 7th ed. Washington, D.C. 1998.
- Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D., Engstrom, R.S. Hoffmann, C. Jones, C.A. Jones, F. Reid, D.W. Rice. *Revised Checklist of North American Mammals North of Mexico*. Occasional Papers, Museum of Texas Tech University No. 229. December 2003.
- Bass, Ronald E., Albert I. Herson, and Kenneth M. Bogdan. *CEQA Deskbook: A Step-by-Step Guide on How to Comply with the California Environmental Quality Act*. Second edition. Point Area: Solano Press Books, 1999.
- Beauchamp, R.M. *A Flora of San Diego County, California*. National City, California: Sweetwater River Press, 1986.
- Becker, Eric. Senior Water Resources Control Engineer, San Diego RWQCB. Personal communication with T. Spear. September 7, 2010. EBecker@waterboards.ca.gov.
- Bowler, Peter A., V. Beauchamp, S. Bokedam, J. Davis, D. Hooke, S. Jones, M. Ohara, K. B. Pierce, Jr., T. Tabshouri, N. D. Ungamrung and C. Yen. *Largescale Salvage of Coastal Sage Scrub through Transplantation*. Irvine, CA: Department of Ecology and Evolutionary Biology, University of California, Irvine.
- Burt, W.H., and R.P. Grossenheider. *A Field Guide to the Mammals of America North of Mexico*. The Peterson Field Guide Series. Boston: Houghton Mifflin Company, 1986.
- CaliforniaHerps.com. California Reptiles and Amphibians. Online. <http://www.californiaherps.com/lizards/pages/a.h.beldingi.html>. Site visited April 2011.
- CCC. Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. Online. <http://www.coastal.ca.gov/wetrev/wetttitle.html>. Site visited April 2011.
- CCC. Statewide Interpretive Guidelines For Wetlands And Other Wet Environmental Sensitive Habitat Areas. Online. <http://www.coastal.ca.gov/wetrev/wetappa.html>. Site visited April 2011.
- CDFG. List of California Terrestrial Natural Communities Recognized by the CNDDB. September 2003 Edition. Online. <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf>. Site visited April 2011.
- CDFG. State and Federally Listed Endangered and Threatened Animals of California. 2008a.
- CDFG. State and Federally Listed Endangered, Threatened, and Rare Plants of California. 2008b.

- CDFG. Wildlife and Habitat Data Analysis Branch, Habitat Conservation Division. CNDDDB. RareFind Version 3.0.2. State and Federally Listed Endangered and Threatened Animals of California. Database. Used in July 2009 and April 2011. Updated April 2011.
- City of Chula Vista. 2003. *Final MSCP Subarea Plan*.
- City of Chula Vista. 2003. *Vision 2020 General Plan*.
- CNPS. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. 2008.
- Crother, B.I., ed. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding*. Society for the Study of Amphibians and Reptiles Herpetological Circular 29. 2001.
- Crother, B.I., J. Boundy, J.A. Campbell, K. De Quieroz, D. Frost, D.M. Green, R. Highton, J.B. Iverson, R. W. McDiarmid, P.A. Meylan, T.W. Reeder, M.E. Seidel, J.W. Sites, Jr., S.G. Tilley, and D.B. Wake. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico: Update*. Herpetological Review, 2003, 34(3), 196-203. 2003.
- Dixon, J. 2003. Designation of ESHA in the Santa Monica Mountains. Coastal Commission Staff Guidance Memorandum on Determining ESHA. March 25, 2003.
- Ebsen, Jody. RWQCB. Personal communication with T. Spear. August 31, 2010.
- Goebel, Karen A. Assistant Field Supervisor, USFWS. Letter to K. Bischel. April 21, 2010.
- Hickman, J.C. (ed.) *The Jepson Manual, Higher Plants of California*. Berkeley: University of California Press, 1993.
- Holland, R.F. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Unpublished report. Natural Heritage Division, CDFG, Sacramento.
- Ingles, Lloyd. *Mammals of the Pacific States*. Stanford: Stanford University Press, 1965.
- Jennings, M.R., and M.P. Hayes. *Amphibian and Reptile Species of Special Concern in California*. CDFG, Sacramento. 1994.
- Lemm, Jeffrey M. *Field Guide to Amphibians and Reptiles of the San Diego Region*. Berkeley: University of California Press, 2006.
- Lightner, James. *San Diego County Native Plants*. San Diego Flora. 2006.
- Marquez, Sandy. Recovery Permit Coordinator, Carlsbad Fish and Wildlife Service. Personal communication with G. Padgett-Flohr. November 18, 2010. Sandy_Marquez@fws.gov.
- Opler, Paul A., Kelly Lotts, and Thomas Naberhaus. *Butterflies and Moths of North America—Wandering Skipper*. Bozeman, MT: Big Sky Institute. Online. <http://www.butterfliesandmoths.org/>. Site visited April 15, 2010.

Port District. CVBMP. Online. <http://www.portofsandiego.org/chula-vista-bayfront-master-plan.html>. Site visited April 2011.

Port District. CVBMP Environmental Impact Report. Online. <http://www.portofsandiego.org/chula-vista-bayfront-master-plan/745-environmental-impact-report-revised-draft.html>. Site visited April 2011.

Port District and U.S. Navy. 2010. *Port Master Plan*.

RECON. *Draft Environmental Impact Report for the Chula Vista Bayfront Master Plan*. RECON Number 4086E. September 2006.

RECON. *Biological Technical Report for the South Bay Substation Relocation Project, San Diego County, California*. RECON Number 4482B. April 22, 2009.

RECON. Restoration Favorites. Online. <http://www.reconnativeplants.com/pdfs/Restorationfavs.pdf>. Site visited May 11, 2011.

San Diego County. 1967–2000. *San Diego County General Plan*.

San Diego County. 1998. *Multiple Species Conservation Program*.

Sawyer, J.O. and T. Keeler-Wolf. *A Manual of California Vegetation*. CPNS, Sacramento. 1995.

SDG&E. 1995. *Subregional Natural Community Conservation Plan*.

SDG&E. 2004. *Otay Mesa Power Purchase Agreement Transmission Project*.

SDG&E. 2006. *Draft Environmental Impact Report for the SDG&E Silvergate Transmission Substation Project*. March 2006.

Simpson, M.G. and J.P. Rebman. *Checklist of the Vascular Plants of San Diego County*. Third Edition. San Diego State University Herbarium Press, 2001.

Small, Arnold. *California Birds: Their Status and Distribution*. Vista: Ibis Publishing Company, 1994.

State Water Resources Control Board. Effect of *SWANCC V. United States* on the 401 Certification Program. Online. http://www.waterboards.ca.gov/santaana/water_issues/programs/401_certification/docs/swancc.pdf. Site visited March 24, 2010.

Stebbins, Robert C. *A Field Guide to Western Reptiles and Amphibians*. Third edition. Boston: Houghton Mifflin Company, 2003.

Tree of Life Nursery. Online. <http://www.californianativeplants.com/index.php/catalog/item/isocoma-menziesii-var-menziesii>. Site visited May 11, 2011.

Unitt, P. A. *San Diego County Bird Atlas*. San Diego Natural History Museum. Ibis Publishing Company. San Diego, California. October 2004.

USACE. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, Department of the Army. January 1987.

USACE. *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Prepared by U.S. Army Engineer Research and Development Center. December 2006.

USFWS. Critical Habitat Mapper. Online. <http://criticalhabitat.fws.gov/>. Site visited April 2011.

USFWS. National Wetlands Inventory, Wetlands Mapper. Online. <http://www.fws.gov/wetlands/Data/Mapper.html>. Data downloaded April 2008.

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ATTACHMENT A: USFWS SPECIES LIST



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011



In Reply Refer To:
FWS-SDG-10B0281-10SL0652

APR 21 2010

Kristina Bischel
Insignia Environmental
540 Bryant Street, Suite 200
Palo Alto, California 94301

Subject: Request for Information on Endangered and Threatened Species in the Vicinity of the South Bay Substation Relocation Project, Chula Vista, California

Dear Ms. Bischel:

This letter is in response to your inquiry dated April 7, 2010, concerning federally endangered and threatened species that may occur in and around the proposed site for the South Bay Substation Relocation Project in the City of Chula Vista, San Diego County, California. To assist you in evaluating the potential occurrence of these species within the areas of interest, we are providing the enclosed list.

Section 7 of the Endangered Species Act of 1973 (Act), as amended, requires Federal agencies to consult with the U.S. Fish and Wildlife Service should it be determined that their actions may affect federally listed threatened or endangered species. Section 9 of the Act prohibits the "take" (e.g., harm, harassment, pursuit, injury, kill) of federally listed wildlife. "Harm" is further defined to include habitat modification or degradation where it kills or injures wildlife by impairing essential behavioral patterns including breeding, feeding, or sheltering. Take incidental to otherwise lawful activities can be authorized under sections 7 (Federal consultations) and 10 (habitat conservation plans) of the Act.

If a proposed project is authorized, funded, or carried out by a Federal agency and may affect a listed species, then the Federal agency must consult with us on behalf of the applicant, pursuant to section 7 of the Act. During the section 7 process, measures to avoid and minimize project effects to listed species and their habitat will be identified and incorporated into a biological opinion that includes an incidental take statement that authorizes incidental take by the Federal agency and applicant.

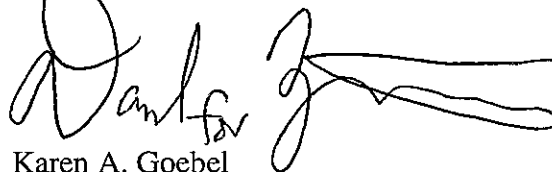
We do not have site-specific information for this area. Therefore, we recommend that you seek assistance from a biologist familiar with the habitat conditions and associated species in and around the project site to assess the actual potential for direct, indirect and cumulative impacts likely to result from the proposed activity. You should also contact the California Department of Fish and Game for State-listed and sensitive species that may occur in the area of the proposed

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project. Please note that State-listed species are protected under the provisions of the California Endangered Species Act.

Should you have any questions regarding this letter or your responsibilities under the Act, please call Lauren White of my staff at (760) 431-9440.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karen A. Goebel', with a long horizontal flourish extending to the right.

Karen A. Goebel
Assistant Field Supervisor

Enclosure

**Federally Listed Species
Which Occur or May Occur near the South Bay Substation Relocation Project, Chula
Vista, San Diego County, California**

Common Name	Scientific Name	Status
<u>Birds</u>		
California least tern	<i>Sternula antillarum browni</i>	E
western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T
light-footed clapper rail	<i>Rallus longirostris levipes</i>	E
Belding's savannah sparrow	<i>Passerculus sandwichensis beldingi</i>	SC
<u>Reptiles</u>		
green turtle (NMFS jurisdiction)	<i>Chelonia mydas</i>	T

E: endangered

T: threatened

SC: species of concern

ATTACHMENT B: SDG&E NCCP AND OPERATIONAL PROTOCOLS

7.1 Operational Protocols

Operational protocols represent an environmentally sensitive approach to traditional utility construction, maintenance and repair Activities recognizing that slight adjustments in construction techniques can yield major benefits for the environment. The appropriate Operational Protocols for each individual project will be determined and documented by the Environmental Surveyor. The information regarding the qualifications and responsibilities of the environmental surveyor is contained in Appendix B. The following mitigation measures shall be adhered to by SDG&E.

7.1.1 General Behavior for All Field Personnel

1. Vehicles must be kept on access roads. A 15 mile-per-hour speed limit shall be observed on dirt access roads to allow reptile species to disperse. Vehicles must be turned around in established or designated areas only.
2. No wildlife, including rattlesnakes, may be harmed, except to protect life and limb.
3. Firearms shall be prohibited on the rights-of-way except for those used by security personnel.
4. Feeding of wildlife is not allowed.
5. SDG&E personnel are not allowed to bring pets on the rights-of-way in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive domestic animal diseases to native wildlife populations.
6. Parking or driving underneath oak trees is not allowed in order to protect root structures except in established traffic areas.

7. Plant or wildlife species may not be collected for pets or any other reason.
8. Littering is not allowed. SDG&E shall not deposit or leave any food or waste on the rights-of-way or adjacent property.
9. Wild Fires shall be prevented or minimized by exercising care when driving and by not parking vehicles where catalytic converters can ignite dry vegetation. In times of high fire hazard, it may be necessary for trucks to carry water and shovels, or fire extinguishers in the field. The use of shields, protective mats, or other fire prevention methods shall be used during grinding and welding to prevent or minimize the potential for fire. Care should be exhibited when smoking in natural habitats.
10. Field crews shall refer environmental issues including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impacts to the Environmental Surveyor. Biologists or experts in wildlife handling may need to be brought in by Environmental Surveyor for assistance with wildlife relocations.

7.1.2 Training

11. All SDG&E personnel working within the project area shall participate in an employee training program conducted by SDG&E, with annual updates. The program will consist of a brief discussion of endangered species biology and the legal protections afforded to Covered Species; a discussion of the biology of the Covered Species protected under this Subregional Plan; the habitat requirements of these Covered Species; their status under the Endangered Species Acts; measures being taken for the protection of Covered Species and their habitats under this Subregional Plan; and a review of the Operational Protocols. A fact sheet conveying this information will also be distributed to all employees working in the project area.
12. Designated SDG&E staff will conduct selected reviews of SDG&E operations. Any proposed modifications to Operational Protocols, procedures or conditions will be promptly provided to CDFG and USFWS for their review and input for required permit or Subregional Plan amendments.

7.1.3 Preactivity Studies

13. The Environmental Surveyor shall conduct preactivity studies for all activities occurring off of access roads in natural areas. The scope of these studies is included in Appendix A. The Environmental Surveyor will complete a preactivity study form contained in Appendix A, including recommendations for review by a biologist and construction monitoring as appropriate. Biologists should be called in when there is the potential for unavoidable impacts to Covered Species. The forms are for information only, and will not require CDFG or USFWS approval. These forms shall be faxed to CDFG and USFWS, along with phone notification, who will reply within 5 working days, indicating if they would like to review the project and/or suggest recommendations for post project monitoring. If a biologist is required, he/she will be contacted concurrent to notification to CDFG and USFWS. SDG&E's project may proceed during this time if necessary, in compliance with the recommendations of the biologist (For narrow endemic species see mitigation IV following Table 3.1). USFWS survey protocols performed by qualified biologists will be required for new projects which are defined as projects requiring CEQA review.

In those situations where the Environmental Surveyor cannot make a definitive species

identification, an on-call biologist will be brought in. When the biologist is called, he or she will be contacted concurrently with CDFG and USFWS. The biologist will make the determination of the species in question and recommend avoidance or mitigation approaches to the Environmental Surveyor and a decision will be made. In those situations where more than one visit may be necessary to identify a given species, such as certain birds, no more than three site visits shall be required. It is expected that the typical USFWS search protocols will not be utilized in most situations due to the Plan's avoidance priority. Background information necessary to complete the annual report shall be collected on the preactivity study form and used by SDG&E to prepare the annual report.

14. In order to ensure that habitats are not inadvertently impacted, the Environmental Surveyor shall determine the extent of habitat and flag boundaries of habitats which must be avoided. When necessary, the Environmental Surveyor should also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the Environmental Surveyor shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project specific basis.
15. SDG&E will maintain a library of rare plant locations known to SDG&E occurring within easements and fee owned properties. "Known" means a verified population, either extant or documented using record data. Information on known sites may come from a variety of record data sources including local agency Habitat Conservation Plans, pre-activity surveys, or biological surveys conducted for environmental compliance on a project site (e.g. initial study), but there is no requirement for development of original biological data. Plant inventories shall be consulted as part of pre-activity survey procedures.

7.1.4 Maintenance, Repair and Construction of Facilities

16. Maintenance, repair and construction Activities shall be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs.
17. Routine maintenance of all Facilities includes visual inspections on a regular basis, conducted from vehicles driven on the access roads where possible. If it is necessary to inspect areas which cannot be seen from the roads, the inspection shall be done on foot, or from the air.
18. When the view of a gas transmission line marker becomes obscured by vegetation on a regular basis requiring repeated habitat removal, consideration shall be given to the replacement of markers with taller versions.
19. Erosion will be minimized on access roads and other locations primarily with water bars. The water bars are mounds of soil shaped to direct flow and prevent erosion.
20. Hydrologic impacts will be minimized through the use of state-of-the-art technical design and construction techniques to minimize ponding, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water by use of Best Management Practices.

21. When siting new facilities, every effort will be made to cross the wetland habitat perpendicular to the watercourse, spanning the watercourse to minimize the amount of disturbance to riparian areas (See Figure 4).
22. Gas and other facilities cross streambeds and require maintenance and repair. During such times water may be temporarily diverted as long as after disturbance natural drainage patterns are restored to minimize the impact of the disturbance and help to reestablish or enhance the native habitat. Erosion control during construction in the form of intermittent check dams and culverts should also be considered to prevent alteration to natural drainage patterns and prevent siltation.
23. Impacts to wetlands shall be minimized by avoiding pushing soil or brush into washes or ravines.
24. During work on facilities, all trucks, tools, and equipment should be kept on existing access roads or cleared areas, to the extent possible.
25. Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable.
26. Insulator washing is allowed from access roads if other applicable protocols are followed.
27. Brush clearing around facilities for fire protection shall not be conducted from March through August without prior approval by the Environmental Surveyor. The Environmental Surveyor will make sure that the habitat contains no active nests, burrows, or dens prior to clearing.
28. In the event SDG&E identifies a covered species of plant within a 10' radius around power poles, which is the area required to be cleared for fire protection purposes, SDG&E shall notify USFWS (for ESA listed plants), and CDFG (for CESA listed plants), in writing, of the plant's identity and location and of the proposed Activity, which will result in a Take of such plant. Notification will occur ten (10) working days prior to such Activity, during which time USFWS or CDFG may remove such plant(s). If neither USFWS or CDFG have removed such plant(s) within the ten (10) working days following the notice, SDG&E may proceed to complete its fire clearing and cause a Take of such plant(s).

When fire clearing is necessary in instances other than around power poles, and the potential for impacts to Covered Species exists, SDG&E will follow the preactivity study and notification procedures in Operational Protocol number 13.
29. Wire stringing is allowed year round in sensitive habitats if conductor is not allowed to drag on ground or in brush and vehicles remain on access roads.
30. Maintenance of cut and fill slopes shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.
31. Spoils created during maintenance operations shall be disposed of only on previously disturbed areas designated by the Environmental Surveyor or used immediately to fill eroded areas. Cleared vegetation shall be hauled off the rights-of-way to a permitted disposal location.

32. Within 6 months of Plan approval, environmentally sensitive tree trimming locations will be identified in the tree trim computer data base system utilized by tree trim contractors. (This data base also tracks the date of each tree trim, type of tree, where threatening dogs reside, etc.). The Environmental Surveyor should be contacted to perform a preactivity survey when trimming is planned in environmentally sensitive areas. Whenever possible, trees in environmentally sensitive areas (determined by CDFG and SDG&E) will be scheduled for trimming in the non-sensitive times.
33. No new Facilities and Activities shall be planned which disturb vernal pools, their watersheds, or impact their natural regeneration. Continued historic maintenance of existing infrastructure utilizing existing access roads is allowed to continue in areas containing vernal pool habitat. New construction of overhead infrastructure which spans vernal pool habitats is allowed as long as the placement of facilities or the associated construction activities in no way impact the vernal pools.
34. If any previously unidentified dens, burrows, or plants are located on any project site after the preactivity survey, the Environmental Surveyor shall be contacted. Environmental Surveyor will determine how to best avoid or minimize impacting the resource by considering such methods as project or work plan redevelopment, equipment placement or construction method modification, seasonal/time of day limitations, etc...
35. The Environmental Surveyor shall conduct monitoring as recommended in the preactivity survey report. At completion of work, the Environmental Surveyor shall check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site.
36. The Environmental Surveyor shall conduct checks on mowing procedures, to ensure that mowing is limited to a 12-foot wide area on straight portions of the road (slightly wider on radius turns), and that the mowing height is no less than 4 inches.
37. Supplies or equipment where wildlife could hide (e.g., pipes, culverts, pole holes) shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected or from which animals could not be removed shall be capped or otherwise covered at the end of each work day. Old piping or other supplies that have been left open, shall not be capped until inspected and any species found in it allowed to escape. Ramping shall be provided in open trenches when necessary. If an animal is found entrapped in supplies or equipment, such as a pipe section, the supplies or equipment shall be avoided and the animal(s) left to leave on its own accord, except as otherwise authorized by CDFG.
38. All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife are located in the trench or excavation, the Environmental Surveyor shall be called immediately to remove them if they cannot escape unimpeded.
39. Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour.

40. Before using pesticides in areas where burrowing owls may be found, a pre-activity survey will be conducted.

7.1.5 Maintenance of access roads shall consist of:

41. Repair of erosion by grading, addition of fill, and compacting. In each case of repair, the total area of disturbance shall be minimized by careful access and use of appropriately sized equipment. Repairs shall be done after preactivity surveys conducted by the Environmental Surveyor and in accordance with the recommendations regarding construction monitoring and relevant protocols. Consideration should be given to source of erosion problem, when source is within control of SDG&E.
42. Vegetation control through grading should be used only where the vegetation obscures the inspection of facilities, access may be entirely lost, or the threat of Facility failure or fire hazard exists. The graded access road area should not exceed 12'-wide on straight portions (radius turns may be slightly wider) (See Figure 23).
43. Mowing habitat can be an effective method for protecting the vegetative understory while at the same time creating access to a work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing will be necessary to maintain permanent access.
44. Maintenance work on access roads should not expand the existing road bed (See Figure 23).
45. Material for filling in road ruts should never be obtained from the sides of the road which contain habitat without approval from Environmental Surveyor..

7.1.6 Construction of new access roads shall comply with the following:

46. SDG&E access roads will be designed and constructed according to the *SDG&E Guide for Encroachment on Transmission Rights-of-Way (4/91)*.
47. Access roads will be made available to managers of the regional preserve system subject to coordination with SDG&E.
48. New access roads shall be designed to be placed in previously disturbed areas and areas which require the least amount of grading in sensitive areas during construction whenever possible (See Figure 5). Preference shall be given to the use of stub roads rather than linking facilities tangentially.
49. SDG&E will consider providing access control on access roads leading into the regional preserve system where such control provides benefit to sensitive resources.
50. New access road construction is allowed year round. Every effort shall be made to avoid constructing roads during the nesting season. During the nesting season, the presence or absence of nesting species shall be determined by a biologist and appropriate avoidance and minimization recommendations followed.

7.1.7 Construction and Maintenance of Access Roads Through Streambeds

51. Construction of new access roads through streambeds requires a Streambed Alteration Agreement from CDFG and/or consultation with the Army Corps of Engineers.
52. Maintenance or construction vehicle access through shallow creeks or streams is allowed. However, no filling for access purposes in waterways is allowed without the installation of appropriately sized culverts. The use of geotextile matting should be considered when it would protect wetland species.
53. Staging/storage areas for equipment and materials shall be located outside of riparian areas. (See Figure 23).

7.1.8 Survey Work

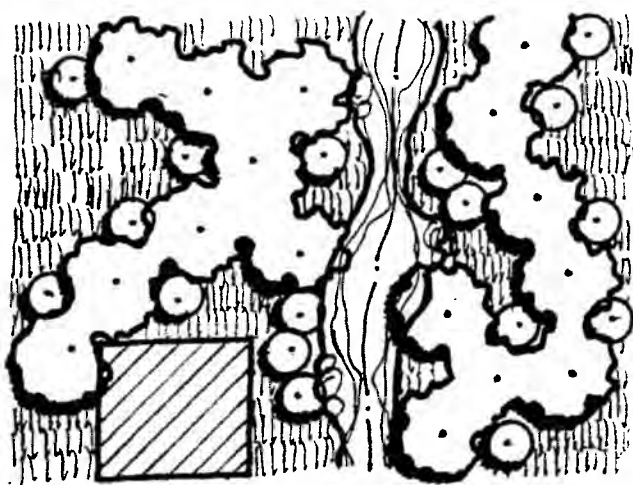
54. Brush clearing for foot paths or line-of-sight cutting is not allowed from March through August in sensitive habitats without prior approval from the Environmental Surveyor, who will ensure that activity does not adversely affect a sensitive species.
55. SDG&E survey personnel must keep vehicles on existing access roads. No clearing of brush for panel point placement is allowed from March through August without prior approval from the Environmental Surveyor.
56. Hiking off roads or paths for survey data collection is allowed year round so long as other protocols are met.

7.1.9 Emergency Repairs

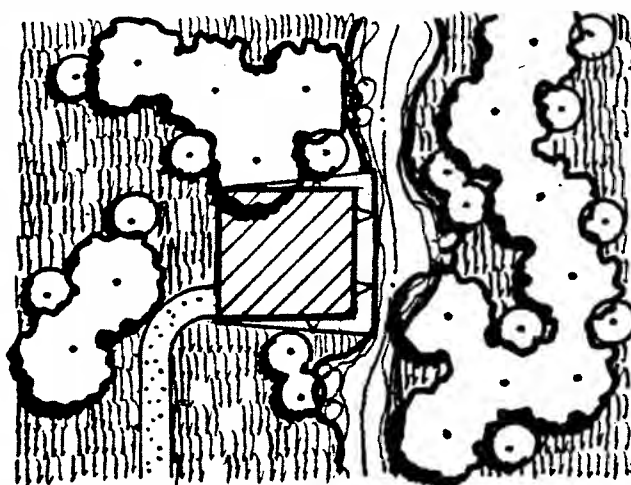
57. During a system emergency, unnecessary carelessness which results in environmental damage is prohibited.
58. Emergency repair of facilities is required in situations which potentially or immediately threaten the integrity of the SDG&E system, such as pipe leaks, or downed lines, slumps, slides, major subsidence, etc. During emergency repairs the Operational Protocols contained in this Subregional Plan shall continued to be followed to fullest extent possible.
59. Once the emergency has stabilized, any unavoidable environmental damage will be reported to the Environmental Surveyor by the foreman. The Environmental Surveyor will develop a mitigation plan and ensure its implementation is consistent with this Subregional Plan.

7.1.10 Activities of Underlying Fee Owners

60. Most SDG&E rights-of-way are held in easement only. The activities of underlying fee owners cannot be controlled by SDG&E and are not covered by this Subregional Plan.
61. When sensitive habitat exists on either side of a utility right-of-way, SDG&E will not oppose underlying fee owners dedicating said property to conservation purposes. Underlying fee owners are expected to comply with applicable federal, state, and local regulations.

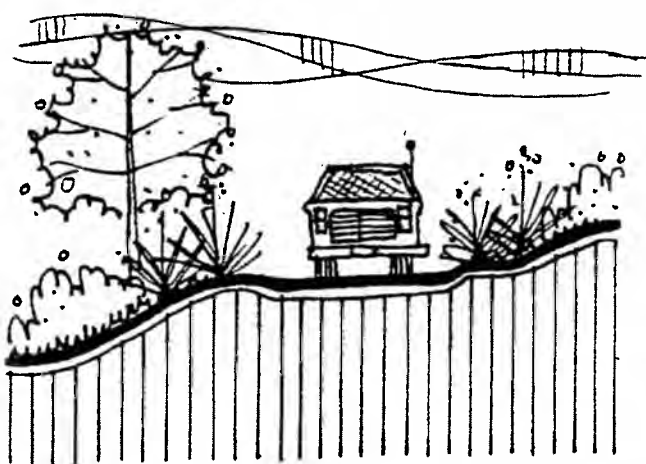


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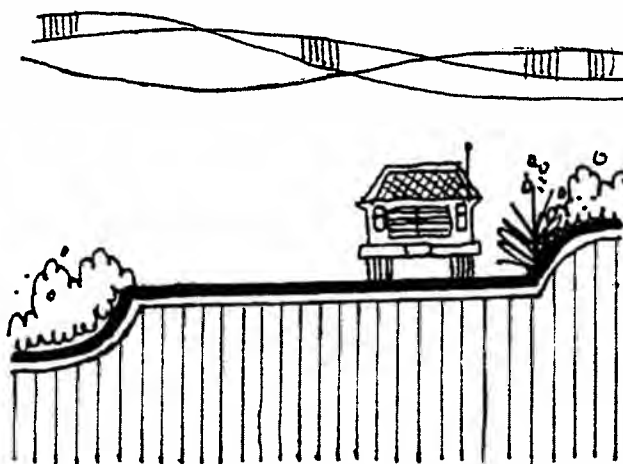


NOT THIS

CONSTRUCTION STAGING/STORAGE AREAS SHOULD BE LOCATED OUTSIDE OF STREAMS



THIS



NOT THIS

ACCESS ROAD MAINTENANCE SHOULD NOT EXPAND THE EXISTING ROAD BED

FIGURE

**ATTACHMENT A-2: 90-DAY REPORT FOR THE LISTED BRANCHIOPOD
WET-SEASON SURVEYS**

90-Day Report
for the
Listed Branchiopod Wet-Season Surveys
for the
South Bay Substation Relocation Project
to satisfy PRT # TE-006112-5
Reporting Requirements



Prepared for:

**United States Fish and Wildlife Service
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June 22, 2011

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Attachment A: Summary of Listed Branchiopods Wet Season Survey Results
Attachment B: Field Data Sheets for Seasonal Ponds
Attachment C: Representative Photographs

1 – INTRODUCTION

San Diego Gas & Electric Company (SDG&E) is a regulated public utility that provides electric service to approximately 1.4 million customers within a 4,100-square-mile service area that covers 25 cities and unincorporated areas in San Diego County and a portion of Orange County. SDG&E owns and operates the South Bay Substation, a 138/69 kilovolt (kV) facility originally built to accommodate the adjacent—and now retired—South Bay Power Plant (SBPP) in the City of Chula Vista. Originally constructed in 1961, the substation is 50 years old and the existing equipment does not meet modern seismic standards. In addition, the existing 138 kV bus is undersized for current transmission system conditions and frequent outages occur as a result.

The existing South Bay Substation is operated at both 138 kV and 69 kV, due to the original design of the SBPP. The power plant generation output connects to the South Bay 138 kV and 69 kV busses and thus, the local area 138 kV and 69 kV transmission lines. With the retirement of the SBPP, a replacement bulk power source needs to be connected to the existing transmission system. The Otay Metro Power Loop Project resulted in the recent addition of 230 kV transmission lines in the area, which presents an opportunity to use the nearby 230 kV bulk power system as a replacement power source for the SBPP. This existing 230 kV transmission right-of-way provides an opportunity for increased levels of power transfer without the need for further land consumption.

In October of 2004, SDG&E and the City of Chula Vista entered into a Memorandum of Understanding (MOU) regarding several energy issues. One of the objectives of the City of Chula Vista was the relocation of the existing South Bay Substation after the retirement of the SBPP. SDG&E has been coordinating with the City of Chula Vista and the Unified Port District of San Diego to obtain the necessary land rights to relocate the substation, that would then be renamed the Bay Boulevard Substation. SDG&E's goal is to have the future Bay Boulevard Substation energized and the transmission lines cutover, so that decommissioning and demolition of the existing substation can occur.

SDG&E identified several objectives that function as an outline for a plan of service for the relocation of the existing South Bay Substation, and to ensure that the southern portion of SDG&E's transmission system can meet anticipated service demands in the future. The following objectives were identified as critical to planning the future southern SDG&E transmission system:

- Replace aging and obsolete substation equipment.
- Design a flexible transmission system that would accommodate regional energy needs subsequent to the retirement of the SBPP.
- Facilitate the City of Chula Vista's Bayfront redevelopment goals by relocating the South Bay Substation and furthering the goals of the SDG&E-City of Chula Vista MOU.
- Provide for future transmission and distribution load growth for the South Bay region.

In addition to meeting the objectives mentioned previously, the South Bay Substation Relocation project (Proposed Project) would improve reliability and safety of service to customers in the South Bay region.

2 – PROJECT SITE DESCRIPTION

The South Bay Substation is located in the City of Chula Vista, California in the southwesterly portion of San Diego County. This existing substation is planned for relocation to the proposed Bay Boulevard site, which is situated approximately two miles south of National City, approximately five miles northeast of the City of Imperial Beach, and approximately seven miles southeast of downtown San Diego, as shown in Figure 1: Project Vicinity Map. San Diego County is characterized by a Mediterranean climate, with sunny days 70 percent of the year. Annual average precipitation in the area is approximately 9.1 inches per year, 98 percent of which typically falls during the winter months.

The proposed substation site is a 12.42-acre parcel, approximately 0.5 mile south of the existing South Bay Substation site, on the southern half of a former liquefied natural gas (LNG) plant site. The SBPP was constructed in 1960, and as part of the development, LNG tanks were constructed on the site. A storm water and spill containment facility, including a 10-acre basin surrounded by an approximately 15-foot tall berm, was also built to protect coastal waters from potential runoff associated with any spills or leaks from the LNG tanks. In the early 1980s, the tanks were removed. The foundations of the aboveground storage tanks still exist at this location.

The proposed Bay Boulevard Substation site is situated in a generally industrial area between San Diego Bay to the west and Bay Boulevard to the east. An unused San Diego & Arizona Eastern Railroad track borders the site immediately adjacent and parallel to the west side of Bay Boulevard. The northern edge of the proposed substation site is bordered by the existing SBPP fuel oil tanks. Light industrial uses border the site to the east and the south, while the west is bordered by the Western Salt Works salt crystallizer ponds used for the production of salt for commercial purposes. The current and proposed substation sites are depicted in Figure 1: Project Vicinity Map. The enclosed portion of the proposed Bay Boulevard Substation would occupy approximately 9.7 acres. The topography on the site is mostly flat with a mild slope to the west and north. A man-made berm—ranging in elevation from approximately 14 to 16 feet above above mean sea level—is located within the former LNG site, which inhibits the natural drainage pattern of the site. As described previously, this containment berm was installed around the former LNG site storage tanks. The habitat on the proposed substation site is primarily ruderal and composed of non-native grasses, coyote bush scrub, *Eucalyptus* woodland, and ornamental vegetation.

3 – REASONS AND OBJECTIVES FOR SAMPLING

Ten seasonal ponds are present within the former LNG site, four of which are located within the existing containment berm. An additional six seasonal ponds are located in SDG&E's existing easement, which is located adjacent to the existing South Bay Substation and proposed Bay

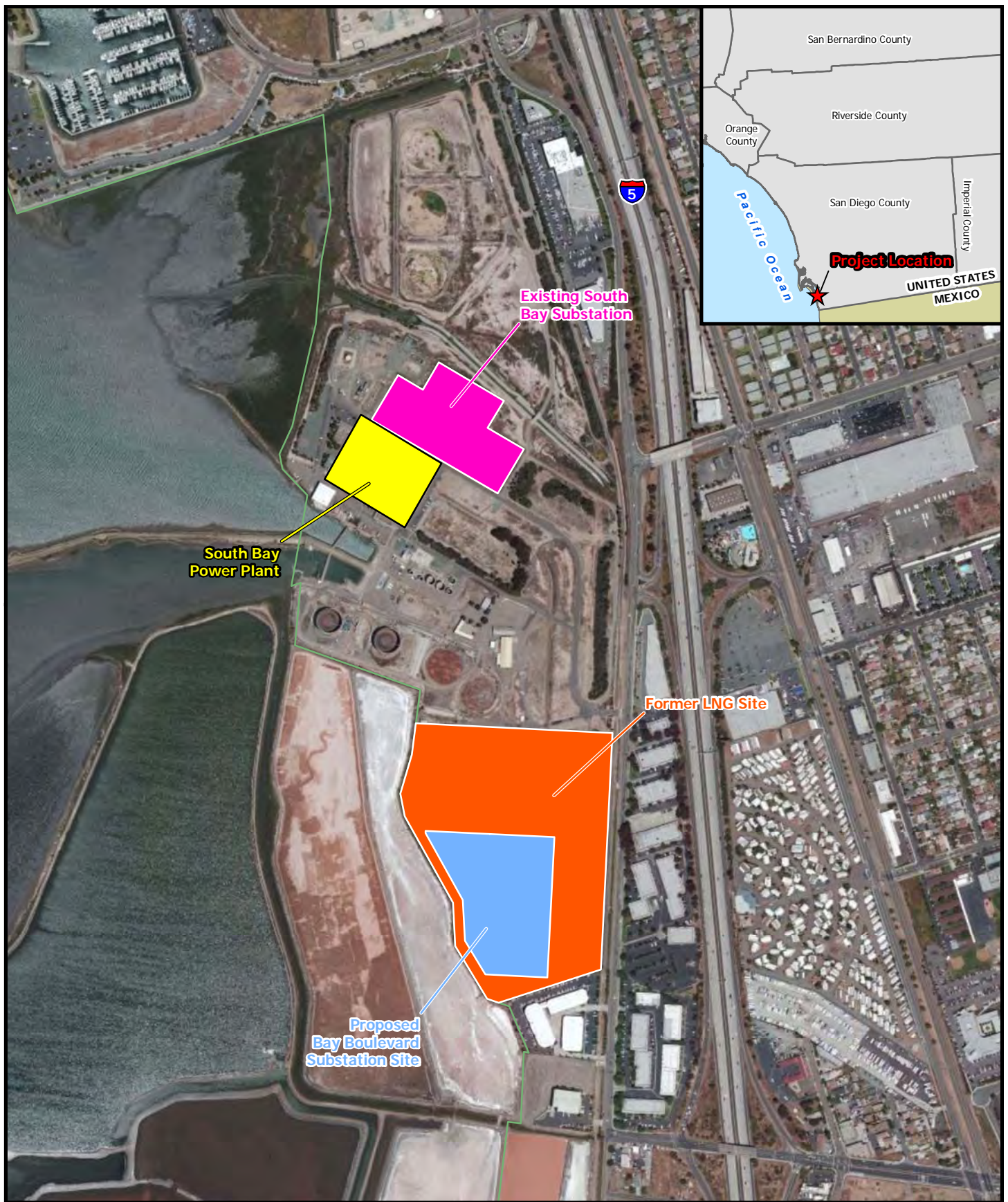
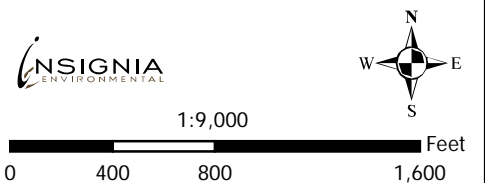


Figure 1: Project Vicinity Map

South Bay Substation Relocation Project



Boulevard Substation sites. These seasonal ponds could potentially support two listed branchiopod species—*Streptocephalus woottoni* (Riverside fairy shrimp) and/or *Branchinecta sandiegonensis* (San Diego fairy shrimp). Therefore, protocol listed-branchiopod wet-season surveys were initiated to assist SDG&E in identifying sensitive biological resources that may occur, and in developing avoidance, minimization, and/or mitigation measures for potential impacts to listed branchiopods, if present. The survey area, composed of the former LNG site and SDG&E's existing easement, and the locations of these seasonal ponds are depicted in Figure 2: Seasonal Ponds Map – Development.

4 – SPECIES' DESCRIPTIONS

4.0 *STREPTOCEPHALUS WOOTTONI* (RIVERSIDE FAIRY SHRIMP)

The Riverside fairy shrimp has the most highly restricted distribution of all the listed anostracan species. Originally thought to occur only in Riverside County—for which the species is named—the Riverside fairy shrimp has since been documented in a number of pools in Orange County, a few pools within the mesas of San Diego County, and a few pools in Baja California. All known populations occur within approximately nine miles of the southern California coastline, and are restricted to a swath that extends approximately 87 miles north to south between Riverside County and Baja California (Erickson and Belk 1999). The species gained federal protection when it was listed as endangered by the United States Fish and Wildlife Service (USFWS) in 1993 (USFWS 58 FR 41384).

Seasonal ponds occupied by Riverside fairy shrimp tend to be warm-water pools that are large and deep, often holding water with a depth of over 11 inches and ranging over 8,000 square feet (743 square meters) in size (Erickson and Belk 1999). Due to the large sizes of the ponds, they are generally relatively long-lived, which facilitates the growth of aquatic vegetation, such as *Eleocharis* spp. (spikerush) that establish in the pool bottoms. These ponds are typically somewhat turbid, characterized by low levels of dissolved solids and relatively normal potential of Hydrogen (pH) chemistry that can range from 6.4 to 7.1. Unlike many other anostracan taxa, the Riverside fairy shrimp has little tolerance for high levels of alkalinity (Eng *et al.* 1990, Erickson and Belk 1999).

Fairly high water temperatures are required to initiate hatching of Riverside fairy shrimp cysts (Eng *et al.* 1990). Cysts will hatch at 10 degrees Celsius (50 degrees Fahrenheit); however, development is extremely slow at temperatures below 15 degrees Celsius (59 degrees Fahrenheit) (Hathaway and Simovich 1996). Hatching can occur within seven to 12 days once a pond fills and temperatures reach between 10 and 20 degrees Celsius (50 and 68 degrees Fahrenheit, respectively). Riverside fairy shrimp take approximately 48 to 56 days to reach sexual maturity, the stage at which the animals can be taxonomically identified (Eng *et al.* 1990, Hathaway and Simovich 1996, Erickson and Belk 1999).

4.1 *BRANCHINECTA SANDIEGONENSIS* (SAN DIEGO FAIRY SHRIMP)

The San Diego fairy shrimp—like the Riverside fairy shrimp—is very limited in distribution, occurring only in San Diego and Orange counties. The majority of San Diego fairy shrimp have been detected along the coastal mesas of San Diego County. These mesas are most numerous in

northern San Diego, but the species is documented to occur in Baja California as well (Fugate 1993). Due to the rarity of the species and the cumulative losses of vernal pool habitat within southern California, the USFWS listed San Diego fairy shrimp as an endangered species in 1997 (USFWS 62 FR 4939).

San Diego fairy shrimp primarily occur in shallow pools—typically less than 10 inches deep—with cooler temperatures between 10 and 15 degrees Celsius (50 to 59 degrees Fahrenheit) (Erickson and Belk 1999). The species requires water with pH chemistry between 6.5 and 8.0 that is characterized by low conductivity and total dissolved solids, due to the hyper-regulatory nature of the animal's physiology (Gonzalez *et al.* 1996). Once ion concentrations in the water rise above normal body levels, this species is no longer able to regulate their body chemistry and death ensues.

San Diego fairy shrimp require a range of cool water temperatures (Erickson and Belk 1999). Cysts will hatch in eight days if water temperatures are approximately five degrees Celsius (41 degrees Fahrenheit), but can hatch within three to five days if water temperatures are between 10 and 15 degrees Celsius (50 to 59 degrees Fahrenheit). Cysts will not hatch, however, if temperatures are above 15 degrees Celsius (59 degrees Fahrenheit). Larval fairy shrimp require higher temperatures—20 to 22 degrees Celsius (68 to 71.6 degrees Fahrenheit)—for development to the adult stage, which takes approximately 10 to 20 days (Hathaway and Simovich 1996). Adults can survive up to 42 days in ponds that retain water and appropriate temperatures for that duration.

5 – SURVEY METHODOLOGY

The USFWS granted permission to initiate protocol wet-season surveys within the Proposed Project survey area on November 18, 2010 (Sandy Marquez, Carlsbad Field Office, USFWS). Surveys were conducted under the authority of Federal Fish and Wildlife Permit # TE0006112-5 issued to Dr. Gretchen E. Padgett-Flohr under section 10(a)(1)(A) of the Endangered Species Act. The survey area was monitored by Insignia Environmental biologists following each rain event to assess whether precipitation in the area had resulted in seasonal ponds becoming inundated.¹ Insignia biologists visited the sites on Day One and Day Seven, following rain events, to observe whether ponds that were considered inundated on Day 1 were still holding water on Day Seven. Once the ponds were verified as inundated and holding water on Day Seven, branchiopod sampling was initiated by Dr. Padgett-Flohr on Day Eight. Jeffry Coward, Lisa Gadsby, or Armen Keochekian assisted by photographing ponds and recording data as verbally dictated by Dr. Padgett-Flohr.

¹ Per USFWS protocol, inundation is defined as ponds that exhibit a minimum depth of 3 centimeters (1.2 inches).

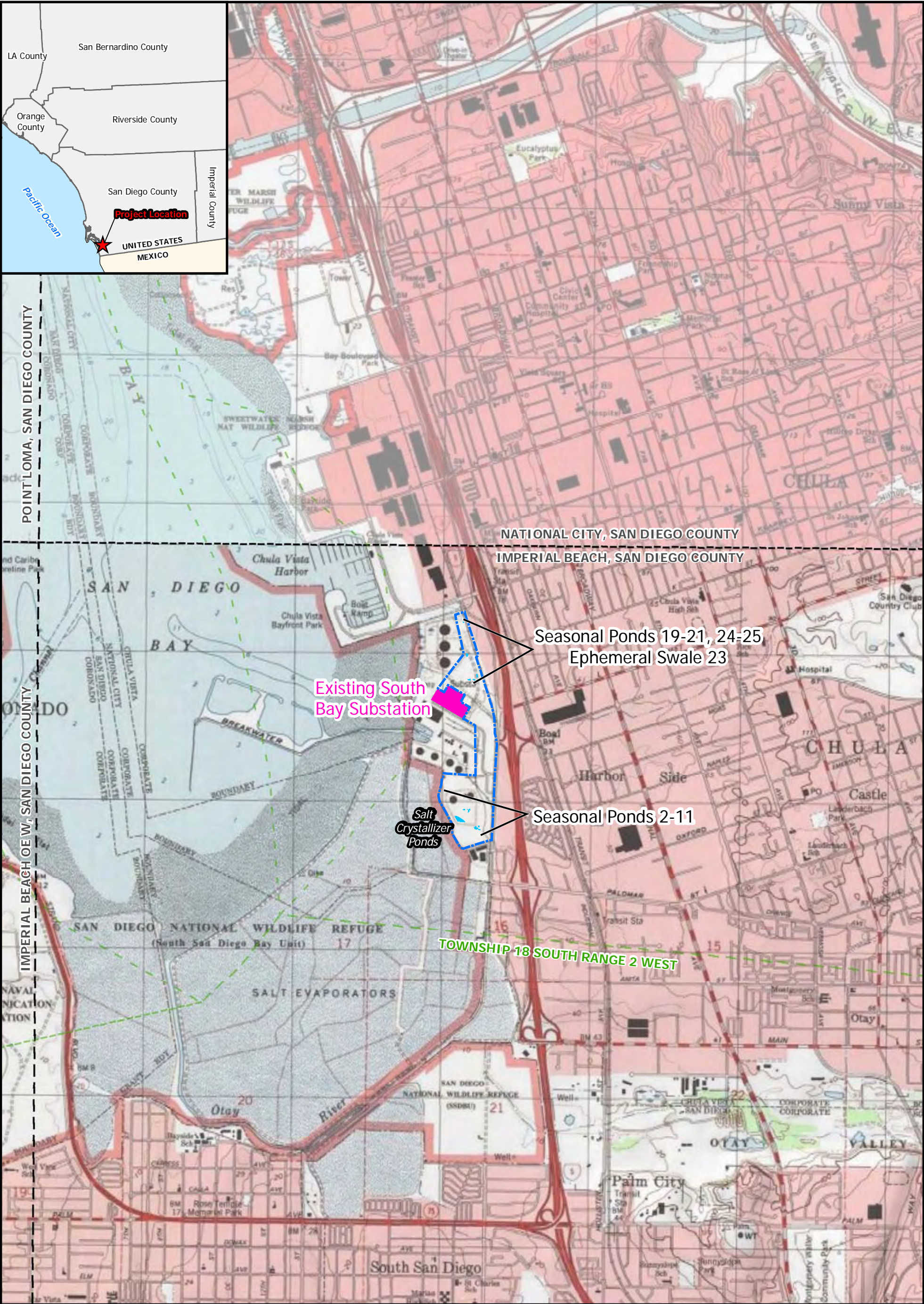


Figure 2: Seasonal Ponds Map - Development South Bay Substation Relocation Project

Project Area (approximately 76.5 acres)

Seasonal Ponds (approximately 0.92 acre)

Existing South Bay Substation

USA Land Survey System Boundary

Quad Sheet Boundary

SDGE
A Sempra Energy utility™

INSIGNIA
ENVIRONMENTAL

1:24,000

01,0002,0004,0006,0008,000

Feet

N
W
E
S

Survey methods followed Interim Survey Guidelines issued by the USFWS on April 23, 1996 as follows:

IV. Wet-Season Surveys

a. Survey Initiation, Frequency, and Termination

1. *Surveyors should visit sites after initial storm events to determine when pools/swales have been inundated. A pool/swale is considered to be inundated when it holds greater than 3 cm of standing water 24 hours after a rain event.*
2. *Pools/swales shall be adequately sampled once every two weeks, beginning no later than two weeks after their initial inundation and continuing until they are no longer inundated, or until they have experienced 120 days of continuous inundation.*
3. *In cases where the pools/swales dry and then refill in the same wet season, sampling shall be reinitiated within eight days of refilling every time they meet the 3 cm of standing water criteria and shall continue until they have experienced 120 days of continuous inundation, or until they are no longer inundated.*

b. Survey Sampling

At each wet season visit, representative portions of the pool/swale bottom, edges, and vertical water column shall be adequately sampled using a seine, dip net or aquarium net appropriate for the size of the pool or swale. Net mesh size shall not be larger than (1/8) inch. Seines shall be examined and emptied of material at least once every five linear meters.

Adult fairy shrimp are easy to locate visually; therefore, visual inspection of the pools for aquatic invertebrates was completed prior to taking net samples, which results in reduced visibility. Ponds were sampled by sweeping the pool bottom, edges, and water column using a handheld aquatic net with a mesh size of less than 0.02 inch. Invertebrates present in the pools were identified to genus, order, and/or family and the data were recorded.

Water temperature and pool dimensions—surface area and depth—were measured at each pool during every site visit. Optional measurements of pH, turbidity, and electrical conductivity were also obtained. Water depth was measured with a meter stick. Conductivity and temperature were measured using an YSI® 30 meter. An Oakton® Waterproof pH Tester 2 was used to measure pH of each seasonal pond sampled. All meter probes were rinsed with distilled water after each use. Turbidity was measured by visual observation of each pool prior to sampling.

None of the 16 seasonal ponds within the survey area became inundated through November or December, but rainfall around January 2, 2011 resulted in all 16 seasonal ponds undergoing inundation; thus, listed branchiopod wet-season surveys were initiated within eight days on January 10, 2011. Despite being six days ahead of schedule (the protocol allows for initial sampling within 14 days of inundation), all but three of the seasonal ponds had dried, or were so shallow (approximately 0.5 inch [1.3 centimeters] in depth), that they could not be sampled. Ponds 2 and 5 remained inundated and were surveyed on January 10, 2011. Pond 24 was also surveyed; however, the pond was only approximately two centimeters deep and thus, was too shallow for the meter probes. Pond 24 was therefore considered “dry” as it did not meet

minimum filling requirements. Ten days later on January 20, 2011, the site was re-surveyed, and at that time only ponds 2 and 5 were inundated. Rainfall occurred during that period, and sampling was conducted again on January 24, 2011; however, despite the recent rainfall, only ponds 2 and 5 were inundated. On February 7, 2011, sampling was repeated and only a single pond—Pond 5—was inundated; the other 15 ponds were dry. Sampling was repeated at Pond 5 on February 21, 2011 and all other ponds remained dry. Subsequent rainfall refreshed ponds 2, 5, and 24, and ponds 2 and 5 were sampled on March 7, 2011; however, Pond 24 did not meet USFWS inundation requirements, as less than three centimeters of water was present and the pond was again too shallow for the meter probes. Despite the rainfall, none of the other 13 seasonal ponds became inundated. The next day, on March 8, 2011, ponds 2 and 24 were once again dry, and for the remainder of the sampling season only Pond 5 remained inundated. Pond 5 was further sampled on March 22, April 5, and April 19; and as of May 3, 2011, Pond 5 was also dry. A summary of pond inundation is provided in Table 1: Summary of Pond Inundation.

6 – RESULTS

No branchiopods were detected in any of the 16 seasonal ponds during any of the surveys as shown in Attachment A: Summary of Listed Branchiopods Wet-Season Survey Results. Copies of the raw field data sheets are provided in Attachment B: Field Data Sheets for Seasonal Ponds and representative photographs have been included in Attachment C: Representative Photographs. A summary of physical data obtained from ponds 5, 2, and 24 is detailed in the sections that follow.

6.0 POND 5

Pond 5 was surveyed a total of 10 times from January through May, and water depths ranged from over three feet (91.4 centimeters) in January to less than eight inches (15.0 centimeters) in late April. Although this pond remained inundated for a significant amount of time, it was characterized by extremely high pH readings that ranged between 9.0 and 11.1. Conductivity in Pond 5 increased through the season from a low of 243.5 microsiemens (μS) in January, to a high of 864 μS in April. Water temperatures ranged from a low of 11.2 degrees Celsius (52.2 degrees Fahrenheit) to a high of 19.4 degrees Celsius (66.9 degrees Fahrenheit) in April. Pond 5 was the largest pond with a maximum area of approximately 1,676 square meters (18,040 square feet). Throughout the entire survey season, Pond 5 was completely clear with no turbidity present. Despite repeated sampling, Pond 5 had very little invertebrate or vertebrate occupancy. Aquatic beetles (*Dytiscid* spp.), water boatmen (Notonectidae), and seed shrimp (Ostracoda) were the only animal species detected until March, when a single Pacific treefrog tadpole (*Pseudacris regilla*) and water fleas (*Daphnia* spp.) were found.

6.1 POND 2

Pond 2 was sampled a total of four times before it dried up for the season. Despite the relatively large size of this pond—approximately 552 square meters (5,941 square feet)—Pond 2 never achieved a depth greater than two inches (approximately 5 centimeters). Similar to Pond 5, the pH in Pond 2 was still a bit high at 8.4, whereas conductivity was fairly low at a relatively constant 264.1 μS . Pond 2 had high temperatures of approximately 15.2 degrees Celsius (59.4

Table 1: Summary of Pond Inundation

Date	Pond Number															
	2	3	4	5	6	7	8	9	10	11	19	20	21	23	24	25
01-10-11	✓ ²			✓												
01-20-11	✓			✓												
01-24-11	✓			✓												
02-07-11				✓												
02-21-11				✓												
03-07-11	✓			✓												
03-08-11				✓												
03-22-11				✓												
04-05-11				✓												
04-19-11				✓												
05-03-11																

² Checked items indicate that the pond was inundated as defined per USFWS Listed Branchiopod Survey Guidelines (having a depth of greater than 3.0 centimeters)

degrees Fahrenheit) and throughout the sampling this pond was clear with no turbidity present. Pond 2 had more invertebrate occupancy than Pond 5, as water boatmen, blood worms, seed shrimp, water fleas, aquatic beetle larvae, and mosquito larvae (*Anopheles* spp.) were detected.

6.2 POND 24

Pond 24 was inundated only long enough to be surveyed two times during the field season. The maximum area of Pond 24 was approximately 290 square meters (3,121 square feet). On January 10, eight days after inundation was observed, water levels measured approximately one inch (2.54 centimeters); and by January 20 the pond had dried. Conductivity was fairly low at a relatively constant 254.1 μ S and temperatures measured a high of approximately 14.9 degrees Celsius (57.2 degrees Fahrenheit). Throughout sampling, this pond was clear with no turbidity present. Following rainfall in early March, Pond 24 refilled, but was holding minimal water levels that measured less than 0.5 inch (1.3 centimeters) on March 7, and the following day—March 8—Pond 24 was completely dry. Pond 24 did not refill for the duration of the survey season. Mosquito larvae constituted the sole aquatic life detected in the pond.

7 – CONCLUSION

The 2010 to 2011 rainfall season was slightly above average—10.2 inches—in San Diego County; therefore, the pattern of seasonal pond inundation observed during this wet-season survey is representative of the typical pattern of inundation that occurs in seasonal ponds at the proposed Bay Boulevard Substation site. Based on the data obtained during these surveys, the 16 seasonal ponds are largely extremely short-lived and do not appear to remain inundated long enough for listed branchiopod species to complete their life cycles. Thirteen of the 16 ponds dried up within two to six days after each rainfall event. Riverside fairy shrimp and San Diego fairy shrimp require a minimum of 48 to 56 days and 10 to 20 days, respectively, to mature and thus, those 13 ponds would be unlikely to support either species. Pond 24 dried up within less than 16 days of inundation and would therefore also be unlikely to support either species through the entire life cycle.

Pond 5 is the longest-lived seasonal pond, remaining inundated for approximately 121 days. Riverside fairy shrimp would typically be anticipated to occur in such a seasonal pond, due to the species' affinity for deeper, longer-lived ponds. However, there is no potential for the species to occur in Pond 5, as the pH—which never measured below 9.0—is much too high to support the Riverside fairy shrimp, which requires a pH range between 6.4 and 7.1. The San Diego fairy shrimp has a slightly wider range of tolerances for pH—6.5 to 8.0—however; the pH in Pond 5 is too high to support this species.

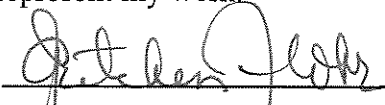
Pond 2 is the second longest-lived seasonal pond, as it remained inundated for a maximum of 36 days. Thirty-six days is sufficient to facilitate hatching of listed branchiopod species if cysts were present in the soil, but the short period of inundation would not provide the time frame required for Riverside fairy shrimp to develop to the adult stage and concomitant sexual maturity. Furthermore, due to the shallow depths of Pond 2, which never reached above two inches, Riverside fairy shrimp would not be expected to occur in this seasonal pond as the species is typically found in seasonal ponds with depths approximating 11 inches. The period of inundation in Pond 2 was sufficient to allow the San Diego fairy shrimp to complete its life cycle

if viable cysts were present in the soil; however, the pH in Pond 2—a pH of 8.4—was too high to support the species.

In summary, the physical chemistry and/or the short duration of inundation in the seasonal ponds indicate that the 16 seasonal ponds present in the survey area are likely not suitable to support either the Riverside fairy shrimp or the San Diego fairy shrimp. Very little invertebrate or vertebrate life was present at any time in these seasonal ponds. The most commonly observed, and at times the only invertebrates observed, were water boatmen and mosquito larvae.

Protocol dry season sampling is planned for the summer of 2011 to fulfill USFWS protocol survey requirements for listed branchiopods in the survey area. The results of the dry season sampling will be provided to the USFWS as a separate report.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.


Gretchen E. Padgett-Flohr, Ph.D.

6-22-2011

PRT #TE TE0006112-5

8 – REFERENCES

- Belk, D. "Key to the Anostraca (fairy shrimps) of North America." *Southwestern Naturalist*. 20(1), 1975. pp. 91-103.
- Belk, D. 1996. Key to the Anostraca, fairy shrimps of California. Unpublished manuscript.
- California Department of Fish and Game. 1999. 1999 California sport fishing regulations. Department of Fish and Game, Sacramento. California. 64 pp.
- Eng, L.L., D. Belk and C.H. Eriksen. "California Anostraca: Distribution, habitat and status." *Journal of Crustacean Biology*. 10(2), 1990. pp. 247-277.
- Eriksen, C. and D. Belk. *Fairy Shrimps of California's Puddles, Pools and Playas*. Eureka: Mad River Press, Inc., 1999.
- Fugate, M.L. "*Branchinecta sandiegonensis*, a new species of fairy shrimp (Crustacea: Anostraca) from western North America." *Proceedings of the Biological Society of Washington*. 106, 1993. pp. 296-304.
- Gonzalez, R.J., J. Drazen, S. Hathaway, B. Bauer, and M. Simovich. "Physiological correlates of water chemistry requirements in fairy shrimps (Anostraca) from southern California." *Journal of Crustacean Biology*. No. 16, 1996. pp. 315-322.
- Hathaway, S.A., and M.A. Simovich. "Factors affecting the distribution and co-occurrence of two southern Californian anostracans (Branchiopoda), *Branchinecta sandiegonensis* and

- Streptocephalus woottoni*.” *Journal of Crustacean Biology*. 16, 1996. pp. 669-677.
- Helm, B. —The biogeography of eight large branchiopods endemic to California.” *in*: C. W. Witham, E. Bauder, D. Belk, W. Ferren, and R. Ornduff (editors), *Ecology, Conservation and Management of Vernal Pool Ecosystems--Proceedings from a 1996 Conference*. California Native Plant Society, Sacramento, California. 1998. pp 124-139.
- Pennak, R.W. *Fresh-water Invertebrates of the United States: Protozoa to Mollusca*. New York, NY: John Wiley & Sons, Inc., 1989.
- Sugnet & Associates Environmental Consultants. Preliminary compilation of documented distribution, fairy shrimp and tadpole shrimp proposed for listing. April 29, 1993.
- USFWS. 1996. Revised Interim Survey Guidelines for the Listed Vernal Pool Branchiopods, issued April 23, 1996.
- USFWS. 1993. Endangered and Threatened Wildlife and Plants; Final Rule; Determination of endangered status for three vernal pool plants and the Riverside fairy shrimp. *Federal Register* 58:41391.
- USFWS. 1997. Endangered and threatened wildlife and plants; determination of endangered status for the San Diego fairy shrimp. *Federal Register* 62:4939.

9 – PERSONS CONTACTED

Sandra Marquez, USFWS, Recovery Permit Coordinator, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011 via e-mail on November 18, 2010.

**ATTACHMENT A: SUMMARY OF LISTED BRANCHIOPODS WET-SEASON
SURVEY RESULTS**

January 10, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	01-10-11	5.0	13.0	None	Dytiscidae
3	01-10-11	DRY	-	None	-
4	01-10-11	DRY	-	None	-
5	01-10-11	91.4	11.2	None	Ostracods, Dytiscidae
6	01-10-11	DRY	-	None	-
7	01-10-11	DRY	-	None	-
8	01-10-11	DRY	-	None	-
9	01-10-11	DRY	-	None	-
10	01-10-11	DRY	-	None	-
11	01-10-11	DRY	-	None	-
19	01-10-11	DRY	-	None	-
20	01-10-11	DRY	-	None	-
21	01-10-11	DRY	-	None	-
23	01-10-11	DRY	-	None	-
24	01-10-11	2.54	-	None	None
25	01-10-11	DRY	-	None	-

January 20, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	01-20-11	5.0	12.0	None	None
3	01-20-11	DRY	-	None	-
4	01-20-11	DRY	-	None	-
5	01-20-11	90.0	11.1	None	Dytiscidae, Ostrocoda, Notonectidae
6	01-20-11	DRY	-	None	-
7	01-20-11	DRY	-	None	-
8	01-20-11	DRY	-	None	-
9	01-20-11	DRY	-	None	-
10	01-20-11	DRY	-	None	-
11	01-20-11	DRY	-	None	-
19	01-20-11	DRY	-	None	-
20	01-20-11	DRY	-	None	-
21	01-20-11	DRY	-	None	-
23	01-20-11	DRY	-	None	-
24	01-20-11	DRY	-	None	-
25	01-20-11	DRY	-	None	-

January 24, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	01-24-11	4.0	15.2	None	Ostracods, <i>Anopheles</i> spp.
3	01-24-11	DRY	-	None	-
4	01-24-11	DRY	-	None	-
5	01-24-11	88.0	11.2	None	Cladocerans, Dytiscidae, Ostrocods, Notonectidae
6	01-24-11	DRY	-	None	-
7	01-24-11	DRY	-	None	-
8	01-24-11	DRY	-	None	-
9	01-24-11	DRY	-	None	-
10	01-24-11	DRY	-	None	-
11	01-24-11	DRY	-	None	-
19	01-24-11	DRY	-	None	-
20	01-24-11	DRY	-	None	-
21	01-24-11	DRY	-	None	-
23	01-24-11	DRY	-	None	-
24	01-24-11	DRY	-	None	-
25	01-24-11	DRY	-	None	-

February 7, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	02-07-11	DRY	-	None	None
3	02-07-11	DRY	-	None	-
4	02-07-11	DRY	-	None	-
5	02-07-11	80.0	13.3	None	Notonectidae
6	02-07-11	DRY	-	None	-
7	02-07-11	DRY	-	None	-
8	02-07-11	DRY	-	None	-
9	02-07-11	DRY	-	None	-
10	02-07-11	DRY	-	None	-
11	02-07-11	DRY	-	None	-
19	02-07-11	DRY	-	None	-
20	02-07-11	DRY	-	None	-
21	02-07-11	DRY	-	None	-
23	02-07-11	DRY	-	None	-
24	02-07-11	DRY	-	None	-
25	02-07-11	DRY	-	None	-

February 21, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	02-21-11	DRY	-	None	-
3	02-21-11	DRY	-	None	-
4	02-21-11	DRY	-	None	-
5	02-21-11	45.0	13.6	None	Dytiscidae, Cladocerans, Ostrocooda, Notonectidae
6	02-21-11	DRY	-	None	-
7	02-21-11	DRY	-	None	-
8	02-21-11	DRY	-	None	-
9	02-21-11	DRY	-	None	-
10	02-21-11	DRY	-	None	-
11	02-21-11	DRY	-	None	-
19	02-21-11	DRY	-	None	-
20	02-21-11	DRY	-	None	-
21	02-21-11	DRY	-	None	-
23	02-21-11	DRY	-	None	-
24	02-21-11	DRY	-	None	-
25	02-21-11	DRY	-	None	-

Attachment A: Summary of Listed Branchiopods Wet-Season Survey Results

March 7, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	03-07-11	2.5	12	None	Ostracods
3	03-07-11	DRY	-	None	-
4	03-07-11	DRY	-	None	-
5	03-07-11	45.0	14.2	None	Dytiscidae, Cladocerans, Ostrocods, Notonectidae
6	03-07-11	DRY	-	None	-
7	03-07-11	DRY	-	None	-
8	03-07-11	DRY	-	None	-
9	03-07-11	DRY	-	None	-
10	03-07-11	DRY	-	None	-
11	03-07-11	DRY	-	None	-
19	03-07-11	DRY	-	None	-
20	03-07-11	DRY	-	None	-
21	03-07-11	DRY	-	None	-
23	03-07-11	DRY	-	None	-
24	03-07-11	2.0	-	None	-
25	03-07-11	DRY	-	None	-

June 2011
A-6San Diego Gas & Electric Company
Listed Branchiopod Wet-Season Surveys

March 8, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	03-08-11	DRY	-	None	-
3	03-08-11	DRY	-	None	-
4	03-08-11	DRY	-	None	-
5	03-08-11	45.0	14.0	None	Dytiscidae, Cladocerans, Ostrocooda, Notonectidae, Mallard Ducks
6	03-08-11	DRY	-	None	-
7	03-08-11	DRY	-	None	-
8	03-08-11	DRY	-	None	-
9	03-08-11	DRY	-	None	-
10	03-08-11	DRY	-	None	-
11	03-08-11	DRY	-	None	-
19	03-08-11	DRY	-	None	-
20	03-08-11	DRY	-	None	-
21	03-08-11	DRY	-	None	-
23	03-08-11	DRY	-	None	-
24	03-08-11	DRY	-	None	-
25	03-08-11	DRY	-	None	-

March 22, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	03-22-11	DRY	-	None	-
3	03-22-11	DRY	-	None	-
4	03-22-11	DRY	-	None	-
5	03-22-11	20.3	13.4	None	Dytiscidae, Cladocerans, Ostrocodae, Notonectidae, <i>Pseudacris regilla</i> tadpole (1 individual), Mallard Ducks
6	03-22-11	DRY	-	None	-
7	03-22-11	DRY	-	None	-
8	03-22-11	DRY	-	None	-
9	03-22-11	DRY	-	None	-
10	03-22-11	DRY	-	None	-
11	03-22-11	DRY	-	None	-
19	03-22-11	DRY	-	None	-
20	03-22-11	DRY	-	None	-
21	03-22-11	DRY	-	None	-
23	03-22-11	DRY	-	None	-
24	03-22-11	DRY	-	None	-
25	03-22-11	DRY	-	None	-

April 5, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	04-05-11	DRY	-	None	-
3	04-05-11	DRY	-	None	-
4	04-05-11	DRY	-	None	-
5	04-05-11	15.0	19.4	None	Cladocerans, Ostrocods, Notonectidae, Mallard Ducks
6	04-05-11	DRY	-	None	-
7	04-05-11	DRY	-	None	-
8	04-05-11	DRY	-	None	-
9	04-05-11	DRY	-	None	-
10	04-05-11	DRY	-	None	-
11	04-05-11	DRY	-	None	-
19	04-05-11	DRY	-	None	-
20	04-05-11	DRY	-	None	-
21	04-05-11	DRY	-	None	-
23	04-05-11	DRY	-	None	-
24	04-05-11	DRY	-	None	-
25	04-05-11	DRY	-	None	-

April 19, 2011 Survey

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	04-19-11	DRY	-	None	-
3	04-19-11	DRY	-	None	-
4	04-19-11	DRY	-	None	-
5	04-19-11	15.0	18.0	None	Cladocerans, Ostrocodra, Notonectidae, Mallard Ducks
6	04-19-11	DRY	-	None	-
7	04-19-11	DRY	-	None	-
8	04-19-11	DRY	-	None	-
9	04-19-11	DRY	-	None	-
10	04-19-11	DRY	-	None	-
11	04-19-11	DRY	-	None	-
19	04-19-11	DRY	-	None	-
20	04-19-11	DRY	-	None	-
21	04-19-11	DRY	-	None	-
23	04-19-11	DRY	-	None	-
24	04-19-11	DRY	-	None	-
25	04-19-11	DRY	-	None	-

May 3, 2011 All Ponds Dry

Pond Number	Date	Pond Depth (centimeters)	Pond Temperature (degrees Celsius)	Biological Resources	
				Branchiopods	Other Taxa
2	05-03-11	DRY	-	None	-
3	05-03-11	DRY	-	None	-
4	05-03-11	DRY	-	None	-
5	05-03-11	DRY	-	None	-
6	05-03-11	DRY	-	None	-
7	05-03-11	DRY	-	None	-
8	05-03-11	DRY	-	None	-
9	05-03-11	DRY	-	None	-
10	05-03-11	DRY	-	None	-
11	05-03-11	DRY	-	None	-
19	05-03-11	DRY	-	None	-
20	05-03-11	DRY	-	None	-
21	05-03-11	DRY	-	None	-
23	05-03-11	DRY	-	None	-
24	05-03-11	DRY	-	None	-
25	05-03-11	DRY	-	None	-

ATTACHMENT B: FIELD DATA SHEETS FOR SEASONAL PONDS

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:00 am County: San Diego Quad: _____

Collector(s): G. Padgett-Flohr Permit #: TE106112-5

Site/Project Name: Bay Blvd Substn. Pool #: 2

Township: _____ Range: _____ Section: 117.0934215860 lat. 32.60784826510 long.

Temperature: Water: 13 °C Air: 11 °C

Pool Depth: Surface Area:

at time of sampling: ~5 cm at time of sampling: 1.9 m x 2.4 m

estimated maximum: ~5 cm estimated maximum: 3.3 m x 4.5 m

Habitat Condition: (circle where appropriate)

- undisturbed
- ungrazed

disturbed:
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing
sheep
moderate

other _____
heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) none

Notostracans: (note reproductive status) none

(Optional) Species Observations:

Cladocerans:	yes	<input checked="" type="radio"/> no
Conchostracans:	yes	<input checked="" type="radio"/> no
Copepods:	yes	<input checked="" type="radio"/> no
Ostracods	yes	<input checked="" type="radio"/> no
Fish	yes	<input checked="" type="radio"/> no
Frogs	yes	<input checked="" type="radio"/> no
Salamanders	yes	<input checked="" type="radio"/> no
Waterfowl	yes	<input checked="" type="radio"/> no
Other (specify) _____		

Insects: (adult or larvae)		
Anisoptera:	yes	<input checked="" type="radio"/> no
Zygoptera:	yes	<input checked="" type="radio"/> no
Hydrophilidae:	yes	<input checked="" type="radio"/> no
Dytiscidae:	<input checked="" type="radio"/> yes	<input checked="" type="radio"/> no
Corixidae:	yes	<input checked="" type="radio"/> no
Notonectidae:	yes	<input checked="" type="radio"/> no
Belostomatidae:	yes	<input checked="" type="radio"/> no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/19/11 Time: 9¹⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.607966723

Temperature: Water: NA °C Air: 11 °C -117.09336718700

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/10/11 Time: 9²⁰am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE lat. 32.60798406 long. -117.09309368392

Temperature: Water: NA °C Air: 11 °C

Pool Depth: Surface Area: NA

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:20 County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Padgett-Eldon Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn. Pool #: 5

Township: _____ Range: _____ Section: -117.094660900 lat. 32.60838343620 long.

Temperature: Water: 11.2 °C Air: 11 °C

Pool Depth: Surface Area:

at time of sampling: 91.4 cm at time of sampling: 9.0 m x 14.0 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) none

Notostracans: (note reproductive status) none

(Optional) Species Observations:

Cladocerans: yes ☒ no

Conchostracans: yes ☒ no

Copepods: yes ☒ no

Ostracods ☒ yes no

Fish yes ☒ no

Frogs yes ☒ no

Salamanders yes ☒ no

Waterfowl yes ☒ no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes ☒ no

Zygoptera: yes ☒ no

Hydrophilidae: yes ☒ no

Dytiscidae: yes ☒ no

Corixidae: yes ☒ no

Notonectidae: ☒ yes no

Belostomatidae: yes ☒ no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat.) (long) → 32.6089779
811.0

Temperature: Water: NA °C Air: _____ °C

-117.09434188200

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/10/11 Time: 9:40 am County: San Diego Quad: Imperial Beach, e' National City

Collector(s): G. Edgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.609003519

Temperature: Water: NA °C Air: 11 °C
-117.09410612600

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9³⁰am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Beldett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA oC Air: 11 oC -117.09398351600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- | | | | | | |
|---------------|-------------------|--------------------|----------------|-----------------|-------------|
| - undisturbed | <u>disturbed:</u> | <u>tire tracks</u> | <u>garbage</u> | discing/plowing | |
| - ungrazed | grazed: | cattle | horses | sheep | other _____ |
| | | | light | moderate | heavy |

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l	Conductivity: ____ uMHO
Dissolved NH4: ____ ppt or ppm	Dissolved Oxygen: ____ ppm or mg/l
pH: ____	Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____
Salinity : ____ ppt or ppm	Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9³⁵ County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substa Pool #: 9

Township: NONE Range: NONE Section: NONE lat 32.609989 long 117.1711

Temperature: Water: ____ oC Air: 11 oC

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:35 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Adgitt-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) 32.609991 (long) 117.09593253000

Temperature: Water: _____ °C Air: 11 °C

Pool Depth: _____ Surface Area: _____

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/10/11 Time: 9³⁵ am County: San Diego Quad: Imperial Beach E
National City

Collector(s): G. Bolger-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6099856754

Temperature: Water: NA °C Air: 11 °C
-117.09588089600

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Conductivity: ___ uMHO

Dissolved NH₄: ___ ppt or ppm

Dissolved Oxygen: ___ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) ___ cm or: clear to bottom _____

Salinity: ___ ppt or ppm

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:40 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) 32.6168825853 (long)

Temperature: Water: NA °C Air: 11 °C

Pool Depth: Surface Area:

-17.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 940 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168777766

Temperature: Water: NA oC Air: 11 oC

-117.09369301500

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

MA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:45 am County: San Diego Quad: Imperial Beach, E' National City

Collector(s): G. Balgott-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat. 32.61711339020 long. -117.09347887900

Temperature: Water: NA °C Air: 11 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:45 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE (lat) (long) 32.618126414

Temperature: Water: NA °C Air: 4 °C
-117.0943602200

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed: garbage

tire tracks

garbage

discing/plowing

- ungrazed

grazed: cattle

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 9:30am County: San Diego Quad: Imperial Beach National City

Collector(s): G. Padgett-Fluhr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substr Pool #: 24

Township: _____ Range: _____ Section: 717.09421560 lat. 32.61838100 long.

Temperature: Water: 11 °C Air: 12 °C

Pool Depth: Surface Area:

at time of sampling: 2.54 cm at time of sampling: 2 m x 1.5 m

estimated maximum: 590 cm estimated maximum: 2.8 m x 1.8 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

powerplant & SD G&E facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) none

Notostracans: (note reproductive status) none

(Optional) Species Observations:

Cladocerans:	yes	<u>no</u>
Conchostracans:	yes	<u>no</u>
Copepods:	yes	<u>no</u>
Ostracods	yes	<u>no</u>
Fish	yes	<u>no</u>
Frogs	yes	<u>no</u>
Salamanders	yes	<u>no</u>
Waterfowl	yes	<u>no</u>
Other (specify) _____		

Insects: (adult or larvae)		
Anisoptera:	yes	<u>no</u>
Zygoptera:	yes	<u>no</u>
Hydrophilidae:	yes	<u>no</u>
Dytiscidae:	yes	<u>no</u>
Corixidae:	yes	<u>no</u>
Notonectidae:	yes	<u>no</u>
Belostomatidae:	yes	<u>no</u>
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/10/11 Time: 10:00am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bulger-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.620362
88590

Temperature: Water: NA °C Air: 12 °C -117.09448355100

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

N/A

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9¹⁰am County: San Diego Quad: Imperial Beach t. Natimel lcty

Collector(s): G. Padgett-Fowler Permit #: TE06112-5

Site/Project Name: Bay Blvd Substn Pool #: 2

Township: _____ Range: _____ Section: -117.09342158609 lat. _____ long. 32.607848
26570

Temperature: Water: 12 °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: 5.00 cm at time of sampling: 1.0 m x 2.1 m

estimated maximum: 5.00 cm estimated maximum: 3.3 m x 4.5 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) *none*

Notostracans: (note reproductive status) *none*

(Optional) Species Observations:

Cladocerans:	<input checked="" type="radio"/> yes	<input type="radio"/> no
Conchostracans:	yes	<input type="radio"/> no
Copepods:	yes	<input type="radio"/> no
Ostracods	yes	<input type="radio"/> no
Fish	yes	<input type="radio"/> no
Frogs	yes	<input type="radio"/> no
Salamanders	yes	<input type="radio"/> no
Waterfowl	yes	<input type="radio"/> no
Other (specify) _____		

Insects: (adult or larvae)		
Anisoptera:	yes	<input type="radio"/> no
Zygoptera:	yes	<input type="radio"/> no
Hydrophilidae:	yes	<input type="radio"/> no
Dytiscidae:	yes	<input type="radio"/> no
Corixidae:	yes	<input type="radio"/> no
Notonectidae:	yes	<input type="radio"/> no
Belostomatidae:	yes	<input type="radio"/> no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NAX

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9:15 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.60796672

Temperature: Water: NA oC Air: 15 oC -117.09336718700

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

tire tracks

garbage

discing/plowing

grazed:

cattle

horses

sheep

light

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ☐ no ☒ yes

Required color slides and/or photographs for the project site are included: ☐ no ☒ yes

Date: 1/20/11 Time: 9²⁰am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE (lat.) (long.) → 32.60798406

Temperature: Water: NA °C Air: 15 °C

-117.09309368300

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 9:30 am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Padgett-Flohr Permit #: TE00112-5

Site/Project Name: Bay Blvd Substn Pool #: 5

Township: _____ Range: _____ Section: -117.09466069100 lat. (long.) 32.6083834862

Temperature: Water: 11.1 °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: 90.0 cm at time of sampling: 8.0 m x 128 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

*not available for this site

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) NONE

Notostracans: (note reproductive status) NONE

(Optional) Species Observations:

Cladocerans: ☒ yes ☐ no
Conchostracans: yes ☒ no
Copepods: yes ☒ no
Ostracods ☒ yes ☐ no
Fish yes ☒ no
Frogs yes ☒ no
Salamanders yes ☒ no
Waterfowl yes ☒ no
Other (specify) _____

Insects: (adult or larvae)
Anisoptera: yes ☒ no
Zygoptera: yes ☒ no
Hydrophilidae: yes ☒ no
Dytiscidae: ☒ yes ☐ no
Corixidae: yes ☒ no
Notonectidae: ☒ yes ☐ no
Belostomatidae: yes ☒ no
Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 9:35 am County: San Diego Quad: Imperial Beach National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat.) (long) → 32.6089779
-117.09434188200 811.

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9³⁵ am County: San Diego Quad: Imperial Beach E' National City

Collector(s): G. Bolger-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long.) 32.609003519

Temperature: Water: NA °C Air: 15 °C
-117.09410612600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 9³⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA °C Air: 15 °C
-117.09398351600

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Conductivity: ___ uMHO

Dissolved NH₄: ___ ppt or ppm

Dissolved Oxygen: ___ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) ___ cm or: clear to bottom _____

Salinity: ___ ppt or ppm

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Antiseptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 9:40 pm County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. F. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 9

Township: NONE Range: NONE Section: NONE lat: 32.609989 long: 117.1712

Temperature: Water: _____ oC Air: 15 oC

Pool Depth: Surface Area: _____

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9:40 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. B. Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) 32.60999112061 (long) -117.09593253000

Temperature: Water: _____ °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 9:45 am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Bolger-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.6099856754

Temperature: Water: NA °C Air: 15 °C
-117.09588089600

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

fire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9:55 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Ehr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE lat: 32.6168825853 long:

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

-17.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other: ____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 9⁵⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Ehr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) 32.6168777766 (long) -117.09369301500

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/20/11 Time: 10⁰⁰am County: San Diego Quad: Imperial Beach, e'
National City

Collector(s): G. Balgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat: 32.61711339020 long:

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

fire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 10:05 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE lat. 32.618126414 long. -117.09436022100

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 10¹⁵ County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Padgett-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substrn Pool #: 24

Township: _____ Range: _____ Section: -117.09421360800 lat. (long) 32.61838100100

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

fire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

site of SBPP & SDGE facilities

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

POND DRY

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/20/11 Time: 10¹⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE lat. ____ long. ____

Temperature: Water: NA °C Air: 15 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 9:10 am County: San Diego Quad: Imperial Beach + National City

Collector(s): G Padgett Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 2

Township: _____ Range: _____ Section: -117-0934215860 lat. (long.) 32.60784826510

Temperature: Water: 15.2 °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: ~4.0 cm at time of sampling: 1.2 m x 1.9 m

estimated maximum: 5.0 cm estimated maximum: 3.3 m x 4.5 m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing
sheep
moderate

other _____
heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: 8.4

Salinity: 0.2 ppt or ppm

Conductivity: 264 uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom ☒

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Not Available for this Site

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) NONE

Notostracans: (note reproductive status) NONE

(Optional) Species Observations:

Cladocerans: yes ☒ no

Conchostracans: yes ☒ no

Copepods: yes ☒ no

Ostracods: ☒ yes no

Fish: yes ☒ no

Frogs: yes ☒ no

Salamanders: yes ☒ no

Waterfowl: yes ☒ no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes ☒ no

Zygoptera: yes ☒ no

Hydrophilidae: yes ☒ no

Dytiscidae: yes ☒ no

Corixidae: yes ☒ no

Notonectidae: yes ☒ no

Belostomatidae: yes ☒ no

Other (specify) Anapholes

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 9¹⁰am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ___ long. 32.60796672

Temperature: Water: NA oC Air: 10 oC -117.09336718700

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

tire tracks

garbage

discing/plowing

grazed:

cattle

horses

sheep

light

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/24/11 Time: 9:10 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE (lat.) (long.) → 32.60798406

Temperature: Water: NA °C Air: 10 °C

-117.09309368300

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

Note: Please fill out the required information completely for each site visit.

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) NONE

Notostracans: (note reproductive status) NONE

(Optional) Species Observations:

Cladocerans:	<input checked="" type="radio"/> yes	<input type="radio"/> no
Conchostracans:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Copepods:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Ostracods	<input checked="" type="radio"/> yes	<input type="radio"/> no
Fish	<input type="radio"/> yes	<input checked="" type="radio"/> no
Frogs	<input type="radio"/> yes	<input checked="" type="radio"/> no
Salamanders	<input type="radio"/> yes	<input checked="" type="radio"/> no
Waterfowl	<input type="radio"/> yes	<input checked="" type="radio"/> no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Zygoptera:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Hydrophilidae:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Dytiscidae:	<input checked="" type="radio"/> yes	<input type="radio"/> no
Corixidae:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Notonectidae:	<input checked="" type="radio"/> yes	<input type="radio"/> no
Belostomatidae:	<input type="radio"/> yes	<input checked="" type="radio"/> no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10:5am County: San Diego Quad: Imperial Beach National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.6089779
-117.09434188200

Temperature: Water: NA °C Air: 16 °C

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: _____

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom _____

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10¹⁵ County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Floer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.609003519

Temperature: Water: NA °C Air: 10 °C
-117.09410612600

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Conductivity: ___ uMHO

Dissolved NH₄: ___ ppt or ppm

Dissolved Oxygen: ___ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) ___ cm or: clear to bottom _____

Salinity: ___ ppt or ppm

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/24/11 Time: 10^{PM} County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA °C Air: 10 °C
-117.09398351600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10²⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substa Pool #: 9

Township: NONE Range: NONE Section: NONE lat. 32.609989 long. 117.1711

Temperature: Water: _____ °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

 Anisoptera: yes no

 Zygoptera: yes no

 Hydrophilidae: yes no

 Dytiscidae: yes no

 Corixidae: yes no

 Notonectidae: yes no

 Belostomatidae: yes no

 Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10²⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & F. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60999112061

Temperature: Water: _____ oC Air: 10 oC
-117.09593253000

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10²⁵ am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Bolger-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.6099856754

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168825853

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

-17.09403485700

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ☐ no ☒ yes

Required color slides and/or photographs for the project site are included: ☐ no ☒ yes

Date: 1/24/11 Time: 10:20 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bilgitt-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) 32.6168777766 (long) -117.09369301500

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing
sheep
moderate

other _____
heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10²⁰ am County: San Diego Quad: Imperial Beach
National City

Collector(s): G. Bolger-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat: 32.61711339022 long:

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

-117.09347887900

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other: ___

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no
Conchostracans: yes no
Copepods: yes no
Ostracods yes no
Fish yes no
Frogs yes no
Salamanders yes no
Waterfowl yes no
Other (specify) _____

~~DRY~~
Insects: (adult or larvae)
~~Anisoptera: yes no
Zygoptera: yes no
Hydrophilidae: yes no
Dytiscidae: yes no
Corixidae: yes no
Notonectidae: yes no
Belostomatidae: yes no
Other (specify) _____~~

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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MA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10:20 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bilgott-Fischer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE lat. 32.61812641 long. -117.09436022100

Temperature: Water: NA oC Air: 10 oC

Pool Depth: Surface Area: DRY

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed	disturbed: <u>(circled)</u>	tire tracks <u>(circled)</u>	garbage <u>(circled)</u>	discing/plowing	other _____
- ungrazed	grazed: _____	cattle _____	horses _____	sheep _____	
- land use of habitat:		light _____	moderate _____	heavy _____	

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l
Dissolved NH₄: _____ ppt or ppm
pH: _____
Salinity: _____ ppt or ppm

Conductivity: _____ uMHO
Dissolved Oxygen: _____ ppm or mg/l
Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____
Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 1/24/11 Time: 10²⁵ am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Balgitt-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 24

Township: NONE Range: NONE Section: NONE lat. ___ long. ___

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ___

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Dissolved NH₄: ___ ppt or ppm

pH: ___

Salinity: ___ ppt or ppm

Conductivity: ___ uMHO

Dissolved Oxygen: ___ ppm or mg/l

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 1/24/11 Time: 10³⁰ County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Blythe-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE (lat) (long) 32.620362885

Temperature: Water: NA °C Air: 10 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 9:15 County: San Diego Quad: Imperial Beach + National City

Collector(s): G Padgett-Flohr Permit #: TE0612-5

Site/Project Name: Bay Blvd Substrn Pool #: 2

Township: _____ Range: _____ Section: 117.0934215860 lat. 32.6078482650 long. 117.0934215860

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Conductivity: _____ uMHO

Dissolved NH₄: _____ ppt or ppm

Dissolved Oxygen: _____ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Salinity: _____ ppt or ppm

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 9:15 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.60796672

Temperature: Water: NA °C Air: 13 °C -117.09336718700

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 9:00 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. F. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE lat. 32.60798406 long. -117.09309368300

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 10³⁰ County: San Diego Quad: _____

Collector(s): G. Padgett-Flower Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 5

Township: NONE Range: NONE Section: NONE lat: 32.608383436 long: -117.09466069100

Temperature: Water: 13.3 oC Air: 13 oC

Pool Depth: Surface Area:

at time of sampling: 80 cm at time of sampling: 7.0 m x 10.0 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: 10.1

Salinity: 0.3 ppt or ppm

Conductivity: 601 uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom ☒

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) **NONE**

Notostracans: (note reproductive status) **NONE**

(Optional) Species Observations:

Cladocerans:	yes	<input checked="" type="radio"/> no
Conchostracans:	yes	<input checked="" type="radio"/> no
Copepods:	yes	<input checked="" type="radio"/> no
Ostracods	yes	<input checked="" type="radio"/> no
Fish	yes	<input checked="" type="radio"/> no
Frogs	yes	<input checked="" type="radio"/> no
Salamanders	yes	<input checked="" type="radio"/> no
Waterfowl	yes	<input checked="" type="radio"/> no
Other (specify) _____		

Insects: (adult or larvae)		
Anisoptera:	yes	<input checked="" type="radio"/> no
Zygoptera:	yes	<input checked="" type="radio"/> no
Hydrophilidae:	yes	<input checked="" type="radio"/> no
Dytiscidae:	yes	<input checked="" type="radio"/> no
Corixidae:	yes	<input checked="" type="radio"/> no
Notonectidae:	<input checked="" type="radio"/> yes	<input checked="" type="radio"/> no
Belostomatidae:	yes	<input checked="" type="radio"/> no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 2/7/11 Time: 9³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Fiorer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat.) (long.) → 32.6089779
811.0

Temperature: Water: NA °C Air: 13 °C
-117.09434188200

Pool Depth: Surface Area:

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Conductivity: ___ uMHO

Dissolved NH₄: ___ ppt or ppm

Dissolved Oxygen: ___ ppm or mg/l

pH: ___

Turbidity: (secchi disc depth) ___ cm or: clear to bottom ___

Salinity: ___ ppt or ppm

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 9³⁵ am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Balgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long.) 32.609003519

Temperature: Water: NA oC Air: 13 oC -117.09410612600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

DRY

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 9:25 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.6089271977

Temperature: Water: NA °C Air: 13 °C
-117.09398351600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 9:35 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & F. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 9

Township: NONE Range: NONE Section: NONE lat. 32.609989 long. 117.1712

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2.7.11 Time: 945 County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60999112061

Temperature: Water: NA oC Air: 13 oC
-117.09593253000

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 9:50 am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.6099856754

Temperature: Water: NA °C Air: 13 °C
-117.09588089600

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 10³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168825853

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area:

-117.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 10³⁰ County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) (long.) 32.6168777766

Temperature: Water: N/A oC Air: 13 oC -117.09369301500

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 10³⁵ am County: San Diego Quad: Imperial Beach E' National City

Collector(s): G. Bolger-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat: 32.61711339020 long:

Temperature: Water: NA oC Air: 13 oC

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2, 7, 11 Time: 10⁴⁰ am County: San Diego Quad: Imperial Beach
National City

Collector(s): G. Balgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 24

Township: NONE Range: NONE Section: NONE lat. 32.61858100100 long. 117.09421560800

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area:

at time of sampling: NA cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no
Conchostracans: yes no
Copepods: yes no
Ostracods yes no
Fish yes no
Frogs yes no
Salamanders yes no
Waterfowl yes no
Other (specify) _____

Insects: (adult or larvae)

~~Antiseptera: yes no
Zygoptera: yes no
Hydrophilidae: yes no
Dytiscidae: yes no
Corixidae: yes no
Notonectidae: yes no
Belostomatidae: yes no
Other (specify) _____~~

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 2/7/11 Time: 10⁴⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE (lat.) 32.6 (long.) 203628590

Temperature: Water: NA °C Air: 13 °C - 117.09448755100

Pool Depth: Surface Area:

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9⁰⁰ am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 2

Township: NONE Range: NONE Section: NONE lat: 32.1078482 long: 117.09342158600

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other: ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9⁰⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Beldett-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.60796672

Temperature: Water: NA °C Air: 13 °C -117.09336718700

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

tire tracks

garbage

discing/plowing

grazed:

cattle

horses

sheep

other

light

moderate

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9:05 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.60798406

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no
Conchostracans: yes no
Copepods: yes no
Ostracods yes no
Fish yes no
Frogs yes no
Salamanders yes no
Waterfowl yes no
Other (specify) _____

Insects: (adult or larvae)

~~Anisoptera: yes no
Zygoptera: yes no
Hydrophilidae: yes no
Dytiscidae: yes no
Corixidae: yes no
Notonectidae: yes no
Belostomatidae: yes no
Other (specify) _____~~

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ☐ no ☒ yes

Required color slides and/or photographs for the project site are included: ☐ no ☒ yes

Date: 3 / 22 / 11 Time: 9:15 County: San Diego Quad: Imperial Beach + National City

Collector(s): 6 Padgett Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substa Pool #: 5

Township: NONE Range: NONE Section: NONE lat: 32.60838343 long: 117.09466069

Temperature: Water: 13.4 oC Air: 13 oC

Pool Depth: Surface Area:

at time of sampling: 20.3 cm at time of sampling: 3 m x 6 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: 0.2 ppt or ppm

pH: 9.0

Salinity: 0.4 ppt or ppm

Conductivity: 669 uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom ☒

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

NONE

Notostracans: (note reproductive status)

NONE

(Optional) Species Observations:

Cladocerans: yes ☒ no

Conchostracans: yes ☒ no

Copepods: yes ☒ no

Ostracods: ☒ yes no

Fish: yes ☒ no

Frogs: ☒ yes no

Salamanders: yes ☒ no

Waterfowl: ☒ yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes ☒ no

Zygoptera: yes ☒ no

Hydrophilidae: yes ☒ no

Dytiscidae: ☒ yes no

Corixidae: yes ☒ no

Notonectidae: ☒ yes no

Belostomatidae: yes ☒ no

Other (specify) _____

ne
native
treefrog
tadpole

mallards

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9:30 County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.6089779
811

Temperature: Water: NA °C Air: 13 °C

-117.09434188200

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 3/22/11 Time: 9:30 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.609003519

Temperature: Water: NA °C Air: 13 °C
-117.09410612600

Pool Depth: Surface Area: NA

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other: _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ___ ppm or mg/l

Conductivity: ___ uMHO

Dissolved NH₄: ___ ppt or ppm

Dissolved Oxygen: ___ ppm or mg/l

pH: _____

Turbidity: (secchi disc depth) ___ cm or: clear to bottom _____

Salinity: ___ ppt or ppm

Total Dissolved Solids (TDS): ___ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9:40 AM County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA °C Air: 13 °C
-117.09398351600

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 9:50 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 9

Township: NONE Range: NONE Section: NONE lat. 32.609989 long. 117.1712

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/24/11 Time: 9⁵⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60999112061

Temperature: Water: NA °C Air: 13 °C
-117.09593253000

Pool Depth: Surface Area:

NA
at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

Note: Please fill out the required information completely for each site visit.

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 10:00 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Padgett-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168825853

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA

-17.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 10¹⁵ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168777766

Temperature: Water: NA °C Air: 14 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 10:15 am County: San Diego Quad: Imperial Beach E' National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat. 32.61711339020 long.

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA -117.09347887900

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed	<u>disturbed</u>	<u>fire tracks</u>	<u>garbage</u>	discing/plowing	
- ungrazed	grazed:	cattle	horses	sheep	other _____
			light	moderate	heavy

- land use of habitat: energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l	Conductivity: _____ uMHO
Dissolved NH4: _____ ppt or ppm	Dissolved Oxygen: _____ ppm or mg/l
pH: _____	Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____
Salinity: _____ ppt or ppm	Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 10²⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bilgitt-Fluhr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE lat. 32.6181264414 long.

Temperature: Water: NA °C Air: 13 °C
-117.09436022100

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed

grazed

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/22/11 Time: 10:30am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Bolger + Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 24

Township: NONE Range: NONE Section: NONE (lat) (long) 32.61838100100

Temperature: Water: NA oC Air: 13 oC -117.09421560800

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH4: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no
Conchostracans: yes no
Copepods: yes no
Ostracods yes no
Fish yes no
Frogs yes no
Salamanders yes no
Waterfowl yes no
Other (specify) _____

Insects: (adult or larvae)

~~Anisoptera: yes no
Zygoptera: yes no
Hydrophilidae: yes no
Dytiscidae: yes no
Corixidae: yes no
Notonectidae: yes no
Belostomatidae: yes no
Other (specify) _____~~

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

N/A

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 3/23/11 Time: 11:35 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE lat. ____ long. ____

Temperature: Water: NA °C Air: 13 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4, 5, 11 Time: 9:45 am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. Edgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 2

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60784826510

Temperature: Water: NA °C Air: 19 °C 117.09342158600

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY

Insects: (adult or larvae)		
Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9:45 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Fluhr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.607966723

Temperature: Water: NA °C Air: 19 °C -117.09336718700

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9:45 AM County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE (lat.) (long.) → 32.60798406

Temperature: Water: NA °C Air: 19 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

(disturbed:)

grazed:

(tire tracks)

cattle

(garbage)

horses

light

(discing/plowing)

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no yes

Required color slides and/or photographs for the project site are included: ____ no yes

Date: 4/5/11 Time: 10am County: San Diego Quad: Imperial Beach + National City

Collector(s): G Padgett-Flow Permit #: TE 0061125

Site/Project Name: Bay Blvd Substn Pool #: 5

Township: NONE Range: NONE Section: NONE (lat.) 32.6083834 (long.) 117.0946606

Temperature: Water: 19.4 °C Air: 19 °C - 117.0946606

Pool Depth: Surface Area:

at time of sampling: 15 cm at time of sampling: 2 m x 5 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: 10.2

Salinity: 0.4 ppt or ppm

Conductivity: 765 uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom ✓

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) NONE

Notostracans: (note reproductive status) NONE

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

↙ mallards

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9:45 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.6089779
811.1

Temperature: Water: NA °C Air: 19 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9:30 am County: San Diego Quad: Imperial Beach E, National City

Collector(s): G. Edgett-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long) 32.609003519

Temperature: Water: NA °C Air: 19 °C
-117.09410612600

Pool Depth: Surface Area:

at time of sampling: NA cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

fire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9³⁰ County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA °C Air: 19 °C
-117.09398351600

Pool Depth: Surface Area:

NA
at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 930 County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 9

Township: NONE Range: NONE Section: NONE lat. 32.609989 long. -117.09597274000

Temperature: Water: NA oC Air: 19 oC

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

MA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9¹⁵am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60999112061

Temperature: Water: NA °C Air: 19 °C
-117.09593253000

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other ____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9:15 am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.6099856754

Temperature: Water: NA °C Air: 19 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Edgett-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168825853

Temperature: Water: NA oC Air: 19 oC

Pool Depth: Surface Area: NA -17.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other: ____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: ~9am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE lat: 32.6168777766 long: -117.09369301500

Temperature: Water: NA oC Air: 19 oC

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 9am County: San Diego Quad: Imperial Beach National City

Collector(s): G. Blight-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE lat 32.61711339022 long

Temperature: Water: NA °C Air: 19 °C

Pool Depth: Surface Area: NA

-117.09347887900

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

fire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify)	_____	

DRY

Insects: (adult or larvae)		
Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify)	_____	

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

<u>Species</u>	<u># Individuals</u>	<u>Accession/Catalog #</u>	<u>Pool #</u>
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NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ☐ no ☒ yes

Required color slides and/or photographs for the project site are included: ☐ no ☒ yes

Date: 4/5/11 Time: 8:55 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bilgitt-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE lat. 32.618126414 long.

Temperature: Water: NA °C Air: 19 °C
-117.09436022100

Pool Depth: Surface Area: NA

at time of sampling: cm at time of sampling: m x m

estimated maximum: cm estimated maximum: m x m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ppm or mg/l

Dissolved NH4: ppt or ppm

pH:

Salinity: ppt or ppm

Conductivity: uMHO

Dissolved Oxygen: ppm or mg/l

Turbidity: (secchi disc depth) cm or: clear to bottom

Total Dissolved Solids (TDS): ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4, 5, 11 Time: 8³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 24

Township: NONE Range: NONE Section: NONE (lat) (long) 32.618383 100.100

Temperature: Water: NA oC Air: 19 oC -117.094215 00800

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

N/A

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/5/11 Time: 8:55 am County: San Diego Quad: Imperial Beach & National City
Collector(s): G. Blight Fisher Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE lat: 32.620362 long: 117.09448755100

Temperature: Water: NA oC Air: 19 oC -117.09448755100

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH4: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Antiseptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9⁰⁰am County: San Diego Quad: Imperial Beach + National City

Collector(s): G. B. F. E. I. O. H. R. Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 2

Township: NONE Range: NONE Section: NONE (lat) (long) 3260784826510

Temperature: Water: NA oC Air: 18 oC -117.0934 2158600

Pool Depth: Surface Area: N/A

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed
 - ungrazed
 - land use of habitat:
- disturbed: disturbed tire tracks garbage discing/plowing
grazed: cattle horses sheep
light moderate heavy

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l Conductivity: ____ uMHO
Dissolved NH4: ____ ppt or ppm Dissolved Oxygen: ____ ppm or mg/l
pH: ____ Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____
Salinity: ____ ppt or ppm Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

~~DRY~~

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9⁰⁰am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 3

Township: NONE Range: NONE Section: NONE lat. ____ long. 32.60796672

Temperature: Water: NA °C Air: 18 °C -117.09336718700

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

tire tracks

garbage

discing/plowing

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4 / 19 / 11 Time: 9^{am} County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & Elmer Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 4

Township: NONE Range: NONE Section: NONE (lat.) (long.) → 32.60798406

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9:15 County: San Diego Quad: Imperial Beach + National City

Collector(s): G Padgett-Flork Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 5

Township: NONE Range: NONE Section: NONE lat: () long: 3260838343620

Temperature: Water: 19 °C Air: 18 °C -117.09466069100

Pool Depth: Surface Area:

at time of sampling: ~12 cm at time of sampling: 2 m x 3.5 m

estimated maximum: 91.4 cm estimated maximum: 9.0 m x 14.0 m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

former retention basin

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH4: _____ ppt or ppm

pH: 10.3

Salinity: 0.4 ppt or ppm

Conductivity: 846 uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom ☒

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status) NONE

Notostracans: (note reproductive status) NONE

(Optional) Species Observations:

Cladocerans: yes ☒ no

Conchostracans: yes ☒ no

Copepods: yes ☒ no

Ostracods ☒ yes ☒ no

Fish yes ☒ no

Frogs yes ☒ no

Salamanders yes ☒ no

Waterfowl ☒ yes no

Other (specify) _____

↓
millards

Insects: (adult or larvae)

Anisoptera: yes ☒ no

Zygoptera: yes ☒ no

Hydrophilidae: yes ☒ no

Dytiscidae: yes ☒ no

Corixidae: yes ☒ no

Notonectidae: ☒ yes no

Belostomatidae: yes ☒ no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4, 19, 11 Time: 9³⁵ am County: San Diego Quad: Imperial Beach, National City

Collector(s): G. Balgitt-Eloher Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 6

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.6089779
811

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9⁴⁰am County: San Diego Quad: Imperial Beach e'
National City

Collector(s): G. Edgitt-Flower Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 7

Township: NONE Range: NONE Section: NONE (lat) (long) → 32.609003519

Temperature: Water: NA °C Air: 18 °C
-117.09410612600

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY
Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 8⁴⁵ am County: San Diego Quad: Imperial Beach e' National City

Collector(s): G. Edgett-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 8

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6089271977

Temperature: Water: NA °C Air: 18 °C
-117.09398351600

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ___ no ☒ yes

Required color slides and/or photographs for the project site are included: ___ no ☒ yes

Date: 4, 19, 11 Time: 9:45 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 9

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.609989 71712

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA -117.09597274000

at time of sampling: ___ cm at time of sampling: ___ m x ___ m

estimated maximum: ___ cm estimated maximum: ___ m x ___ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity: _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

N/A

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9:50 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger & E. Iohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 10

Township: NONE Range: NONE Section: NONE (lat) (long) 32.60999112061

Temperature: Water: NA °C Air: 18 °C
-117.09593253000

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 9⁵⁰ am County: San Diego Quad: Imperial Beach E National City

Collector(s): G. Balgitt-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 11

Township: NONE Range: NONE Section: NONE (lat.) (long.) 32.6099856754

Temperature: Water: NA oC Air: 18 oC

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed:

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 10 am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Balgitt-Elohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 19

Township: NONE Range: NONE Section: NONE (lat) (long) 32.6168825853

Temperature: Water: NA oC Air: 18 oC

Pool Depth: Surface Area: NA -17.09403485700

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4, 19, 11 Time: 10am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 20

Township: NONE Range: NONE Section: NONE (lat) 32.6168777766 (long)

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity: ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 10am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 21

Township: NONE Range: NONE Section: NONE (lat) (long) 32.61711339020

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA -117.09347887900

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed

tire tracks

garbage

discing/plowing

- ungrazed

grazed:

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 10¹⁵am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 23

Township: NONE Range: NONE Section: NONE lat. 32.618126414 long. 117.09436022100

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

disturbed: ☒

tire tracks ☒

garbage ☒

discing/plowing

- ungrazed

grazed: ☒

cattle

horses

sheep

other _____

light

moderate

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Conductivity: ____ uMHO

Dissolved NH₄: ____ ppt or ppm

Dissolved Oxygen: ____ ppm or mg/l

pH: ____

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Salinity: ____ ppt or ppm

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

N/A

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4/19/11 Time: 10:20am County: San Diego Quad: _____

Collector(s): G. Edgett-Elohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: 24

Township: NONE Range: NONE Section: NONE lat. _____ long. _____

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed:

grazed:

tire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity : _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Amisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 4, 19, 11 Time: 10³⁰ am County: San Diego Quad: Imperial Beach & National City

Collector(s): G. Bolger-Flohr Permit #: TE 006112-5

Site/Project Name: Bay Blvd Substn Pool #: 25

Township: NONE Range: NONE Section: NONE lat. ____ long. ____

Temperature: Water: NA °C Air: 18 °C

Pool Depth: Surface Area: NA

at time of sampling: ____ cm at time of sampling: ____ m x ____ m

estimated maximum: ____ cm estimated maximum: ____ m x ____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

- land use of habitat:

disturbed
grazed:

tire tracks
cattle

garbage
horses
light

discing/plowing
sheep
moderate

other ____
heavy

energy facility

DRY

(Optional) Water Chemistry Data

Alkalinity (total): ____ ppm or mg/l

Dissolved NH₄: ____ ppt or ppm

pH: ____

Salinity : ____ ppt or ppm

Conductivity: ____ uMHO

Dissolved Oxygen: ____ ppm or mg/l

Turbidity: (secchi disc depth) ____ cm or: clear to bottom ____

Total Dissolved Solids (TDS): ____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans:	yes	no
Conchostracans:	yes	no
Copepods:	yes	no
Ostracods	yes	no
Fish	yes	no
Frogs	yes	no
Salamanders	yes	no
Waterfowl	yes	no
Other (specify) _____		

DRY

Insects: (adult or larvae)

Anisoptera:	yes	no
Zygoptera:	yes	no
Hydrophilidae:	yes	no
Dytiscidae:	yes	no
Corixidae:	yes	no
Notonectidae:	yes	no
Belostomatidae:	yes	no
Other (specify) _____		

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

NA

**U.S. Fish and Wildlife Service Vernal Pool Data Sheet
Wet Season Survey**

Note: Please fill out the required information completely for each site visit.

This form is being submitted to serve as part of the 90-day report: ____ no ☒ yes

Required color slides and/or photographs for the project site are included: ____ no ☒ yes

Date: 5, 3, 11 Time: _____ County: San Diego Quad: _____

Collector(s): G. Padgett-Flohr Permit #: TE006112-5

Site/Project Name: Bay Blvd Substn Pool #: _____

Township: NONE Range: NONE Section: NONE lat. _____ long. _____

Temperature: Water: _____ oC Air: _____ oC

Pool Depth: Surface Area:

at time of sampling: _____ cm at time of sampling: _____ m x _____ m

estimated maximum: _____ cm estimated maximum: _____ m x _____ m

Habitat Condition: (circle where appropriate)

- undisturbed

- ungrazed

disturbed:

grazed:

fire tracks

cattle

garbage

horses

light

discing/plowing

sheep

moderate

other _____

heavy

- land use of habitat:

energy facility

(Optional) Water Chemistry Data

Alkalinity (total): _____ ppm or mg/l

Dissolved NH₄: _____ ppt or ppm

pH: _____

Salinity : _____ ppt or ppm

Conductivity: _____ uMHO

Dissolved Oxygen: _____ ppm or mg/l

Turbidity: (secchi disc depth) _____ cm or: clear to bottom _____

Total Dissolved Solids (TDS): _____ ppm

Notes:

U.S. Fish and Wildlife Service Vernal Pool Data Sheet Wet Season Survey

Note: Please fill out the required information completely for each site visit.

Species Observed: state none or estimate # of individuals present in terms of an order of magnitude (e.g., 10's, 100's, 1000's)

Anostracans: (note reproductive status)

Notostracans: (note reproductive status)

(Optional) Species Observations:

Cladocerans: yes no

Conchostracans: yes no

Copepods: yes no

Ostracods yes no

Fish yes no

Frogs yes no

Salamanders yes no

Waterfowl yes no

Other (specify) _____

Insects: (adult or larvae)

Anisoptera: yes no

Zygoptera: yes no

Hydrophilidae: yes no

Dytiscidae: yes no

Corixidae: yes no

Notonectidae: yes no

Belostomatidae: yes no

Other (specify) _____

Voucher Specimens Specimens shall be preserved according to the standards of the institution in which they will be accessioned.

Species

Individuals

Accession/Catalog #

Pool #

ATTACHMENT C: REPRESENTATIVE PHOTOGRAPHS



Photograph 1:
Pond 2,
January 20,
2011, looking
east



Photograph 2:
Pond 2,
February 7,
2011, looking
south



Photograph 3:
Pond 24,
January 20,
2011, looking
north



Photograph 4:
Pond 24,
March 7, 2011,
looking north



Photograph 5:
General site
photograph,
April 19, 2011,
looking north
from the
former LNG
site



Photograph 6:
General site
photograph,
April 19, 2011,
looking south
from the berm
on the LNG
site

ATTACHMENT A-3: RARE PLANT SURVEY REPORT

Rare Plant Survey Report
for the
South Bay Substation Relocation Project

Prepared for:



Prepared by:



June 2011

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LIST OF ATTACHMENTS

- Attachment A: Target List of Rare Plant Species
- Attachment B: Photographs
- Attachment C: Plant List

1 – INTRODUCTION

This Rare Plant Survey Report describes the rare plant research and field surveys for the San Diego Gas & Electric Company (SDG&E) South Bay Substation Relocation Project (Proposed Project). The Proposed Project involves several components, including relocating the existing South Bay Substation to a new site approximately 0.5 mile south, constructing a 230 kilovolt (kV) loop-in, and relocating/extending portions of the existing transmission system to the proposed Bay Boulevard Substation. Rare plant surveys were conducted within the Proposed Project site to identify rare plant species that may be present in the Proposed Project area, and, if found, to evaluate whether the plants would be impacted by the Proposed Project. This report provides details of the methodologies used for the background research and the botanical field surveys, the results of the research and field surveys, and recommendations to mitigate impacts to rare plant species.

2 – PROJECT OVERVIEW

The Proposed Project involves the removal of the existing South Bay Substation and construction of a replacement substation—Bay Boulevard Substation—at a location 0.5 mile south of the existing South Bay Substation. The Proposed Project consists of the following five components:

1. Construction of the Bay Boulevard Substation approximately 0.5 mile south of the existing South Bay Substation
2. Construction of a 230 kV loop-in
3. Relocation of 69 kV transmission lines
4. Extension of 138 kV transmission lines
5. Demolition of the existing South Bay Substation

The existing and proposed substation sites are located within the City of Chula Vista, in the southwesterly portion of San Diego County, California. The proposed Bay Boulevard Substation, which is the primary component of the Proposed Project, is situated approximately two miles south of the City of National City, approximately five miles northeast of the City of Imperial Beach, and approximately seven miles southeast of downtown San Diego. The Proposed Project and survey area location are depicted in Figure 1: Survey Results Map.

3 – METHODOLOGY

3.0 LITERATURE SEARCH

Literature and database searches were conducted to identify which rare plant species¹ have the potential to occur within the Proposed Project area. A search was conducted of the California Natural Diversity Database (CNDDB), maintained by the California Department of Fish and

¹ Rare plant species include those species listed by the USFWS and CDFG as endangered, threatened, proposed, or candidate species, and those listed as sensitive or rare. In addition, rare plant species include those listed in the CNPS Inventory of Rare and Endangered Plants.

Game (CDFG), and the California Native Plant Society's (CNPS) online Inventory of Rare and Endangered Plants. All United States Geological Survey quadrangle maps that lie within five miles of the Proposed Project area, including Point Loma, National City, Imperial Beach, and Imperial Beach OEW, were incorporated into the searches. In addition, existing reports, maps, and data sheets that had been prepared previously for the Proposed Project were reviewed.

Prior to conducting the field survey, plant species that had been observed during the 2010 reconnaissance field surveys were reviewed, and a plant list was developed for the Proposed Project area. A list of rare plants with the potential to occur in the Proposed Project area was prepared based on the results of the database searches, and those species were added to the field survey target list. Determination of the potential for listed, sensitive, or noteworthy species to occur was assessed using a point system based upon the known elevational and geographic ranges, the habitat requirements for each species, the most recent dates of occurrence records, and the distance of the occurrence localities from the Proposed Project site. The criteria used include the following:

1. Date of most recent CNDDDB record
 - a. Less than 30 years: assign one point
 - b. Between 30 and 60 years or unknown: assign two points
 - c. Greater than 60 years: assign three points
2. Distance of CNDDDB record from Proposed Project site
 - a. Less than 0.25 mile: assign one point
 - b. Between 0.25 mile and one mile: assign two points
 - c. Greater than one mile: assign three points
3. Habitat in the Proposed Project area
 - a. Suitable habitat: assign one point
 - b. Marginal habitat: assign two points
 - c. No habitat: assign three points

The points assigned based on the three criteria were then totaled. The potential for occurrence of the species was then assigned as follows:

- Three to four points: high potential
- Five to six points: moderate potential
- Seven to eight points: low potential
- Nine points: no potential

In addition, if a species was known to be present at the Proposed Project site, the occurrence potential was designated as present.



Vegetation Community Type

- Urban/Developed (12000)
- Disturbed Coyote Brush Scrub (32110)
- Disturbed Habitat (11300)
- Emergent Wetland (52440)
- Eucalyptus Woodland (79100)
- Non-native Grassland (42200)
- Ornamental Vegetation (no Holland code)
- Seasonal Wetland (no Holland code)

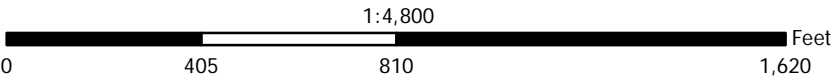
Figure 1: Survey Results Map **South Bay Substation Relocation Project**

Survey Area

Decumbent Goldenbush Individual

12.42-Acre Parcel Boundary

Existing South Bay Substation



3.1 FIELD SURVEY

Insignia Environmental biologist Kristina Bischel and Merkel & Associates, Inc. biologist Kyle Ince conducted a rare plant survey of the Proposed Project area on May 5 and 6, 2011. The biologists walked transects within the Proposed Project area while searching for the target species. The transects were spaced approximately 15 to 50 feet apart in vegetated areas and variation in transect distance was based on the density of vegetation. All plant species observed in the Proposed Project area were recorded. The locations of all rare plant species' occurrences were mapped using a submeter-accurate global positioning system unit, and photographs were taken of rare plant species.

No additional rare plant surveys would be required, as the May 2011 surveys were conducted within the blooming period of the vast majority of plant species on the target list. The plant species on the target list that do not bloom in May are either perennial species that would have been identifiable in May, or are species that have no potential to occur in the Proposed Project area. Thus, all plant species with the potential to occur within the Proposed Project area would have been identifiable during the May 2011 surveys.

4 – RESULTS

4.0 LITERATURE SEARCH

A total of 65 rare plant species were originally identified in the target list as having the potential to occur within the Proposed Project area. A description of the rare plant species that were identified during the literature and database search area are listed in Attachment A: Target List of Rare Plant Species. Rare plant occurrences within one mile of the Proposed Project area are depicted in Figure 2: CNDDDB Occurrences Map. One rare plant species—decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)—was determined to have a high potential to occur in the Proposed Project area. Five rare plant species—San Diego ambrosia (*Ambrosia pumila*), Palmer's frankenia (*Frankenia palmeri*), Coulter's goldfields (*Lasthenia glabrata* spp. *coulteri*), Nuttall's lotus (*Lotus nuttallianus*), and spreading navarretia (*Navarretia fossalis*)—were determined to have a moderate potential to occur within the Proposed Project area. Thirty-five rare plant species were determined to have a low potential to occur within the Proposed Project area, and 24 species were determined to have no potential to occur within the Proposed Project area. The five species having a moderate potential to occur are discussed in further detail in the Biological Resources Technical Report for the Proposed Project, but are not discussed further in this report because they did not occur on the Proposed Project site.

4.1 FIELD SURVEY

One rare plant species—decumbent goldenbush—was discovered within the Proposed Project area during the May 2011 rare plant survey. Decumbent goldenbush is a perennial shrub that occurs in coastal scrub and chaparral habitats at elevations below 450 feet, often occurring in sandy substrates and disturbed areas. The blooming period is from April to November. One decumbent goldenbush individual was located in non-native annual grassland habitat southwest of the bermed area within the former liquid natural gas site. The goldenbush individual was located in upland habitat, and was not associated with wetland features. The location of the

decumbent goldenbush individual is depicted in Figure 1: Survey Results Map, as are the vegetation communities mapped for the survey area. Photographs of the decumbent goldenbush are provided in Attachment B: Photographs. No other rare plant species were found during the May 2011 survey. A complete list of plants that have been observed within the Proposed Project site is provided in Attachment C: Plant List.

The decumbent goldenbush that was observed in the Proposed Project area is located in the proposed footprint for the substation; thus, it would be directly impacted by Proposed Project activities. Since it is not feasible to avoid the decumbent goldenbush, SDG&E would relocate the plant to an appropriate site and/or collect seeds and plant them in order to mitigate for the impacts, as described in Section 5 – Recommendations.

5 – RECOMMENDATIONS

The following measure is recommended to mitigate the impacts to the rare plant in the Proposed Project area:

- The individual decumbent goldenbush within the substation footprint would be relocated to an appropriate site, as determined by a qualified botanist, within the Proposed Project area. The plant would be located as close as possible to its original location, and in the same orientation (with the west-facing side of the plant facing west when relocated). If relocation of decumbent goldenbush is not feasible, or if the transplanted individual is likely to be unsuccessful, seeds would be collected from the impacted individual and planted in similar unimpacted habitat in order to promote restoration of the species.

6 – REFERENCES

- Beauchamp, R.M. *A Flora of San Diego County, California*. National City, California: Sweetwater River Press, 1986.
- CDFG. Wildlife and Habitat Data Analysis Branch, Habitat Conservation Division. CNDDDB. RareFind Version 3.0.2. State and Federally Listed Endangered and Threatened Animals of California. Database. Used in April 2011.
- CNPS. Inventory of Rare and Endangered Vascular Plants of California. Online. <http://www.rareplants.cnps.org/>. Site visited in May 2011.
- Hickman, J.C. (ed.) *The Jepson Manual, Higher Plants of California*. Berkeley: University of California Press, 1993.
- Keil, David J. "Asteraceae." Draft Jepson Manual II: Vascular Plants of California. Online. <http://ucjeps.berkeley.edu/tjm2/review/treatments/compositae.html>. Site visited in May 2011.
- Merkel & Associates, Inc. 2010. South Bay Substation Relocation Project; City of Chula Vista, San Diego County; Preliminary Jurisdictional Wetland Delineation Report.

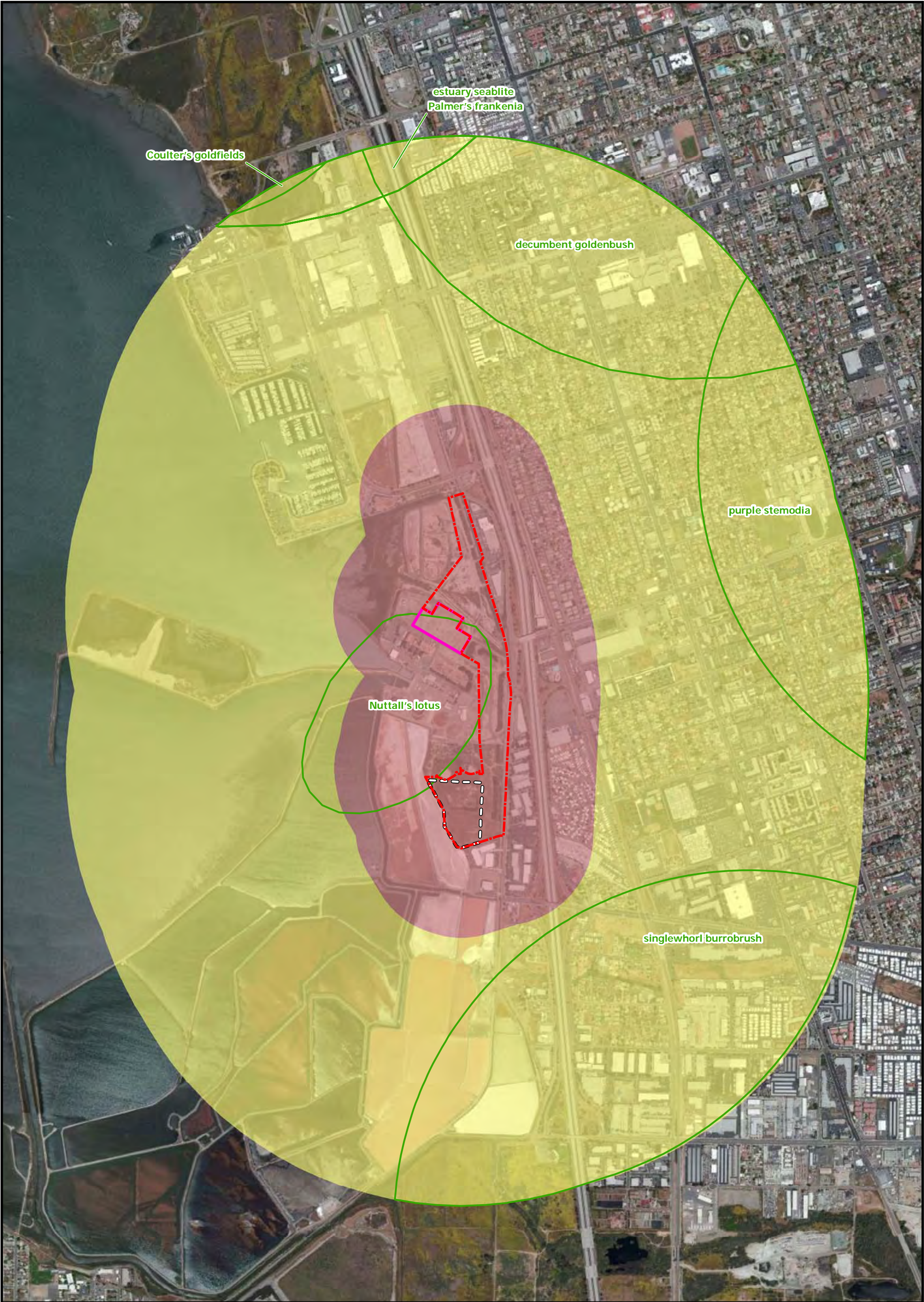






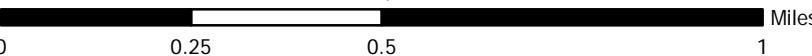





Figure 2: CNDDDB Occurrences Map **South Bay Substation Relocation Project**

 Survey Area	 Plant Occurrence
 Existing South Bay Substation	 Quarter-Mile Survey Area Buffer
 12.42-Acre Parcel Boundary	 One-Mile Survey Area Buffer



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ATTACHMENT A: TARGET LIST OF RARE PLANT SPECIES

Attachment A: Target List of Rare Plant Species

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	1B.1 CE FT	Yes	San Diego thorn-mint occurs in coastal scrub, valley and foothill grasslands, openings within chaparral, and vernal pools. It is typically associated with clay soils at elevations between 30 and 3,000 feet. It is an annual herb that blooms from April to June.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. Three CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area. Two of these occurrences are more than 60 years old and are presumed extirpated. This species was not observed during the May 2011 rare plant survey. Low Potential.
California adolphia (<i>Adolphia californica</i>)	2.1	No	California adolphia occurs in chaparral, coastal scrub, and valley and foothill grasslands, primarily in clay substrates and is found at elevations from 150 to 2,500 feet. It is a deciduous perennial shrub with a blooming period from December to May.	No suitable habitat is present within the Proposed Project area, and the Proposed Project area is outside of the known elevation range for the species. Three CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area, the most recent of which dates from 1998. However, this species was not observed during the May 2011 rare plant survey. Low Potential.
Shaw’s agave (<i>Agave shawii</i>)	2.1	Yes	Shaw’s agave occurs in coastal scrub and coastal bluff scrub at elevations from sea level to 285 feet. It is a perennial succulent and blooms from May to September.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
San Diego bur-sage (<i>Ambrosia chenopodiifolia</i>)	2.1	No	San Diego bur-sage occurs in coastal scrub habitats at elevations between 180 to 500 feet. It is a perennial shrub that blooms from April to June.	No suitable habitat is present within the Proposed Project area and the Proposed Project area is outside of the known elevation range for the species. Several CNDDDB occurrences documented within the past 30 years are between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Singlewhorl borrobush (<i>Ambrosia monogyra</i>)	2.2	No	Singlewhorl borrobush typically occurs in sandy substrates in chaparral and Sonoran desert scrub at elevations below 1,600 feet. It is a perennial shrub with a blooming period from August to November.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence documented within one mile of the Proposed Project area; however, the record dates from 1936. There are five CNDDDB occurrences documented between one mile and five miles of the Proposed Project site. This species was not observed during the May 2011 rare plant survey. Low Potential.

² Explanation of state and federal listing codes:

Federal listing codes: -FE: Federally Endangered Species -FT: Federally Threatened Species -FC: Candidate for Federal listing	California listing codes: -CE: State-listed as Endangered -CR: State-listed as Rare	CNPS lists: -1B.1: Rare, threatened or endangered in California or elsewhere; seriously threatened in California -1B.2: Rare, threatened or endangered in California or elsewhere; fairly threatened in California -1B.3: Rare, threatened or endangered in California or elsewhere; not very threatened in California -2.1: Rare, threatened or endangered in California only; seriously threatened in California -2.2: Rare, threatened or endangered in California only; fairly threatened in California -3: More information is needed regarding these species; taxonomically uncertain -4: Limited in distribution or infrequent throughout California
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Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
San Diego ambrosia (<i>Ambrosia pumila</i>)	IB.1 FE	Yes	San Diego ambrosia often occurs in disturbed areas, and sometimes occurs in alkaline areas in coastal scrub, valley and foothill grasslands, and vernal pools at elevations below 1,400 feet. San Diego ambrosia is a perennial herb that blooms from April to October.	Marginal habitat is present within the southern portion of the Proposed Project area. There are five CNDDB occurrences that have been documented in the past 30 years that are located between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Aphanisma (<i>Aphanisma blitoides</i>)	IB.2	Yes	Aphanisma occurs in coastal bluff scrub, coastal dunes, and coastal scrub at elevations below 1,000 feet and is often found in sandy substrates. It is an annual herb that blooms from March to June.	No suitable habitat is present within the Proposed Project area. Two CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area; however, both of these occurrences date from more than 60 years ago. No Potential.
Dean’s milk-vetch (<i>Astragalus deanei</i>)	IB.1	No	Dean’s milk-vetch occurs in cismontane woodlands, coastal scrub, and riparian forests between 250 and 2,200 feet in elevation. The species is a perennial herb and blooms from February to May.	No suitable habitat is present within the Proposed Project area, and the Proposed Project area is outside of the known elevation range for the species. One CNDDB occurrence, dated 1963, has been documented between one mile and five miles of the Proposed Project area. No Potential.
Coastal dunes milk-vetch (<i>Astragalus tener</i> var. <i>titii</i>)	IB.1 FE CE	Yes	Coastal dunes milk-vetch occurs in coastal dunes and coastal prairie, often in mesic areas and is found at elevations below 165 feet. It is an annual herb with a blooming period from March to May.	No suitable habitat is present in the Proposed Project area. One CNDDB occurrence, dated 1983, has been documented between one mile and five miles of the Proposed Project area; however, the CNDDB notes that this occurrence may be extirpated. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coulter’s saltbush (<i>Artriplex coulteri</i>)	IB.2	No	Coulter’s saltbush occurs in coastal dunes, coastal scrub, vernal pools, and valley and foothill grasslands at elevations below 1,500 feet, and is typically found in alkaline or clay substrates. It is a perennial herb that blooms from March to October.	No suitable habitat is present in the Proposed Project area. Two CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area. Both of these occurrences are more than 60 years old. No Potential.
South coast saltscale (<i>Artriplex pacifica</i>)	IB.2	No	South coast saltscale occurs in coastal dunes, coastal scrub, and playas at elevations below 500 feet, and is usually within coastal sage scrub. It is an annual herb that blooms from March to October.	No suitable habitat is present within the Proposed Project area. Three CNDDB occurrences have been documented between one mile and five miles of the Proposed Project area. The dates of these occurrences are unknown. This species was not observed during the May 2011 rare plant survey. Low Potential.
Golden-spined cereus (<i>Bergerocactus emoryi</i>)	2.2	No	Golden-spined cereus occurs in chaparral, coastal scrub, and closed-cone coniferous forests at elevations below 1,300 feet, and is often found in sandy substrates. It is a perennial succulent that blooms from May to June.	No suitable habitat is present within the Proposed Project area. There are five CNDDB occurrences of the species that have been documented between one mile and five miles of the Proposed Project area. However, this species was not observed during any of the surveys for the Proposed Project and would likely have been observed if present because it is a large perennial cactus. Low Potential.
San Diego goldenstar (<i>Bloomeria clevelandii</i>)	IB.1	No	San Diego goldenstar occurs in chaparral, coastal scrub, valley and foothill grasslands, and vernal pool habitats, at elevations from 165 to 1,525 feet, and may occur in association with clay soils. It is a perennial bulbiferous herb that blooms from April to May.	The Proposed Project is outside of the species’ known elevation range and no CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Orcutt’s brodiaea (<i>Brodiaea orcuttii</i>)	1B.1	Yes	Orcutt’s brodiaea occurs in closed-cone coniferous forests, chaparral, cismontane woodlands, meadows and seeps, valley and foothill grasslands, and vernal pools at elevations from 95 to 5,550 feet. This perennial bulbiferous herb is associated with mesic, clay, and sometimes serpentine soils and blooms from May to July.	Marginal habitat is present within the southern portion of the Proposed Project area where seasonal wetlands are present. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Round-leaved filaree (<i>California macrophylla</i>)	1B.1	No	Round-leaved filaree occurs in cismontane woodlands and valley and foothill grasslands at elevation from 45 to 3,935 feet, and is associated with clay soils. It is an annual herb that blooms from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Lewis’ evening primrose (<i>Camissonia lewisia</i>)	3	No	Lewis’ evening primrose occurs in coastal bluff scrub, cismontane woodlands, coastal dunes, coastal scrub, and valley and grasslands at elevations from sea level to 980 feet. It is associated with sandy or clay soils. It is an annual herb that blooms from March to May (and occasionally into June).	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>)	2.2	Yes	Wart-stemmed ceanothus occurs in chaparral habitats and is found at elevations less than 1,300 feet. It is a perennial evergreen shrub with a blooming period from December to May.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence for the species that has been documented between one mile and five miles of the Proposed Project area and was recorded between 30 and 60 years ago. No Potential.
Orcutt’s pincushion (<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>)	1B.1	No	Orcutt’s pincushion occurs in coastal dunes and coastal bluff scrub under 330 feet in elevation. It is an annual herb with a blooming period from January to August.	No suitable habitat is present within the Proposed Project area. There are two CNDDDB occurrences of the species that have been documented between one mile and five miles of the Proposed Project area; however, these occurrences were recorded more than 60 years ago. No Potential.
Orcutt’s spineflower (<i>Chorizanthe orcuttiana</i>)	1B.1 FE CE	Yes	Orcutt’s spineflower occurs in maritime chaparral, closed-cone coniferous forests, and coastal sage scrub at elevations less than 400 feet and is typically found in sandy openings. It is an annual herb with a blooming period from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	1B.2	No	Long-spined spineflower occurs in coastal scrub, chaparral, meadows and seeps, valley and foothill grasslands, and vernal pools at elevations below 5,000 feet, and is often associated with clay substrates. It is an annual herb with a blooming period from April to July.	Marginal habitat is present within the southern portion of the Proposed Project area. There is one CNDDDB occurrence that has been documented within five miles of the Proposed Project area that was recorded in 1996. This species was not observed during the May 2011 rare plant survey. Low Potential.
Salt marsh bird’s-beak (<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>)	1B.2 FE CE	Yes	Salt marsh bird’s-beak is an annual herb that occurs in coastal dunes, salt marshes, and swamps at elevations below 100 feet. It is often found in slightly raised hummocks in salt marsh habitat, and is also known to occupy the edges of salt pans. The blooming period is from May to October.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are six CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, and the most recent occurrence was recorded in 2004. This species was not observed during the May 2011 rare plant survey. Low Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Summer holly (<i>Comarostaphylis diversifolia</i> sp. <i>diversifolia</i>)	IB.2	No	Summer holly is a perennial evergreen shrub that occurs in chaparral and cismontane woodlands at elevations from 95 to 2,590 feet. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
San Diego sand aster (<i>Corethrogyne flaginifolia</i> var. <i>incana</i>)	IB.1	No	San Diego sand aster is a perennial herb that occurs in coastal scrub and chaparral at elevations below 350 feet. The blooming period is from June to September.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, and at least one of these was recorded approximately 30 to 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Orcutt's bird's-beak (<i>Dicranostegia orcuttiana</i>)	2.1	Yes	Orcutt's bird's-beak is an annual herb that occurs in coastal scrub. It is often found in seasonally dry drainages and upland adjacent to riparian habitat at elevations below 1,200 feet. The blooming period is from April to July, although rare blooms can occur in March and September.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are four CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which dates from 2000. This species was not observed during the May 2011 rare plant survey. Low Potential.
Olay tarplant (<i>Deinandra conjugens</i>)	IB.1 FT CE	No	Olay tarplant is an annual herb that occurs in coastal scrub, valley grasslands, and foothill grasslands at elevations below 1,000 feet and is often found in clay substrates. The blooming period is from May to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are eight CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. The most recent occurrence was recorded in 1994. This species was not observed during the May 2011 rare plant survey. Low Potential.
Orcutt's dudleya (<i>Dudleya attenuate</i> ssp. <i>orcutti</i>)	2.1	No	Orcutt's dudleya occurs in coastal bluff scrub, chaparral, and coastal scrub and is associated with rocky or gravelly soils at elevations between 10 and 165 feet. It is a perennial herb that blooms from May to July.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Blochman's dudleya (<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>)	IB.1	No	Blochman's dudleya is a perennial herb that occurs in coastal scrub, chaparral, and valley and foothill grasslands at elevations below 1,500 feet and is often found in clay or serpentine substrates. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. A single CNDDB occurrence for the species has been documented between one mile and five miles of the Proposed Project area that was recorded more than 60 years ago. This occurrence may be extirpated. No Potential.
Variegated dudleya (<i>Dudleya variegata</i>)	IB.2	Yes	Variegated dudleya is a perennial herb that occurs in cismontane woodlands, coastal scrub, chaparral, valley and foothill grasslands, and vernal pools at elevations below 2,000 feet. It is often found in clay substrates and usually grows in small areas devoid of shrub cover even though scrub elements may occur nearby. The blooming period is from April to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are several CNDDB occurrences documented between one mile and five miles of the Proposed Project area; however, the most recent occurrence was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sticky dudleya (<i>Dudleya viscidia</i>)	IB.2	Yes	Sticky dudleya occurs in coastal bluff scrub, chaparral, cismontane woodlands, and coastal scrub at elevations between 35 and 1,804 feet and is associated with rocky soils. It is a perennial herb that blooms from May to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Palmer’s goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	1B.1	Yes	Palmer’s goldenbush is a perennial evergreen shrub that occurs in coastal scrub, typically in mesic areas at elevations below 2,000 feet. The blooming period is from July to November, although July blooms are uncommon.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1992. This species was not observed during the May 2011 rare plant survey. Low Potential.
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	1B.1 FE CE	Yes	San Diego button-celery is an annual/perennial herb that occurs in coastal scrub, valley and foothill grassland, and vernal pools at elevations below 2,000 feet and is typically found in mesic areas. The blooming period is from April to June.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded between 30 and 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sand-loving wallflower (<i>Erysimum ammophilum</i>)	1B.2	Yes	Sand-loving wallflower is a perennial herb that occurs in maritime chaparral, coastal dunes, and sandy openings in coastal scrub at elevations between sea level and 200 feet. It is a perennial herb that blooms from February to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Cliff spurge (<i>Euphorbia misera</i>)	2.2	No	Cliff spurge is a perennial shrub that occurs in coastal bluff scrub, coastal scrub, and Mojavean desert scrub. It is often found in rocky substrates and occurs at elevations less than 1,700 feet. The blooming period is from December to August.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are seven CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2009. This species was not observed during the May 2011 rare plant survey. Low Potential.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	2.1	Yes	San Diego barrel cactus is a perennial stem succulent that occurs in chaparral, coastal scrub, valley and foothill grasslands, and vernal pools at elevations below 1,500 feet. The species prefers xeric habitats. Optimal habitat for the San Diego barrel cactus appears to be Diegan sage scrub hillside, often at the crest of slopes and growing among cobble. The blooming period is from May to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are 19 CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2000. This species was not observed during the May 2011 rare plant survey. Low Potential.
Palmer’s frankenia (<i>Frankenia palmeri</i>)	2.1	No	Palmer’s frankenia is a perennial herb that occurs in coastal dunes, coastal salt marshes and swamps, and playas at elevations below 50 feet. The blooming period is from May to July.	No suitable habitat is present within the Proposed Project area. One CNDDDB occurrence has been documented within one mile of the Proposed Project area, which dates from 1994. Two additional presumed extant CNDDDB occurrences have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	1B.1 FE CR	No	Mexican flannelbush is a perennial evergreen shrub that occurs in chaparral, cismontane woodlands, and closed-cone coniferous forests at elevations below 2,500 feet. It often occurs in gabbroic, metavolcanic, or serpentine areas. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, however, this occurrence was recorded more than 60 years ago. No Potential.
Campbell’s liverwort (<i>Geothallus tuberosus</i>)	1B.1	No	Campbell’s liverwort is an ephemeral liverwort that occurs in coastal scrub and vernal pools at elevations between 30 and 1,965 feet. The species is a bryophyte, meaning it is not a flowering plant; thus, there is no blooming period.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Beach goldenaster (<i>Hereotheca sessiliflora</i> ssp. <i>sessiliflora</i>)	1B.1	No	Beach goldenaster is a perennial herb that occurs in coastal chaparral, coastal dunes, and coastal scrub at elevations below 4,000 feet. The blooming period is from March to December.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are four CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2007. This species was not observed during the May 2011 rare plant survey. Low Potential.
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	1B.2	No	Decumbent goldenbush is a perennial shrub that occurs in coastal scrub and chaparral at elevations below 450 feet. It often occurs in sandy substrates and disturbed areas. The blooming period is from April to November.	Suitable habitat is present within the Proposed Project area and the species was observed during the May 2011 rare plant survey. In addition, one CNDDB occurrence has been documented within 0.25 mile of the Proposed Project area; however, the date of this occurrence is unknown. One CNDDB occurrence has been documented between 0.25 mile and one mile of the Proposed Project area; however, the date of this occurrence is also unknown. Present.
San Diego marsh-elder (<i>Iva hayesiana</i>)	2.2	No	San Diego marsh-elder is a perennial herb that occurs in marshes, swamps, and playas at elevations between 35 and 1,700 feet. The blooming period is from April to October.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are three CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 1990. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	1B.1	No	Coulter's goldfields is an annual herb that occurs in coastal salt marshes and swamps, playas, and vernal pools at elevations below 4,000 feet. The blooming period is from February to June.	Marginal habitat is present within the southern portion of the Proposed Project area. One CNDDB occurrence has been documented within one mile of the Proposed Project area, which dates from between 30 and 60 years ago. There are two additional presumed extant CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Robinson's pepper-grass (<i>Lepidium virginicum</i> var. <i>robinsonii</i>)	1B.2	No	Robinson's pepper-grass is an annual herb that occurs in coastal scrub and chaparral below 2,900 feet in elevation. The blooming period is from January to July.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that is was recorded between 30 and 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Sea dahlia (<i>Leptosyne maritima</i>)	2.2	No	Sea dahlia is a perennial herb that occurs in coastal bluff scrub and coastal scrub at elevations below 500 feet. The blooming period is from March to May.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Nuttall's lotus (<i>Lotus nuttallianus</i>)	1B.1	Yes	Nuttall's lotus is an annual herb that occurs in coastal dunes and coastal scrub at elevations below 100 feet. It usually occurs in sandy substrates. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. One CNDDB occurrence has been documented within 0.25 mile of the Proposed Project area, which dates from 2000. One additional occurrence has been documented between 0.25 mile and one mile of the Proposed Project area. There are four additional presumed extant CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Moderate Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Jennifer’s monardella (<i>Monardella stoneana</i>)	1B.2	No	Jennifer’s monardella occurs in closed-cone coniferous forests, chaparral, coastal scrub, and riparian scrub at elevations from 30 to 2,590 feet, and is often associated with rocky, intermittent streambeds. It is a perennial herb that blooms from June to September.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Willoway monardella (<i>Monardella viminea</i>)	1B.1 FE CE	No	Willoway monardella occurs within alluvial ephemeral washes in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodlands at elevations from 160 to 735 feet. It is a perennial herb that blooms from June to August.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Little mousetail (<i>Myosurus minimus</i> spp. <i>apus</i>)	3.1	Yes	Little mousetail occurs in vernal pools and valley and foothill grasslands at elevations between 65 and 2,100 feet. It is an annual herb that blooms from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Mud nama (<i>Nama stenocarpum</i>)	2.2	No	Mud nama is an annual/perennial herb that occurs along lake margins and riverbanks associated with marshes and swamps at elevations below 1,700 feet. The blooming period is from January to July.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Spreading navarretia (<i>Navarretia fossalis</i>)	1B.1 FT	Yes	Spreading navarretia is an annual herb that occurs in chenopod scrub, playas, vernal pools, and marshes and swamps at elevations below 4,300 feet. It is typically found in assorted shallow freshwater marshes and swamps. The blooming period is from April to June.	Marginal habitat is present along the southern portion of the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area which was recorded in 2003. This species was not observed during the May 2011 rare plant survey. Moderate Potential.
Prostrate vernal pool navarretia (<i>Navarretia prostrata</i>)	1B.1	No	Prostrate vernal pool navarretia is an annual herb that occurs in coastal scrub, meadows and seeps, vernal pools, and valley and foothill grasslands at elevations below 2,300 feet. It is typically found in alkaline grasslands and mesic areas. The blooming period is from April to July.	Marginal habitat is present within the southern portion of the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area; however, the date of this occurrence is unknown. This species was not observed during the May 2011 rare plant survey. Low Potential.
Coast woolly-heads (<i>Nemacaulis denudata</i> var. <i>denudata</i>)	1B.2	No	Coast woolly-heads is an annual herb that occurs in coastal dunes at elevations below 350 feet. The blooming period is from April to September.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There are five CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. At least two of these occurrences are more than 60 years old. The most recent record of the remaining occurrences is less than 30 years old and was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.
Slender cottonheads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)	2.2	No	Slender cottonheads is an annual herb that occurs in coastal dunes, desert dunes, and Sonoran desert scrub at elevations between 165 and 1,400 feet. The blooming period is from April to May, although rare blooms can occur in March.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area; however, this occurrence was recorded more than 60 years ago. No Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Snake cholla (<i>Opuntia californica</i> var. <i>californica</i>)	IB.1	Yes	Snake cholla is a perennial stem succulent species that occurs in chaparral and coastal scrub at elevations between 100 and 500 feet. It usually occurs on xeric hillsides. The blooming period is from April to May.	The Proposed Project area is outside of the known elevation range for the species. One CNDDB occurrence has been documented within one mile of the Proposed Project area; however, the date of this occurrence is unknown. There are eight CNDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
California Orcutt grass (<i>Orcuttia californica</i>)	IB.1 CE FE	Yes	California Orcutt grass occurs in vernal pools at elevations from 50 to 2,165 feet. It is an annual herb with a blooming period of April to August.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within five miles of the Proposed Project area. No Potential.
Baja California birdbush (<i>Ornithostaphylos oppositifolia</i>)	2.1 CE	No	Baja California birdbush is a perennial evergreen shrub that occurs in chaparral at elevations between 180 and 2,700 feet. The blooming period is from January to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, the most recent of which was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Brand's star phacelia (<i>Phacelia stellaris</i>)	IB.1 FC	No	Brand's star phacelia is an annual herb that occurs in coastal dunes and coastal scrub at elevations below approximately 1,300 feet. The blooming period is from March to June.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that was recorded in 2005. This species was not observed during the May 2011 rare plant survey. Low Potential.
Otay Mesa mint (<i>Pogogyne nudiuscula</i>)	IB.1 FE CE	Yes	Otay Mesa mint is an annual herb that occurs in vernal pools, chaparral, and open grasslands and is often found in gravelly or clay-loam substrates. The species only occurs in the Otay Mesa, northern Baja California, and Mexico. The blooming period is from May to June.	No suitable habitat is present in the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area that was recorded in 2003. However, according to the CNDDB record, the occurrence is presumed to be a transplant from outside of the species' native habitat and range. This species was not observed during the May 2011 rare plant survey. Low Potential.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	IB.1	No	Nuttall's scrub oak is a perennial evergreen shrub that occurs in chaparral, coastal scrub, and closed-cone coniferous forests at elevations between 50 and 1,300 feet. It is often associated with sandy or clay-loam substrates. The blooming period is from February to April.	No suitable habitat is present within the Proposed Project area. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area. No Potential.
Santa Catalina Island currant (<i>Ribes viburnifolium</i>)	IB.2	No	Santa Catalina Island currant is a perennial evergreen shrub that occurs in chaparral and cismontane woodlands at elevations between 100 and 1,000 feet. The blooming period is from February to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1990. This species was not observed during the May 2011 rare plant survey. Low Potential.
Small-leaved rose (<i>Rosa minutifolia</i>)	2.1 CE	Yes	Small-leaved rose is a perennial deciduous shrub that occurs in chaparral and coastal scrub at elevations between 450 and 550 feet. The blooming period is from January to June.	The Proposed Project area is outside of the known elevation range for the species. No CNDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded in 1987. This species was not observed during the May 2011 rare plant survey. Low Potential.

Species Name	Listing Status ²	Covered under the Natural Communities Conservation Plan (Yes/No)	Habitat Requirements	Potential to Occur
Chaparral ragwort (<i>Senecio aphanactis</i>)	2.2	No	Chaparral ragwort is an annual herb that occurs primarily in chaparral, cismontane woodlands, and coastal scrub at elevations below 2,700 feet. It is sometimes found in alkaline substrate. The blooming period is from January to April.	No suitable habitat is present within the Proposed Project area. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There are two CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Purple stemodia (<i>Stemodia durantifolia</i>)	2.1	No	Purple stemodia is a perennial herb that occurs in Sonoran desert scrub at elevations between 550 and 1,000 feet. It is often found in mesic and sandy areas. The blooming period is from January to December.	Marginal habitat is present within the southern portion of the Proposed Project area. One CNDDDB occurrence has been documented within one mile of the Proposed Project area, which dates from more than 60 years ago. There are two CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. All of these occurrences were recorded more than 60 years ago. This species was not observed during the May 2011 rare plant survey. Low Potential.
Oil neststraw (<i>Stylocline citroleum</i>)	1B.1	No	Oil neststraw is an annual herb that occurs in chenopod scrub, coastal scrub, and valley and foothill grasslands at elevations between 160 and 1,300 feet. It is often found in clay substrates. The blooming period is from March to April.	The Proposed Project area is outside of the known elevation range for the species. No CNDDDB occurrences have been documented within one mile of the Proposed Project area. There is one CNDDDB occurrence that has been documented between one mile and five miles of the Proposed Project area, which was recorded more than 60 years ago. No Potential.
Estuary seablite (<i>Suaeda esteroa</i>)	1B.2	No	Estuary seablite is a perennial herb that occurs in coastal salt marshes and swamps at elevations below 20 feet. The blooming period is from May to October, although rare blooms can occur in January.	No suitable habitat is present within the Proposed Project area. There is one CNDDDB occurrence that has been documented within one mile of the Proposed Project area; however, this occurrence dates from more than 60 years ago. There are three CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.
Parry’s tetracoccus (<i>Tetracoccus dioicus</i>)	1B.2	Yes	Parry’s tetracoccus is a perennial deciduous shrub that occurs in coastal scrub and chaparral at elevations between 540 and 3,300 feet, and is typically associated with dry slopes. The blooming period is from April to May.	No suitable habitat is present within the Proposed Project area. One CNDDDB occurrence has been documented within one mile of the Proposed Project area, which dates from more than 60 years ago. There are three CNDDDB occurrences that have been documented between one mile and five miles of the Proposed Project area. This species was not observed during the May 2011 rare plant survey. Low Potential.

ATTACHMENT B: PHOTOGRAPHS



Photograph 1:
Decumbent
goldenbush



Photograph 2:
Decumbent
goldenbush
foliage

ATTACHMENT C: PLANT LIST

PLANT LIST

Scientific Name	Common Name	Origin ³
GYNOSPERM		
Pinaceae	Pine Family	
<i>Pinus ponderosa</i> Laws.	Pacific ponderosa pine	N
ANGIOSPERMS: DICOTS		
Aizoaceae	Fig/Marigold Family	
<i>Aptenia cordifolia</i> (L.f.) N. E. Br.	Baby sun rose, shrubby dewplant, red apple (hybrid cultivar)	E
<i>Mesembryanthemum crystallinum</i> L.	Crystalline ice plant	E
<i>M. nodiflorum</i> L.	Slender-leaved ice plant	E
<i>Sesuvium verrucosum</i> Raf.	Western sea-purslane	N
Amaranthaceae	Amaranth Family	
<i>Amaranthus albus</i> L.	Tumbleweed	E
<i>Atriplex lentiformis</i> (Torrey) S. Watson	Quail saltbush, big saltbush	N
<i>A. lindleyi</i> DC.	Lindley's saltbush	E
<i>A. semibaccata</i> R. Br.	Australian saltbush	E
<i>Bassia hyssopifolia</i> (Pallas) Kuntze	Five-hook bassia	E
<i>Chenopodium murale</i> L.	Nettle-leaf goosefoot	E
<i>Salsola tragus</i> Nelson	Russian thistle, tumbleweed	E
Anacardiaceae	Sumac or Cashew Family	
<i>Rhus integrifolia</i> (Nutt.) Brewer & S. Watson	Lemonadeberry	N
<i>Schinus molle</i> L.	Peruvian pepper tree	E
<i>S. terebinthifolius</i> Raddi	Brazilian pepper tree	E
Apiaceae	Carrot Family	
<i>Apium graveolens</i> L.	Celery	E
<i>Foeniculum vulgare</i> Miller	Fennel	E
Apocynaceae	Oleander Family	
<i>Carissa macrocarpa</i>	Natal Plum	E

³ Explanation of Origin codes:

N: Native to locality

E: Exotic species

Scientific Name	Common Name	Origin ³
<i>Nerium oleander</i> L.	Oleander	E
Araliaceae	Ginseng Family	
<i>Hedera helix</i> L.	English Ivy	E
Asteraceae	Sunflower Family	
<i>Amblyopappus pusillus</i> Hook. & Arn.	Pineapple weed	E
<i>Artemisia californica</i> Less.	California sagebrush	N
<i>Baccharis pilularis</i>	Coyote Brush	N
<i>B. salicifolia</i> (Ruiz Lopez & Pavon) Pers.	Mule fat, seep-willow	N
<i>Centaurea melitensis</i> L.	Tocalote	E
<i>Chrysanthemum coronarium</i> L.	Garland, crown daisy	E
<i>Conyza bonariensis</i> (L.) Cronq.	Flax-leaf fleabane	E
<i>C. canadensis</i> (L.) Cronq.	Horseweed	N
<i>C. coulteri</i> A. Gray	Coulter's fleabane	N
<i>Cotula coronopifolia</i> L.	African brass-buttons	E
<i>Cynara cardunculus</i> L.	Artichoke thistle, cardoon	E
<i>Dimorphia graveolens</i> (L.) Greuter	Stinkwort	E
<i>Gnaphalium palustre</i> Nutt.	Lowland cudweed	N
<i>G. stramineum</i> Kunth	Cotton-batting plant	N
<i>Hedypnois cretica</i> (L.) Dum.-Cours.	Crete hedypnois	E
<i>Heterotheca grandiflora</i> Nutt.	Telegraph weed	N
<i>Hypochaeris glabra</i> L.	Smooth cat's-ear	E
<i>Isocoma menziesii</i> var. <i>decumbens</i> (Greene) G.L. Nesom	Decumbent goldenbush	N
<i>I. menziesii</i> (Hook. & Arn.) G. L. Nesom var. <i>vernonioides</i> (Nutt.) G. L. Nesom	Coastal goldenbush	N
<i>Lactuca serriola</i> L.	Prickly lettuce	E
<i>Picris echinoides</i> L.	Bristly ox-tongue	E
<i>Pseudognaphalium canescens</i> (DC.) Anderb.	Everlasting cudweed	N
<i>P. microcephalum</i> (Nutt.) Anderb.	White everlasting	N
<i>Senecio vulgaris</i> L.	Common groundsel	E

Scientific Name	Common Name	Origin ³
<i>Sonchus asper</i> L. Hill ssp. <i>asper</i>	Prickly sow thistle	E
<i>S. oleraceus</i> L.	Common sow thistle	E
<i>Stephanomeria diegensis</i> Gottlieb	San Diego wreath-plant	N
<i>Symphyotrichum subulatum</i> (Michaux) G. L. Nesom var. <i>ligulatum</i> (Shinn.) S. D. Sundb.	Slim aster	N
Boraginaceae	Borage Family	
<i>Amsinckia menziesii</i> (Lehm.) Nelson & J. F. Macbr. var. <i>intermedia</i> (Fischer & C. Meyer) Ganders	Common fiddleneck	N
Brassicaceae	Mustard Family	
<i>Lepidium lasiocarpum</i> Torrey & Gray var. <i>lasiocarpum</i>	Sand peppergrass	N
<i>Raphanus sativus</i> L.	Wild radish	E
<i>Sisymbrium irio</i> L.	London rocket	E
<i>Thlaspi arvense</i> L.	Field penny-cress, fan weed	E
Caryophyllaceae	Pink Family	
<i>Polycarpon tetraphyllum</i> (L.) L. ssp. <i>tetraphyllum</i>	Four-leaf allseed	E
<i>Spergularia salina</i> J. Presl & C. Presl	Salt marsh sandspurry	N
Convolvulaceae	Morning-glory Family	
<i>Calystegia macrostegia</i> (E. Greene) Brummitt ssp. <i>intermedia</i> (Abrams) Brummitt	South coast morning-glory	N
<i>Cressa truxillensis</i> Kunth.	Alkali weed	N
Crassulaceae	Stonecrop Family	
<i>Crassula aquatica</i> (L.) Schönl.	Stonecrop, water pygmyweed	N
<i>C. connata</i> (Ruíz Lopez & Pavón) A. Berger	Dwarf stonecrop, pygmyweed	N
Euphorbiaceae	Spurge Family	
<i>Chamaesyce masculata</i> (L.) Small	Spotted spurge	E
<i>Ricinus communis</i> L.	Castor-bean	E
Fabaceae	Legume Family	
<i>Acacia</i> sp.	Acacia, wattle	E
<i>Acacia redolens</i> Maslin	Bank catclaw	E

Scientific Name	Common Name	Origin ³
<i>Lotus heermannii</i> (Durand & Hilg.) E. Greene var. <i>heermannii</i>	Heermann's lotus	N
<i>Melilotus albus</i> Medikus	White sweetclover	E
<i>M. indicus</i> (L.) All	Indian sweetclover, sourclover	E
Geraniaceae	Geranium Family	
<i>Erodium botrys</i> (Cav.) Bertol.	Long-beak filaree	E
<i>E. cicutarium</i> (L.) L'Hér.	Red-stem filaree	E
<i>E. moschatum</i> (L.) L'Hér.	White-stemmed filaree	E
<i>Pelargonium x hortorum</i> L. Bailey	Zonal geranium	E
Heliotropaceae	Heliotrope Family	
<i>Heliotropium curassavicum</i> L.	Salt heliotrope	N
Lamiaceae	Mint Family	
<i>Lamium amplexicaule</i> L.	Henbit	E
Lythraceae	Loosestrife Family	
<i>Lythrum hyssopifolia</i> L.	Grass poly	E
Malvaceae	Mallow Family	
<i>Malacothamnus fasciculatus</i> (Torrey & A. Gray) E. Greene	Bush mallow	N
<i>Malva parviflora</i> L.	Cheeseweed, little mallow	E
Moraceae	Mulberry Family	
<i>Ficus</i> sp.	Fig	E
Myoporaceae	Myoporum Family	
<i>Myoporum laetum</i> Forst.	Myoporum, ngaio	E
Myrtaceae	Myrtle Family	
<i>Callistemon viminalis</i> (Soland. ex Gaertn.) Cheel.	Bottlebrush	E
<i>Eucalyptus</i> sp.	Eucalyptus	E
<i>E. globules</i> Labill.	Blue gum	E
<i>Melaleuca linariifolia</i>	Snow in summer	E
<i>M. quinquenervia</i>	Broad-leafed paperbark	E
Oleaceae	Olive Family	
<i>Olea europaea</i> L.	Common olive	E

Scientific Name	Common Name	Origin ³
Onagraceae	Evening-Primrose Family	
<i>Camissonia cheiranthifolia</i> (Sprengel) Raim ssp. <i>suffruticosa</i> (S. Watson) Raven	Beach evening primrose	N
<i>Gaura drummondii</i> (Spach.) Torrey & A. Gray	Drummond's gaura	E
Phytolaccaceae	Pokeweed Family	
<i>Phytolacca americana</i> L. var. <i>americana</i>	Pokeweed, pokeberry	E
Plantaginaceae	Plantain Family	
<i>Antirrhinum nuttallianum</i> Benth. ssp. <i>nuttallianum</i>	Nuttall's snapdragon	N
<i>Plantago lanceolata</i> L.	English plantain, rib-grass	E
Platanaceae	Sycamore Family	
<i>Platanus racemosa</i> Nutt.	Western sycamore	N
Plumbaginaceae	Leadwort Family	
<i>Limonium perezii</i> (Stapf.) Hubb.	Perez's marsh-rosemary	E
<i>L. sp.</i> (unidentified taxon, similar to <i>ramosissima</i>)	Limonium	E
Polygonaceae	Buckwheat	
<i>Polygonum arenastrum</i> Boreau	Common knotweed, doorweed	E
<i>Rumex crispus</i> L.	Curly dock	E
Primulaceae	Primrose Family	
<i>Anagallis arvensis</i> L.	Scarlet pimpernel	E
Rosaceae	Rose Family	
<i>Prunus sp.</i>	Unidentified ornamental	E
Rubiaceae	Madder Family	
<i>Galium aparine</i> L.	Goose grass, common bedstraw	N
Salicaceae	Willow Family	
<i>Salix gooddingii</i> C. Ball	Goodding's black willow	
Solanaceae	Nightshade Family	
<i>Nicotiana glauca</i> Graham	Tree tobacco	E
<i>Solanum americanum</i> Miller	White nightshade	E
<i>S. douglasii</i> Dunal	Douglas' nightshade	N

Scientific Name	Common Name	Origin ³
<i>S. nigrum</i> L.	Black nightshade	E
Tamaricaceae	Tamarisk Family	
<i>Tamarix parviflora</i> DC.	Small-flower Tamarisk	E
Ulmaceae	Elm Family	
<i>Ulmus parviflora</i> Jacq.	Chinese elm	E
Urticaceae	Nettle Family	
<i>Urtica urens</i> L.	Dwarf nettle	E
Verbenaceae	Vervain Family	
<i>Lantana montevidensis</i> (Sprengel) Briq.	Trailing lantana	E
<i>Verbena menthifolia</i> Benth.	Mint-leaf vervain	N
ANGIOSPERMS: MONOCOTS		
Arecaceae	Palm Family	
<i>Pheonix canariensis</i> Chabaud.	Canary Island date palm	E
<i>Washingtonia filifera</i> (L. Linden) H.A. Wendl.	California fan palm	N
Cyperaceae	Sedge	
<i>Cyperus eragrostis</i> Lam.	Tall flatsedge	N
<i>Eleocharis</i> sp.	Spike rush	N
<i>E. montevidensis</i> Kunth	Dombey's Spike rush	N
<i>Schoenoplectus americanus</i> (Pres.) Schinz & R. Keller	Olney's bulrush	N
<i>S. californicus</i> (C.A. Meyer) Soják	California bulrush	N
<i>S. maritimus</i> L.	Bulrush	N
Poaceae/Gramineae	Grass Family	
<i>Avena barbata</i> Link	Slender wild oat	E
<i>Bromus diandrus</i> Roth	Ripgut grass	E
<i>B. hordeaceus</i> L.	Soft chess	E
<i>B. madritensis</i> L. ssp. <i>rubens</i> (L.) Husnot	Red brome, foxtail chess	E
<i>Cortaderia selloana</i> (Schultes) Asch. & Graebner	Pampas grass	E
<i>Cynodon dactylon</i> (L.) Pers.	Bermuda grass	E
<i>Distichlis spicata</i> (L.) E. Greene	Saltgrass	N

Scientific Name	Common Name	Origin ³
<i>Hordeum murinum</i> L. ssp. <i>leporinum</i> (Link) Arcang.	Hare barley	E
<i>H. spp.</i>	Barley	E
<i>Lamarckia aurea</i> (L.) Moench	Golden-top	E
<i>Lolium multiflorum</i> Lam.	Italian ryegrass	E
<i>Paspalum dilatatum</i> Poiret	Dallis grass	E
<i>Pennisetum setaceum</i> Forsskal	Fountain grass	E
<i>Phalaris paradoxa</i> L.	Paradox canary grass	E
<i>Piptatherum miliaceum</i> (L.) Cosson	Smilo grass	E
<i>Polypogon monspeliensis</i> (L.) Desf.	Annual beard grass	E
<i>Schismus barbatus</i> (L.) Thell.	Mediterranean grass	E
<i>Setaria viridis</i> (L.) P. Beauv.	Green bristlegrass	E
<i>Vulpia myuros</i> (L.) C. Gmelin var. <i>hirsuta</i> (Hackel) Asch. & Graebner	Hairy rat-tail fescue	E
Typhaceae	Cattail Family	
<i>Typha latifolia</i> L.	Broad-leaved cattail	N
ANGIOSPERMS: PTERIDOPHYTES		
Marsileaceae	Marsilea Family	
<i>Marsilea vestita</i> Hook & Grev. ssp. <i>vestita</i>	Hairy clover fern	N









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